EXAMINING THE RELATIONSHIP BETWEEN ENGLISH PROFICIENCY

AND HEALTH CARE EXPERIENCES

IN THE UNITED STATES

by

Alejandra G. Lemus, B.S.

A thesis submitted to the Graduate Council of
Texas State University in partial fulfillment
of the requirements for the degree of
Master of Arts
with a Major in Sociology
August 2020

Committee Members:

   Toni T. Watt, Chair

   Gloria P. Martinez-Ramos

   Maria Resendiz

FAIR USE AND AUTHOR'S PERMISSION STATEMENT

FAIR USE

Duplication Permissions

ACKNOWLEDGEMENTS

I want to thank my loving family: my mom, sister, and brothers for their unconditional love for me and my aspirations, and for their support they provided all the way through. I want to thank my friends in the graduate program for their support throughout my graduate experience and my friends outside of this program that have been by my side. All my friends helped me in their own way throughout this process.

I also want to thank Dr. Toni Watt, for guiding me through the research process. Her patience, determination, and constructive feedback helped me complete my thesis when I almost thought I could not. Dr. Gloria Martinez for being a great mentor and being there for me when I needed any kind of advice. Her unique perspectives and wisdom have helped shape my own insight and I hope I reflect this onto my work. Dr. Maria Resendiz for her invaluable perspective on the importance of language and for checking in on me throughout this process.

Finally, I want to thank all the faculty and staff in the sociology department. The department fosters a supportive environment that makes completing this process possible for their students.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

People with limited English proficiency (LEP) tend to be underserved and vulnerable in the United States health care system. Research has shown that LEP patients are more likely to have lower levels of education, be uninsured, have lower levels of income, and are more likely to experience discrimination during their health care encounters. This study seeks to find whether LEP patients face less favorable health care experiences than their non-LEP counterparts. Specifically, the study aims to examine the differences in health care utilization, access to health information, and satisfaction of health care services between LEP and non-LEP individuals. Based on previous use of LEP in health care literature, the limited English proficiency group in this study represents those whose primary household language is not English. The dataset used for this study was the 2007 National Survey of Children's Health. Linear and logistic regression results found that LEP patients are less likely to feel that their children's doctors and providers listen to them carefully and they are also less likely to feel that their providers respect their customs and values compared to non-LEP patients. Additionally, LEP patients are less likely to receive the specific health information they need, and they utilize health care services less often than their non-LEP counterparts. These findings lead to the conclusion that the need for culturally diverse and culturally competent care remains in order to improve the health care utilization and encounters for LEP populations.

I. INTRODUCTION

Language plays a role in the way people navigate many aspects of life. Given that, limited proficiency in a language can create barriers that hinder life opportunities, therefore affecting well-being and overall health. Specifically, language barriers in healthcare settings can negatively impact a patient's ability to understand medical consultations and the likelihood that they will receive adequate medical care. There may be life-threatening consequences when a patient is unable to communicate with their health care provider in their preferred language.

People of color, specifically immigrants or foreign-born individuals that are not linguistically or culturally acculturated, experience inequalities in the health care system in the United States. People with these barriers to care have difficulty accessing care and are less likely to utilize the care that is available. In addition, ethnic minorities have disproportionately higher rates of chronic diseases such as diabetes and cancer. Thus, it is particularly important for people of color to have access to, and receive, high quality health care. Limited language proficiency can impact health care experiences in a number of ways, specifically contributing to language discordance between patient and providers, perceived discrimination in health care, and limited access to health information. This project will examine if there is a relationship between patients' English language proficiency and health care utilization, health care satisfaction, and access to health information.

II. LITERATURE REVIEW

Health Literacy

      In health care literature, patients who speak limited English are often referred to as patients with limited English proficiency (LEP) (Derose. et al. 2009; Moreno et al. 2011; Squires 2018). Close to 41 percent of the foreign-born population in the United States is limited in English proficiency (Zong and Batalova 2015). Medical information can be quite difficult to understand and limited English proficiency (LEP) makes it even more difficult for individuals to understand medical instructions and diagnoses. Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services for appropriate health decisions" (Sentell and Braun 2012: 82). Thus, it is important to better understand how LEP affects the health literacy of patients.

      Limited English proficiency has been identified as one of the main barriers in accessing or utilizing health information (Rojas-Guyler, Britigan, King, Zulig, and Vaughn 2016; Raynor 2016). In addition to the barriers of transportation, childcare, lack of insurance, fear of legal status and cost of health care, Rojas-Guyler et. al (2016) found that participants reported language as a barrier to obtaining health information. Being LEP intensifies low health literacy and can prevent health insurance enrollment and/or the ability to find a close and reliable health care center (Jang et al. 2016; Sentell and Braun 2012). When LEP patients are searching for medical information, they tend to rely on family members rather than searching for information online or other forms of media (Rojas-Guyler et. al 2016, Garcia and Duckett 2009). Furthermore, Massey, Langellier, Sentell, and Manganello (2017) point to a widening digital gap in terms of accessing health information online for non-English speaking Hispanic individuals. They conclude

that Hispanics are less likely to search for health information in general compared to other racial/ethnic groups.

Zhou and Lee (2019) used Andersen's Model of Health Service Utilization to identify factors related to health literacy (Anderson 2005). Andersen's model originally uses three categories of factors that are determinants of health. However, Zhou and Lee (2019) used this model to determine health literacy. These categories include enabling, need, and predisposing factors. Zhou and Lee (2019) also used Andersen's model to determine the relationship between health literacy and mental health. They found a connection between low health literacy and depressive symptoms in patients. Additionally, Zhou and Lee (2019) note that health literacy is particularly low in immigrant and LEP patients. Lower health literacy in LEP has also been linked to overall self-reported health (Sentell and Braun 2012).

Similarly, Derose, Bahney, Lurie, and Escarce (2009) compiled a list of 67 articles that highlighted the predisposing, enabling, and need-based factors that contribute to the health of immigrant populations. Immigrant populations include immigrants, foreign-born, foreign birth, language barriers, and limited English proficiency (p.359). Derose et. al (2009) posit their conceptual framework as the following:

> predisposing factors refer to sociodemographic characteristics that
> influence individuals' preferences for health care or inclination to seek
> care, such as age, gender, education, marital status, family size, nativity,
> and acculturation. Enabling factors refer to personal, family, and
> community resources that facilitate or hinder individuals' ability to obtain
> care such as family income, health insurance coverage, language,

availability of providers, and ease of making an appointment. Illness level

or need factors refer to acute and chronic health conditions as well as age-

and gender related preventive needs (e.g., cancer screening). (p.357).

The enabling factor of language continues to be a challenge for immigrants that are seeking care in the United States. As discussed, LEP patients frequently use family members or other bilingual staff to translate when speaking to doctors or nurses (Ulmer et. al 2009). Ad-hoc interpreters also known as unofficial translators, such as family and available bilingual staff often have limited knowledge of medical terminology (Ulmer et. al 2009). Garcia and Duckett (2009) report that LEP patients acknowledge that their health care experiences are affected by their English proficiency level. In this study, the majority of Latino immigrant adolescents stated that it is "hard to get care when you don't speak English" and that "care is better when we can communicate in Spanish" (p.123). LEP patients are aware that their inability to speak English fluently is very detrimental to their health needs and ability to utilize health services.

Additionally, interactions with front-desk staff can negatively affect healthcare experiences of LEP patients. Calo et. al (2015) found that patients report that their linguistic and cultural discordance between front-desk staff results in misidentification problems, because many of these patients have more than one surname and the front-desk staff can use the incorrect name when filling out registration details. This can delay LEP patients from getting immediate care that is required. If a patient has a hard time registering for appointments because the front-desk staff is not culturally competent regarding the needs of the population they are serving, this poses a significant problem for the continuing health care needs of this already vulnerable population. Ulmer et. al

(2009) also find that language concordance can help patients better understand their medication instructions and have a clearer understanding of their diagnoses and treatment care instructions.

Health Care Satisfaction

Language discordance, and miscommunication, can also affect the patient's satisfaction with their health care experiences (Ulmer et. al 2009). More specifically, individuals whose first language is not English are more likely to perceive discrimination from providers or staff in medical settings. Discrimination in health care environments can lead to detrimental health outcomes for immigrants and LEP patients. According to Derose et. al (2009: 369), "Foreign born [patients] and those with LEP are generally less satisfied, report lower ratings of care, and are more likely to feel discrimination in health care." Although health outcomes may or may not be directly influenced, a patient's satisfaction with their healthcare experience is important, in and of itself, as a topic of study. For instance, dissatisfaction in the quality of care received in a health care facility can cause LEP patients to distrust those facilities (Calo et. al 2015).

The power imbalance between an LEP patient and a provider is exacerbated if there is language discordance. Many LEP patients believe they should respect their providers regardless of their perception of treatment (Chaufan et. al 2017). Additionally, patients in the study that Chaufan et. al (2017) conducted stated that they viewed a "good patient" as being respectful and listening to doctor's orders. Garcia and Duckett (2009) found that LEP Latino adolescents perceive language barriers as a contributing factor to their poor health care experiences.

On the other hand, some patients might not exhibit feelings of complete trust toward healthcare providers or healthcare settings. Further, LEP patients express mistrust of front-desk staff because they feel discriminated by the staff (Calo et. al 2015). It is important that healthcare providers and health centers find a balance between making patients feel comfortable to speak up about any grievances and working to help LEP patients feel included in their health decisions or protocols. LEP patients might feel the need to follow orders simply because doctors, nurses, or other medical providers have a perceived authoritative stance over the patients themselves. Calo et. al (2015) also found that LEP Latino patients not only struggled with inconsistent registration, but they perceived discrimination from front-desk staff. When patients have a difficult time during front-desk experiences at doctor visits, this impedes the beginning stage of healthcare processes.

Additionally, LEP patients perceive discrimination when they feel their providers do not recommend the correct and timely tests to check for underlying ailments (Derose et. al 2009: Driscoll and Lynn 2016). Many LEP patients hold beliefs that their providers are either not providing the right tests or they feel they cannot fully trust the diagnoses that are provided to them. Research suggests that these perceptions of discrimination are valid, as LEP Latino patients often do not receive appropriate test recommendations from their healthcare providers (Derose et. al 2009). In addition, these patients were also 2 to 3 times more likely to experience adverse reactions from medications provided to them from their doctors or providers (p.367).

In sum, LEP patients often perceive discrimination toward them during health care experiences and report feeling burdened by their inability to communicate with

providers. These dynamics can reduce LEP trust in the health care system, and possibly their likelihood of using this system when needed.

Health Care Utilization

Minorities and immigrants often do not get the health care they need and LEP may be a relevant factor. There are many risk factors like income, insurance, education, and others that contribute to underutilization of health care. Ulmer et. al (2009: 93) state that the "lack of English proficiency is a barrier not just to effective communication with individual health care providers, but also to accessing care in the first place." Health care enrollment processes, such as finding a health center and a doctor or provider can deter immigrants from seeking care. More specifically, immigrants with chronic diseases that need constant follow-up such as diabetes, heart disease, cancers, and mental disabilities are more at risk of delaying their health care enrollment (Chaufan, Hong, and Fernandez 2017). Ultimately, patients who are less linguistically acculturated experience more perceived discrimination in healthcare settings than those patients who are more linguistically acculturated (Becerra et. al 2015).

LEP patients are also less likely to work in places that provide health insurance (Derose et. al 2009: 363). Many LEP patients are not just immigrants, they are of also of Latino descent (Raynor 2016). In the current political climate, these immigrants may fear legal repercussions if they are undocumented. A fear of repercussions may lead LEP patients to avoid health care systems. In addition, completing paperwork can be a daunting task that can reduce an immigrant's willingness to seek care. LEP patients, specifically low-income, uninsured patients have the option to visit Federally Qualified Health Centers (FQHCs), but the problem with these health centers is the limited

availability in certain regions (Herbst, Bernal, Terry, and Lewis 2016). Additionally, many LEP patients are unaware that these centers are available. Consequently, immigrants end up using emergency room services as their primary health care source (Herbst, Bernal, Terry, and Lewis 2016).

In turn, LEP patients may postpone or avoid regular medical check-ups if they do not have anybody available to help them translate. LEP patients usually bring a family member to their medical appointments for emotional support and interpretation (Tan et al. 2018). Social support and social cohesion play an important role in health care utilization of foreign-born or LEP patients. Maleku, Kim, and Lee (2019) found that "English language efficacy fully mediated the relationship between social cohesion and healthcare utilization among immigrants with good health status, but not among immigrants with poor health status" (p.25). Maleku et. al (2019: 20) used variables that measured "neighbors willing to help each other, neighbors getting along with each other and trusting each other, and people in the neighborhood watch for children's safety" to measure social cohesion. Ultimately, the findings from these studies support claims from previous studies that more linguistically diverse health care information and centers will encourage more immigrants or LEP patients to seek and utilize healthcare services. Aside from limited language proficiency, patients face the challenge of cultural competency in health care settings, although this challenge is declining faster than the challenge of linguistic barriers (Becerra et. al 2015). The intersection of gender, race, age, and sometimes religious background can influence the cultural dissonance between patients and their primary care providers. Acculturation also plays a role in when or how people with limited-English proficiency will go about seeking health services. For instance,

Latinos living in spaces that are predominantly Spanish-speaking areas are more likely to report having a source of care than those living in areas with few Latinos (Derose et. al 2009).

The Epidemiological Paradox for Latinos

Much research on Latino health reports on the "epidemiological paradox" or "Latino paradox." This refers to the fact that Latinos have health outcomes better than expected given their lower socio-economic status, education, and access to health care (Becerra, Androff, Messing, Castillo, and Cimino 2015). In addition, Becerra et. al (2015) specifically find that when Latinos are less acculturated, they tend to have better health outcomes then those Latinos that are more acculturated. This paradox often leads others to conclude that Latinos are doing surprisingly well and thus there is no need to investigate health care barriers. However, Becerra et. al (2015) clarify that this paradox does not apply when dealing with linguistic acculturation. Latina/o immigrants that are less linguistically acculturated can face more health disparities because of this limitation in their acculturation. In addition, the Latino paradox focuses on health outcomes that are largely attributed to healthy lifestyles (particularly lower rates of substance use among female Latinas). This subfield of research rarely addresses health care experiences and utilization. Thus, there remains a need to explore the relationships between LEP and patient's access to information as well as their satisfaction with and use of health care services.

Gap in the literature

Much research has been conducted on the "Latino epidemiological paradox". However, there has been very little study of the relevance of limited English proficiency. The literature on LEP patients is focused primarily on either health outcomes or health status

rather than a quantitative analysis of their health care experiences. Most studies that

examine LEP patient and doctor interaction and its effects on patient satisfaction are

qualitative and not nationally representative (Derose et. al 2009). Those studies that do

study satisfaction do not examine satisfaction and how that relates to utilization of health

care. (Becerra et al. 2015). More specifically, there has been no study that examines the

relationship between limited English proficiency and health care satisfaction, access to

health information, and health care utilization.

III. THEORETICAL FRAMEWORK

Cultural Competence Theory

In health care, cultural competence is needed to ensure mindful practice within the medical field. Soulé (2014) designed a study where she interviewed 90 practitioners about cultural competence training and found that three overlapping themes within cultural competence included awareness, application, and engagement. The awareness component includes being knowledgeable of the diverse cultures for whom the institution provides services. Awareness also includes self-awareness and being fully aware of any biases that can influence decision making through prejudices and preconceived notions of a cultural group. Participants in Soule's (2014) study were practitioners who noted that awareness was the preliminary step in the process of cultural competence. The awareness aspect relates to the attempts to converge speech to account for "language-discrepant" communication (Meuter et al. 2015).

The application of cultural competence in health care, according to Soule (2014), encompasses the intrapersonal, interpersonal, system/organization, and global sectors needed for cultural competence. Soule (2014) notes that cultural competence should be applied not only at the intrapersonal level, but also at a larger and broader scale (System/organization cultural competence). **"**In such cases, an inability to achieve [language] convergence (i.e. to appear more similar in speech) can affect how the speakers perceive not only each other, but also the quality of the working relationship between them" (Meuter et al. 2015; 5). Cultural competence assists with personal connections between a patient and the doctor or nurses. Implementation of cultural competence in a health care setting could create a sense of belonging on the institutional

level. Additionally, cultural knowledge can serve as the "window to beliefs about

healthcare" and is related to language spoken at home (Ulmer et. al 2009). Accordingly,

health care institutions should offer more culturally and linguistically diverse practices.

Conflict theory approach

Language barriers contribute to the concept of power dissonance within cultural

competence theory. The lack of cultural and linguistic competence in health care creates a

barrier for LEP patients to have access to quality health care. This can create burdensome

feelings of isolation and inferiority in these patients, and it can reinforce health

disparities.

It is important to consider how language dissonance between patients and their

doctors can produce feelings of powerlessness (Garrett et. al, 2008). According to Garrett

et. al (2008), patients have reported feeling powerless or even as if they are speechless or

deaf, almost relating their experience to some type of disability. There also seems to be a

dichotomous approach to describing the trust in doctors. Either the patients do not trust

the doctors or nurses, or they trust that since they are the medical providers, then they

must know what they are doing regardless of whether they can understand the patient or

not.

The interactions between LEP patients and healthcare providers reinforce the

power dynamics that limit access to healthcare. The ethics in question regarding the

quality of care for low-income patients is demonstrated by Chaufan, Fielding, Chesla,

and Fernandez (2015). Many patients in their study did in fact perceive their interactions

and quality of care to be influenced by the fact that they were poor. Due to the power

dynamics between authority figures and the patients themselves, these patients tend to

blame themselves for their shortcomings in terms of their health. Chaufan et. al (2015) found that low-income LEP patients did not acknowledge that language discordance was related to their health outcomes, but instead felt that their health outcomes were dependent on their compliance with their medical providers' instructions. These perspectives further indicate a power imbalance between the patient and doctor.

According to Habermas' communicative action theory: "Language [is] a foundational component of modern society" (Scambler 2001: 53). If language is a primal component of how individuals function in both the public and private spheres, this can then have a negative impact on the access to health care for those who cannot speak or comprehend English in the United States.

Habermas is critical of the idea that scientific knowledge is the only legitimate type of knowledge. He challenges western ideologies centered on facts and predictive behaviors (Scambler 2001). Habermas' critiques lend themselves to calls for a greater respect of different cultural perspectives and beliefs. Habermas' approach can be applied to the United States' health care system. His arguments suggest that those in positions of power in health care settings need to see patient beliefs as valuable. Doctors, staff, medical assistants, and other hospital or clinic staff should practice humility regarding their own beliefs and demonstrate greater respect for the beliefs of their patients.

All the theoretical perspectives presented indicate the importance of language as it relates to communication, understanding, and power dynamics. These perspectives reinforce the need to explore the health care experiences of those with limited English proficiency. In particular, they suggest that LEP patients may have different experiences in terms of health care information, satisfaction, and utilization.

Hypotheses

In order to contribute to the literature on LEP and health care experiences, this study will test the following hypotheses:

H1: There is a relationship between English language proficiency and access to health care information.

H2: There is a relationship between English language proficiency and overall healthcare satisfaction.

H3: There is a relationship between English language proficiency and healthcare utilization.

Data

This study uses a secondary data set, the 2007 National Survey of Children's Health. This survey examines behavioral, mental and health outcomes of children along with their access to health care and quality of health care provided. The survey is a national randomly distributed questionnaire conducted by the Center for Disease Control and Prevention's National Center for Health Statistics. The survey is conducted over the telephone. The household is selected if there is at least one child in the household, then that child or one of the children in the household is selected at random as the subject of the questionnaire for the parent or guardian completing the survey. The sampling frame is children ages 0 to 17. This survey is appropriate to the proposed research question because the survey examines parent characteristics (including language proficiency) as well as their health care experiences as they seek care for their child. The data set allows

us to specifically examine how LEP relates to health care utilization, how much they know about health resources available to them, and whether or not they are satisfied with their health care services.

The population of interest for this study was parents or caregivers. The 2007 National Children's Health Survey has a total of 91,642 respondents. The independent variable for the analysis was categorized as whether a person is proficient in English or has limited English language proficiency (LEP). The dependent variables were categorized as health care utilization, access to health care information, and health care satisfaction.

Independent Variable

The question pertaining to primary household language was used for limited English proficiency (LEP). Ulmer, McFadden, and Nerenz (2009) found through their extensive report of race, ethnicity, and language data that primary language spoken at home and preferred language variables are strong indicators of the respondent's English proficiency. The question on the survey asks about primary language spoken in the home and reads as, "What is the primary language spoken in your home?" The answer choices were recoded into a dichotomous variable: 0=Primary household language is English, or 1=Primary household language is NOT English. These choices were then categorized as 0=non-LEP and 1=LEP. The answer choices coded 6= "don't know" and 7=" refused" were omitted from the analysis.

Dependent/Outcome Variables

Health information

The question used to capture access to health information read; "Information about a child's health or health care can include things such as the causes of any health problems, how to care for a child now, and what changes to expect in the future. "During the past 12 months", else "since (his/her) birth", how often did you get the specific information you needed from [selected child]'s doctors and other health care providers? Would you say never, sometimes, usually, or always?" The answers are coded as 1=Never, 2=Sometimes, 3=Usually, 4=Always. The rest of the answer choices were missing/omitted.

Health care satisfaction

Several questions were used for health care satisfaction. The first question addresses satisfaction with communication specifically, it reads, "Overall, are you satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the communication among (selected child)'s doctors and other health care providers?" The answer choices for this question are coded as: 1=very satisfied, 2=somewhat satisfied, 3=somewhat dissatisfied, 4=very dissatisfied, 5=no communication needed or wanted, 6=DK, and 7= REF. The responses were reverse coded as 1=very dissatisfied, 2=somewhat dissatisfied, 3=somewhat satisfied, and 4=very satisfied. No communication needed or wanted, DK, and REF were omitted.

The second question used to capture satisfaction refers to how the patient feels that they are attended to when interacting with their providers. The question reads, "During the past 12 months", else [Since (his/her) birth], how often did [selected child]'s

doctors and other health care providers listen carefully to you? Would you say never, sometimes, usually, or always?" The answers for the question are coded as following: 1=never, 2=sometimes, 3=usually, and 4=always. The rest of the answers were omitted.

The third question addressing satisfaction is, "When (selected child) is seen by doctors or other health care providers, how often are they sensitive to your family's values and customs? Would you say never, sometimes, usually, or always?" The answer choices are coded as 1=Never, 2=Sometimes, 3=Usually, 4=Always. The rest of the answer choices were omitted.

Health care utilization

Health care utilization, for the purpose of this study, is measured as how often a parent utilizes health care services. The first question used for the health care utilization dependent variable read: "Is there a place that [child] usually goes when [he/she] is sick or you need advice about [his/her] health?", with the following responses: 1=Yes, 2=No, 3=More than one place, 6=DK, 7=REF. These responses were coded into a dummy variable with answer choices: 0=No place for health service/advice and 1=Yes, respondent has a place. The rest of the answers were omitted.

An additional measure of health care utilization is, "Do you have one or more persons you think of as [selected child]'s personal doctor or nurse?" The answer choices for that question are coded as following: 1=Yes, one person, 2=Yes, more than one person, 3=No, 6=DK, 7=REF. The answer choices coded into a dummy variable with the following answer choices: 0=No personal doctor or nurse and 1=Yes, do have a personal doctor or nurse. The rest of the answers were omitted.

17

The final measures of health care utilization read, "During the past 12 months, how many times did [child's name] see a doctor, nurse, or other health care provider for preventive medical care such as a physical exam or well-child check-up?" and "Sometimes people have difficulty getting health care when they need it. Health care, for the purpose of this study means medical care as well as other kinds of care like dental care and mental health services. During the past 12 months, was there any time when [child's name] needed health care but it was delayed or not received?" The answers choices are coded as following: 0=No and 1=Yes, 6=DK, 7=REF. The first question was used as a continuous variable and the second as a dummy variable.

Covariates

A few demographic control variables were used from the data set pertaining to education, poverty, race/ethnicity, and health insurance. LEP patients or individuals have lower levels of education, are more likely to be in poverty, and are less likely to be insured (Zong and Batalova 2015).

The question regarding insurance read: "Does [child's name] have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicaid?" The responses for this question are coded as 0=No and 1=Yes.

The question for poverty level read, "Poverty Level of this Household Based on DHHS Poverty Guidelines-8 Categories." The eight categories for this question are: 1=At or below 100% of poverty, 2=Above 100% to at or below 133% poverty level, 3=Above 133% to at or below 150% poverty level, 4=Above 150% to at or below 185% poverty

level, 5=Above 185% to at or below 200% poverty level, 6=Above 200% to at or below 300% poverty level, 7=Above 300% to at or below 400% poverty level, and 8=Above 400% poverty level.

The race/ethnicity variable read, "Is [Child] White, Black or African American, American Indian, Alaska Native Asian, or Native Hawaiian or other Pacific Islander?" This question is recoded into another variable labeled "Race classification for all states (White, Black, Multiracial, Other). The answer choices for this variable are: 1=Hispanic, 2=White, non-Hispanic 3=Black, non-Hispanic, and 4=Multi/other. These variables were recoded into a single variable to capture race/ethnicity. The categories are non-Hispanic White, non-Hispanic Black, Hispanic, and other non-Hispanic.

The education variables read, "What is the highest grade or year of school [you have/ [selected child]'s [Mother Type] has] completed?" The answer choices are: 1=Less than high school, 2=12 years/high school graduate, 3=More than high school. The next variable I use to control for education reads, "What is the highest grade or year of school [you have/ [selected child's [Father Type] has] completed?" The answer choices are: 1=Less than high school, 2=12 years/high school graduate, 3=More than high school. The third variable used to capture education reads, "What is the highest grade or year of school you have completed? (non-parent respondent)" The answer choices are: 1=Less than high school, 2=12 years/high school graduate, 3=More than high school. These variables were combined to create a single education variable that captures the highest level of education for the parent or primary caregiver. The responses for this variable are coded as 0=high school education or less and 1=more than high school education.

19

V. FINDINGS

Table 1 presents descriptive statistics for the study variables.

Table 1. Univariate Descriptive Statistics

		Frequency (_f_)	**Percent (%)**
Limited English Proficiency			
	Non-LEP	79,407	86.7
	LEP	12,152	13.3
	Total	91,559	100
Received Specific Health Information Needed			
	Never	4,791	5.4
	Sometimes	8,570	9.7
	Usually	19,331	21.9
	Always	55,465	62.9
	Total	88,156	100
Satisfaction with Doctor/Provider Communication			
	Very Dissatisfied	826	1.2
	Somewhat Dissatisfied	1,671	2.5
	Somewhat Satisfied	13,110	19.8
	Very Satisfied	50,545	76.4
	Total	66,151	100
Doctor and provider listened to you			
	Never	2,553	2.9
	Sometimes	6,801	7.7
	Usually	17,070	19.4
	Always	61,711	70
	Total	88,136	100
Doctor/Provider was Sensitive to family's customs and values			
	Never	2,390	2.7
	Sometimes	7,044	8
	Usually	16,985	19.4
	Always	61,242	69.9
	Total	87,660	100

Place for when child is sick/needs medical advice			
	Yes	86,863	94.8
	No	4,569	5
	Total	91,431	100
At least one personal doctor or nurse for child			
	Yes	84,097	92.2
	No	7,120	7.8
	Total	91,216	100
Physical exams or well-child check-ups in past 12 months			
	Mean (SD)	2.024 (2.301)	
	Range	0-20	
	Total (N)	90,658	100
Child's care delayed/not received in the past 12 months			
	No	85,115	93.1
	Yes	6,350	6.9
	Total	91,465	100
Household Poverty Level			
	Mean (SD)	5.26 (2.654)	
	Range	1-8	
	Median level	6	
	1) At or below 100% of poverty	14,830	17.8
	2) Above 100% to at or below 133% poverty level	5,951	7.2
	3) Above 133% to at or below 150% poverty level	3,458	4.2
	4) Above 150% to at or below 185% poverty level	5,688	6.8
	5) Above 185% to at or below 200% poverty level	2,545	3.1
	6) Above 200% to at or below 300% poverty level	14,853	17.9
	7) Above 300% to at or below 400% poverty level	11,282	13.6

	8) Above 400% poverty level	24,557	29.5
	Total	83,164	100
Health Care Coverage			
	No	8,322	9.1
	Yes	83,099	90.7
	Total	91,642	100
Race/Ethnicity			
	Hispanic	18,417	20.5
	White, non-Hispanic	50,548	56.2
	African American, non-Hispanic	12,791	14.2
	Multi/Other, non-Hispanic	8,186	9.1
	Total	89,942	100
Primary Caregiver Education			
	High school education or less	30,701	33.5
	More than high school	60,941	66.5
	Total	91,642	100

Univariate Analysis

Table 1 provides the descriptive statistics for the independent variable, dependent variables, and covariates. Out of the 91,559 valid responses for the primary language question in the survey, 12,152 respondents (13%) report that their primary language in the household is not English. The primary household language variable is used to represent limited English proficiency (LEP). The two categories for the LEP variable are: (0) not an LEP respondent and (1) LEP. Eighty-seven percent of the respondents are not LEP since their primary household language is English, while 13.3% of the respondents in the survey are considered limited in English proficiency.

The valid responses for how often the respondent got the specific information they needed in the past 12 months from their child's doctor and other health care provider are also shown on Table 1. Most respondents (62.9%) reported that they always receive the specific information they needed from their providers. Less than ten percent of the sample (5.4%) reported that they never received the specific health information from their doctors or providers.

Health care satisfaction consisted of three questions. One of the questions asked the respondents whether they were very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the communication with their child's doctors and other health care providers. Most of the respondents (76%) reported that they were overall very satisfied with the communication between their child's doctors and providers. Approximately 4% of the respondents reported being dissatisfied with the communication between their doctors and providers. The next question for the health care satisfaction index asked respondents if they felt that doctors and providers listened

carefully to them. Seventy percent of the sample reported that they always felt that doctors and providers listened carefully to them. About 3% of the sample reports feeling that their doctor and providers never listen carefully to them. The next question for health care satisfaction asked the respondents whether they felt that doctors and providers are sensitive to their family's customs and values. Seventy percent of respondents say that doctors and providers are always sensitive to their customs and values, while about 3% of the respondents say they are never sensitive to their customs and values.

Health care utilization was captured through three questions from the survey. Respondents were asked whether they had a place that their child usually goes when he/she is sick or when the respondent needs advice about their child's health. Most of the respondents (95%) report that they have at least one place where they can go when their child is sick or when they need advice about their child's health. Only 5% of the sample reported that they do not have a place to go when their child is sick, or the respondent needs medical advice about their child's health. The average number of primary care visits for the total sample is about two visits in the past 12 months. Seven percent of the sample had their child's care delayed or it was not received in the past 12 months.

Descriptive statistics for the covariates reveal that the median household poverty level is above 200% to at or below 300% of the poverty level, 91% of the respondents in the survey report having some type of health coverage, and the majority of caregivers (mother, father, and/or guardian) have higher than a high school education (67%). Of the total sample, over half of the respondents (56%) are non-Hispanic whites, 21% are Hispanic, 14% are non-Hispanic African American, and 9% are in the Multiracial/other race category.

Bivariate Analysis

Chi-square and t-tests were used to examine the relationships between LEP and the dependent and control variables. Table 2 represents the t-test results for the ordinal dependent and control variables, while table 3 represents the nominal dependent variables and English proficiency.

Table 2. Independent Samples T-test of English Proficiency by Dependent Variables and Covariates

	Mean	SD	Mean difference	Mean	SD	Mean difference	Mean	SD	Mean difference
Satisfaction with doctor/provider communication				*Doctors/Providers listened carefully to you*			*Doctor/providers are sensitive to family's customs and values*		
Non-LEP	3.7237	.56671		3.6004	.71182		3.6164	.69509	
LEP	3.6352	.62582		3.3183	.98711		3.1956	1.00969	
			.08838*			.28215*			.42075*
Number of Physical Checkups and Well-Child Checks				*Received specific health information needed*			*Household Poverty Level*		
Non-LEP	2.0130	2.32482		3.4706	.83283		5.58	2.520	
LEP	2.0995	2.12028		3.0963	1.06607		2.92	2.407	
			-.08655*			.37431*			2.659*

*mean difference is significant at the 0.05 level.

Table 3. Chi-square Analyses of English Proficiency Levels with Dependent and Covariate Associations

	Non-LEP		LEP				Cramer's Phi
	N	(%)	N	(%)	Total	X² (df)	(φ)
Health Care Coverage						3919.715 (1)*	.207
No	5364	7%	2942	25%	8306		
Yes	73876	93%	9139	75%	83015		
Total	79240	100%	12081	100%	91321		
Primary Caregiver Education						7814.344 (1)*	.292
High School or less	22316	28%	8344	69%	30660		
More than High School	57091	72%	3789	31%	60880		
Total	79407	100%	12133	100%	91540		
Race/Ethnicity						32555.264 (3)*	.602
Hispanic	8802	11%	9563	81%	18364		
White, non-Hispanic	50042	64%	495	4%	50536		
African American, non-Hispanic	12546	16%	243	2%	12789		
Multi/other non-Hispanic	6662	9%	1505	13%	8167		
Total	78052	100%	11806	100%	89858		
At least one personal doctor or nurse for child						1742.978 (1)*	.138
Yes	74106	94%	9925	83%	84031		
No	5010	6%	2074	17%	7084		
Total	79116	100%	11999	100%	91115		
Care Delayed/Not received						.268 (1)	.002
No	73810	93%	11209	93%	85019		
Yes	5494	7%	851	7%	6345		
Total	79304	100%	12060	100%	91364		
Place for when child is sick/needs medical advice						3307.452 (1)*	.190
Yes	76579	97%	10192	84%	86771		
No	2674	3%	1885	16%	4559		
Total	79253	100%	12077	100%	91330		

*significant at the .05 level

Table 2 reveals how LEP relates to satisfaction with health care services. The t-test results showed a significant difference between the responses of all non-LEP and LEP respondents regarding how satisfied they felt with their communication with their child's doctor and other health care providers [t (66,099) = 12.359, p<0.05]. The scale for these responses ranged from 1-4 (1=Very dissatisfied, 2=Somewhat dissatisfied, 3=Somewhat satisfied, and 4=Very satisfied). LEP respondents were less satisfied (M=3.7237, SD= .56671) than non-LEP respondents (M=3.6352, SD= .62582) with the communication with their child's doctors and providers.

The scale for the responses for the question regarding how often the respondent felt that doctors and health care providers listened carefully to them ranged from 1-4 (1=Never, 2=Sometimes, 3=Usually, 4=Always). There was a significant difference in the responses between LEP and non-LEP respondents [t (88,049) = 36.875, p<0.05]. LEP respondents (M=3.3183, SD=.98711) were less likely to feel that their child's doctors and providers listened carefully to them than non-LEP respondents (M=3.6004, SD=.71182).

Additionally, the responses for LEP and non-LEP respondents on how often the respondent felt that doctors and providers were sensitive to their family's customs and values were significantly different [t (87,579) = 55.385 p<0.05]. The scale for these responses also ranged from 1-4 (1=Never, 2=Sometimes, 3=Usually, 4=Always). LEP respondents (M=3.1956, SD=1.00969) were less likely to feel that their child's doctors and providers were sensitive to their family's customs and values than non-LEP respondents (M=3.6164, SD=.69509).

Access to Specific Health Information by English Proficiency Level

The relationship between LEP and access to health information is presented in

Table 2. Respondents reported how often they received the health care information they

needed using a scale from 1-4 (1=Never, 2=Sometimes, 3=Usually, 4=Always). The t-test

reveals a significant difference in the mean responses between LEP and non-LEP

respondents [*t* (88,072) = 42.525, p<0.05]. LEP respondents (M=3.0963, SD=1.06607)

were less likely to report receiving the specific health information that they needed from

their child's doctors and providers than non-LEP respondents (M=3.4706, SD=.83283).

Health Care Utilization Measures by English Proficiency

One of the variables used to capture health care utilization analysis was the

variable that asked how many times the respondent's child went to see a provider for a

physical exam or well child check up in the past 12 months. Table 2 illustrates the t-test

results for the average physicals and check-ups of LEP and non-LEP respondents. There

was a significant difference between LEP and non-LEP respondents in the number of

times that the respondent's child visited a doctor or provider for medical care in the past

12 months [*t* (90,560) = -3.813, p<0.05]. On average, LEP respondents (M=2.0995,

SD=2.12028) took their child to their doctor or provider for medical care more times in

the past 12 months than non-LEP respondents (M=2.0130, SD=2.32482).

There was a significant relationship between English proficiency and whether the

respondents had access to a personal doctor or nurse [X^2 (1, N=91,115) = 1742.978,

p<0.0001]. However, the strength of the relationship between access to a personal nurse

or doctor and English proficiency was weak (ϕ =.139, p<0.0001). However, delayed

health care was not significantly associated with English proficiency. There was a

significant relationship between English proficiency and whether the respondent has

access to a place to visit when their child is sick or they need health advice [X^2 (1,

N=91,364) = 3307.452, p<0.0001]. The association between English proficiency and

having a place for care was weak (ϕ =.190, p<0.0001). In general, respondents with LEP

were less likely than non-LEP respondents to have access to a personal doctor and a place

for care for their child's medical care.
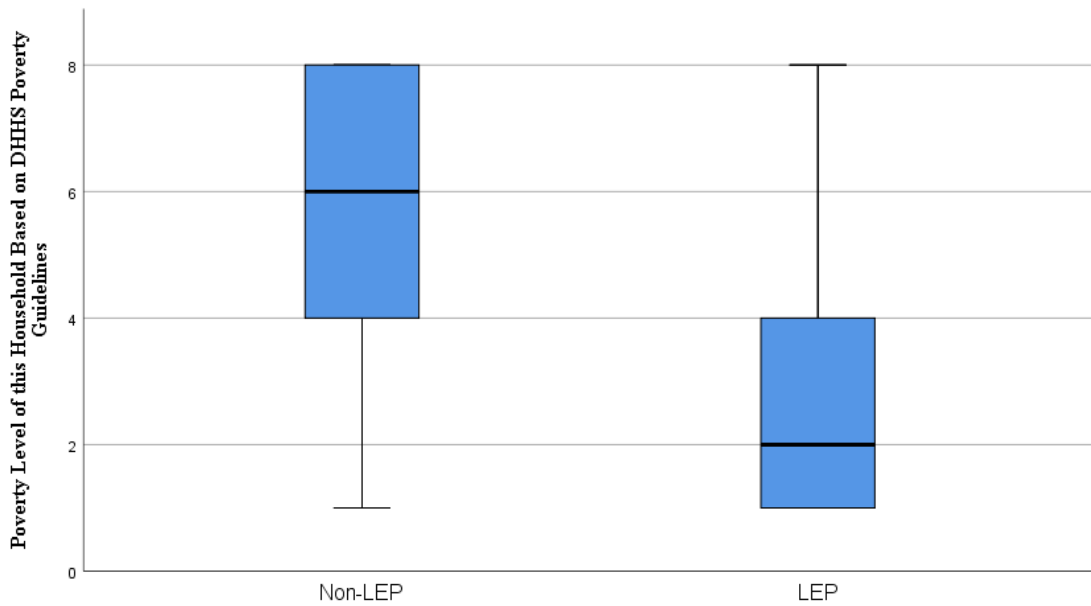
Covariate Associations

Figure 1. Household Poverty Level by English Proficiency

Household poverty levels (shown on table 2), were significantly different between

LEP and non-LEP respondents [*t* (83,076) = 99.965, p<0.05]. Figure 1 represents the

distribution of household poverty levels by English proficiency. The household poverty

level scale ranged from 1-8, with 1 representing a higher poverty level, and 8

representing a lower level of poverty as per the DHHS poverty guidelines (higher

incomes). LEP respondents (M=2.92, SD=2.407) have a median poverty level of 2 (above 100% to at or below 133% poverty). non-LEP respondents (M=5.58, SD= 2.520) have a median poverty level of 6 (above 185% to at or below 200% poverty). In other words, LEP respondents have lower levels of income than non-LEP respondents.

Having access to health care coverage, represented in table 2, was significantly associated with English proficiency [X^2 (1, N=91,321) = 3919.715, $p<0.05$] although the relationship was weak (ϕ=.207, $p <0.05$). There was a significant relationship between English proficiency and the primary caregiver's education [X^2 (1, N=91,540) = 7814.344], with a moderate association (ϕ=.292, $p<0.05$). Sixty-nine percent of LEP respondents have less than high school education, while 28% of non-LEP respondents have less than a high school education. Race/ethnicity, also represented in table 2, was significantly associated with English proficiency [X^2 (3, N=89,858) = 32555.264, $p<0.05$], with a strong association (ϕ=.602, $p<0.05$). Most of the LEP respondents are Hispanic (81%), followed by the Multi/other (13%), non-Hispanic group.
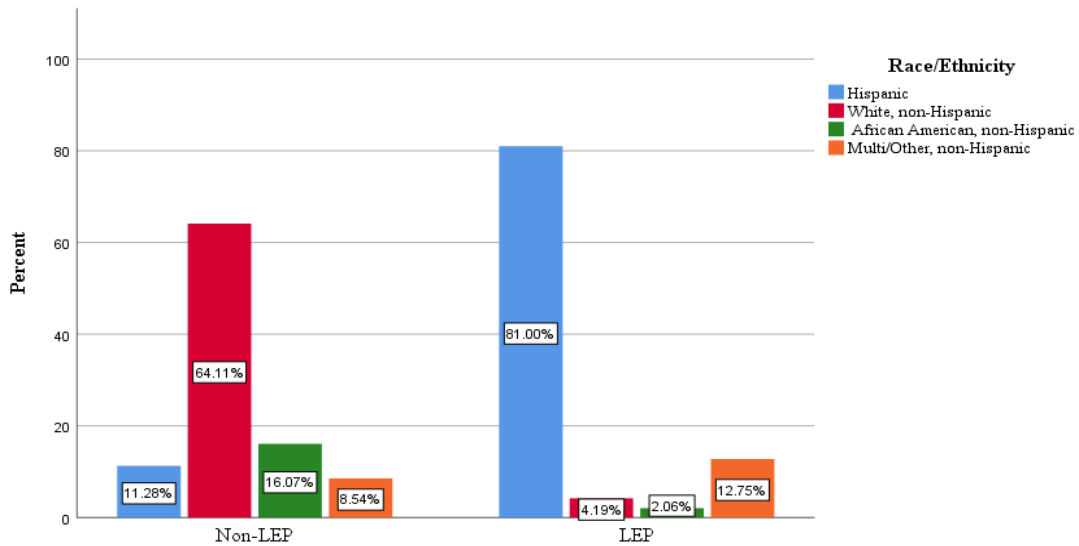

Figure 2. Race/Ethnicity by English Proficiency

Multivariate Analysis

Linear and logistic regression analyses were used to examine the relationship between English proficiency and healthcare utilization, access to health care information, and health care satisfaction controlling for household poverty level, education, race, and health care coverage. The results for these regressions are represented in Table 5. The LEP variable is dummy coded where LEP is coded as 1 and non-LEP is coded as 0. Education was dummy coded for primary caregivers with more than a high school education (coded as 1) and those with high school or less coded as 0. Race/ethnicity was converted to four dummy variables with non-Hispanic whites as the reference category. Multicollinearity diagnostics were performed for each regression model. There were no violations of multicollinearity or homoscedasticity. The findings for both the linear and logistic regressions are represented in Table 5.

Health Care Satisfaction Regressions

The doctor and provider communication variable was treated as a scale variable (1-4), where 1=very dissatisfied and 4= very satisfied. A respondent's satisfaction with the communication between doctors and providers was not significantly related to English proficiency when controlling for health care coverage, household poverty level, education, and race/ethnicity. However, the model was significant [F (7, N=60,100) = 107.779, $p < .05$, $R^2 = .012$]. Hispanics, black non-Hispanic and multiracial/other race groups were significantly less satisfied with the communication with their doctors and providers than white respondents.

A regression was run predicting how often respondents reported that doctors and other health care providers listened carefully to them and was measured on a scale of 1 to 4 where 1=never and 4-always. The regression model was significant [F (7, N=79,504) = 370.039, p < .05, R^2 = .032]. LEP respondents were less likely to report that their doctors and providers listen carefully to them than non-LEP respondents (B=-.126, p<0.05). Hispanics, black non-Hispanic and multiracial/other race groups were less likely than Whites to report that their health care providers listen to them whereas those with health insurance and higher levels of income were more likely to report that their providers listened to them.

The prevalence of responses to how often doctors and providers were sensitive to the respondents' family's values and customs was used as a scale ranging from 1 through 4 (1=Never and 4=Always). The model for this response was significant [F (7, N=79,170) = 766.209, p < .05, R^2 = .063]. Hispanic, Black non-Hispanic, and Multiracial/other race groups were less likely than Whites to report that doctors were sensitive to their family's customs and values. LEP respondents were also less likely than non-LEP respondents to report that their child's doctors and providers were sensitive to their customs and values (B=-.260, p<0.05). Those who have health care coverage, and more than a high school education are more likely to feel that doctors and providers are sensitive to their customs and values.

Health Information Regression

The variable for receiving the specific health information needed was used as a scale variable ranging from 1 (Never) to 4 (Always). The model for this variable was also significant [F (7, N=79,546) = 470.229, p < 0.05, R^2 = .040]. LEP respondents are less

likely than non-LEP respondents to receive the specific information they needed from their doctors and other health care providers (B=-.263, p< 0.05). Additionally, Hispanic, Black non-Hispanic, and Multiracial/other race groups were also less likely to receive the specific heath information they needed from their child's providers than Whites. Those with more education are more likely to receive the specific health information they need from their child's providers.

Health Care Utilization Regressions

The linear regression model for English proficiency and prevalence of well child checkups and physical exams in the past 12 months was significant [F (7, N=81,787) = 197.920, $p < 0.05$, R^2 = .017]. LEP respondents' children visited a doctor or nurse less often in the past 12 months than non-LEP respondents for medical care. However, Hispanic, Black non-Hispanic, and Multiracial and other race groups' children were more likely to visit a doctor or a nurse in the past 12 months. Those with health coverage visited their child's doctors for medical care more times in the past year than those without coverage. Respondents who are in a higher poverty levels visited their child's doctors less times in the past 12 months than those who are in lower poverty levels. Finally, those with more than a high school education visited their child's doctors less times than those with a high school education or less.

A binary logistic regression was performed to examine English proficiency as a predictor for whether the respondent has a place to visit in case their child becomes sick or they might need advice regarding their child's health. The logistic regression model was significant, [X^2 (7) = 3306.446, p<0.05]. The model explained 12% of the variance (Nagelkerke R^2) in whether the respondent has a place to visit in case their child becomes

sick or they might need health advice. LEP respondents are 2.2 times more likely to have a place to visit for their child's medical care than non-LEP respondents.

A second binary logistic regression was used to examine whether there is a relationship between whether health care was delayed for the respondent's child in the past 12 months. The logistic regression model was statistically significant, $[X^2(7) = 1722.349, p<0.05]$. The model explained 5% of the variance (Nagelkerke R^2) in whether the respondent got the needed care for their child, or if it was delayed or not received. LEP respondents are 93% more likely to have had care delayed or not received for their child than non-LEP respondents.

A final logistic regression was used to examine English proficiency as a predictor of whether the respondent's child had access to at least one personal doctor or nurse. The logistic regression model was statistically significant, $[X^2 (7) = 4531.895, p<0.05]$. The model explained 13% of the variance in whether a respondent has access to at least one personal doctor or nurse. LEP respondents are 30% more likely to have access to a personal doctor or nurse than non-LEP respondents.

Table 4. Linear Regressions of Outcome Measures

		B	sig.	B	sig.	B	sig.	B	sig.	B	sig.
		Satisfaction with doctor/provider communication		*Doctors/Providers Listen Carefully*		*Doctors/providers are sensitive to family's customs and values*		*Received specific health information needed*		*Medical care visits in the past 12 months*	
Race/Ethnicity	Hispanic	-.094	0.0001*	-.111	0.0001*	-.129	0.0001*	-.086	0.0001*	.096	0.0001*
	Black Non-Hispanic	-.044	0.0001*	-.064	0.0001*	-.177	0.0001*	-.125	0.0001*	.211	0.0001*
	Multi/Other	-.078	0.0001*	.058	0.0001*	-.091	0.0001*	-.187	0.0001*	.074	.011*
Caregiver Education	More than HS	-.013	0.031*	.064	0.0001*	.076	0.0001*	.027	0.0001*	-.051	.011*
Health care coverage		.113	0.0001*	.193	0.0001*	.159	0.0001*	.280	0.0001*	-.686	0.0001*
Household Poverty		.013	0.0001*	.016	0.0001*	.021	0.0001*	.016	0.0001*	-.083	0.0001*
LEP		.012	.205	-.126	0.0001*	-.260	0.0001*	-.263	0.0001*	-.067	.033*

*significant at 0.05 level

Table 5. Logistic Regressions of Outcome Measures

		Exp(B)	sig.	Exp(B)	sig.	Exp(B)	sig.
		Place when child is sick/needs medical advice		*Care delayed/not received*		*Personal doctor or nurse*	
Race/Ethnicity	Hispanic	1.906	0.0001*	.766	0.0001*	1.663	0.0001*
	Black Non-Hispanic	2.006	0.0001*	.885	0.002*	1.846	0.0001*
	Multi/Other	1.871	0.0001*	.843	0.001*	1.629	0.0001*
Caregiver Education	More than HS	.718	0.0001*	.865	0.0001*	.721	0.0001*
Coverage		.371	0.0001*	2.186	0.0001*	.266	0.0001*
Household Poverty		1.096	0.0001*	.834	0.0001*	1.128	0.0001*
LEP		2.148	0.0001*	1.933	0.0001*	1.306	0.0001*

*significant at .05 level

VII.   DISCUSSION AND CONCLUSION

Discussion

The results of this study indicate that there are statistically significant

relationships between English proficiency and health care utilization, access to specific

health information, and health care satisfaction. Specifically, limited English proficiency

is associated with not receiving specific health information needed. In addition, those

with limited English proficiency are more likely to report that they do not feel their

doctors listen to them and that they are not sensitive to their family's customs and values.

However, according to the regression analyses, LEP respondents are more likely to report

access to a personal doctor or medical care facility when race/ethnicity, coverage,

education, and poverty are controlled. Despite being more likely to have a doctor or

access to a medical care facility, LEP respondents take their children less often to

medical care visits than non-LEP respondents and are more likely to delay or not receive

needed care. Despite lower levels of information, feeling that providers are less likely to

listen to them or respect their culture/values, and lower levels of health care utilization,

those with limited English proficiency are not significantly different from non-LEP

respondents in terms of their satisfaction with the communication with doctors and

providers.

Implications

LEP respondents are more likely to report that doctors and providers do not listen

to them or are not sensitive to their customs, values, and beliefs. Therefore, this study

reiterates the importance of language in relation to how it affects interactions with health

care providers (Chaufan et. al 2017; Rojas-Guyler et. al 2016). Due to these experiences

for LEP patients, it is increasingly important to have a culturally competent staff of health

care providers to ensure that doctors and providers are culturally sensitive to a patient's

needs. Additionally, LEP respondents are not receiving the specific information they

need from their providers, probably because they feel they are not being heard. This

finding is consistent with previous research indicating that LEP respondents often feel

that they are not receiving proper medical instructions, or they do not fully believe their

diagnoses and tests are appropriate (Derose et. al, 2009). This could be indicative of LEP

acting as a barrier to receiving proper health information. Consistent with previous

research, this study finds that limited English proficiency is a barrier towards obtaining

health information (Rojas-Guyler et. al 2016 and Raynor 2016).

Even though LEP patients in this study were not less likely to be satisfied with the

communication between their child's doctors than non-LEP patients, conclusions should

not be drawn that the communication between doctors and LEP patients is concordant.

According to Chaufan et. al (2015), LEP patients tend to report higher satisfaction in

care, yet emphasize self-blame for the miscommunication between their doctors and

providers. Further, this finding is indicative of the trust that patients have for their

providers simply because of the authority and prestige that doctors have over low income

LEP patients. LEP patients might internalize their language barrier as their own burden

and something that is not the responsibility of their doctors or providers to navigate.

According to Soule (2014), a health care provider's lack of diverse cultural

awareness can affect decision making processes. A lack of cultural competence in a

health care facility, whether it is from doctors, staff, or other care providers, could affect

a patient's sense of belonging in medical facilities (Soule 2014). LEP patients who have access to care, might not utilize their health care resources if they feel there is a disconnect between themselves and their care providers. Calo et. al (2015) found that LEP patients who experienced a lack of cultural and linguistic competence by people in health care facilities affected their whether they sought care from those services in the future. The health care utilization findings reflect this sentiment.

Even though LEP respondents report having access to a provider, they visit their child's providers less often in a year than non-LEP respondents and are more likely to delay needed care when controlling for race/ethnicity, coverage, education, and poverty. LEP respondents may not be utilizing the health services they have if they have had experiences in the past where they feel their doctors and providers are not listening, respecting their customs and values, or giving them the specific information they need. According to Maleku, Kim, and Lee (2019: 21), "Literature affirms that doctor visits of about three to four times [annually] can be equated with good health and good access and utilization of health services." In support with the literature on health in relation to health care utilization, the children of LEP respondents might experience worse health due to health care experiences that reduce their likelihood of getting necessary care.

Limitations

This study is not without limitations. The measures that were used for utilization, satisfaction, and health information, are not exhaustive and do not entirely capture all possible dimensions for each concept. The data set did not have many questions to capture access to health information. For instance, access to health information is not only provided through doctors, nurses, and other care providers. Health information is

also available through printed material such as medical instructions and brochures and posters (Massey et. al 2017; Zhou and Lee 2019). Health care satisfaction measures should also include satisfaction with registering and front-desk encounters, yet the data set does not provide questions related to these encounters. Despite these limitations, this study's strengths lie in focusing on the experiences with the interactions between LEP respondents and their child's health care providers. Finally, the health care utilizations are not direct measures of utilization. LEP patients report having more than one doctor or nurse for their child and are more likely to have a place to visit for their child's care compared to non-LEPs in this study. However, this cannot accurately reflect whether LEP patients are utilizing those health care resources. Social cohesion and social support have been found to mediate the relationship between structural relationships in health care for LEPs, but this does not reflect an improvement on health care access to services (Maleku et. al 2019).

Also, the dataset used is over ten years old. A more up to date dataset with more questions to add to each concept would add a more contemporary and thorough approach to studying what health care experiences are like for LEP respondents. Nonetheless, this study provides a thorough examination of LEP health care experiences using a nationally representative data set. Thus, it provides generalizable data on whether LEP patients might have a more favorable or unfavorable health care experience than non-LEP patients.

Conclusion

Overall, the findings from this study suggest that LEP respondents and their children have different health care experiences than those who are non-LEP. This study

highlights the effects of LEP on three important aspects of quality of care: satisfaction of care, access to health information and health care utilization. Further, regardless of race/ethnicity, poverty level, education level, or health insurance, LEP patients are still facing less favorable health care experiences compared to non-LEP patients.

Ultimately, LEP patients are more likely to feel that their doctors and providers do not listen to them and are not sensitive to their culture, yet it appears that LEP patients may internalize these feelings and thus not hold their providers responsible for these unsatisfactory encounters. These findings are in congruence with conflict theory assumptions that underscore the power dynamic between patients and doctors. The power imbalance between a patient and doctors is exacerbated between those that are LEP and this affects the way that LEP patients perceive those interactions. This affects their ability to receive the health information they require, therefore affecting their likelihood of utilizing available health services as effectively as non-LEP patients. LEP patients might have access to health care resources, but they are not utilizing primary care check-ups or getting necessary care as often as their non-LEP counterparts. Again, this could affect health outcomes of LEP individuals and their children. Consequently, findings from this study point to language as a social determinant of health along with a need to empower LEP patients during health care interactions.

Future research on this topic should consider the intersectionality of race, ethnicity, and language proficiency. The findings from this study also suggest that Hispanic and multiracial, and other race groups (possibly Asian, Native American, and Pacific Islander) respondents make up a majority of LEP respondents. These groups experienced less favorable health care experiences. Future examination of the differences

or commonalities between these LEP groups is important to understanding LEP patient experiences.

The most practical solutions for improving the quality of care for LEP patients includes having more bilingual and bicultural staff and available interpreters for LEP patients. Future studies could also focus on whether culturally competent care can improve health care experiences and utilization of LEP patients. Case studies have underscored the importance of culturally diverse practices and those effects on undocumented populations who face language barriers (Herbst et. al 2016).

Culturally competent care could improve utilization of care within LEP populations, in particular, those that are undocumented immigrants. A culturally sensitive and diverse health care facility could possibly provide a better health care experience for LEP patients, therefore improving the utilization of available health resources. Specifically, medical providers can offer more effective communication and compassionate care for LEP patients. In order for providers to provide effective communication to their LEP patients, health care facilities should provide additional support to their medical staff and providers to assure that culturally competent care is implemented throughout their facilities. Cultural competence is gaining more awareness in health care research and intervention, yet it remains a complex practice to systematically actualize and evaluate (Soule 2014).

REFERENCES

Andersen, Ronald M. 2005. "Revisiting the behavioral model and access to medical care: Does it matter?" *Journal of Health and Social Behavior* 36: 1-10.

Becerra, David, David Androff, Jill T. Messing, Jason Castillo, and Andrea Cimino. 2015. "Linguistic Acculturation and Perceptions of Quality, Access, and Discrimination in Health Care Among Latinos in the United States." *Social Work in Health Care* 54(2):134–57.

Calo, William A., Laura Cubillos, James Breen, Megan Hall, Krycya F. Rojas, Rachel Mooneyham, Jennifer Schaal, Christina Y. Hardy, Gaurav Dave, Mónica P. Jolles, Nacire Garcia, and Daniel S. Reuland. 2015. "Experiences of Latinos with limited English proficiency with patient registration systems and their interactions with clinic front office staff: an exploratory study to inform community-based translational research in North Carolina." *BMC Health Services Research,* 15(570): 1-9.

Chaufan, Claudia, Hegla Fielding, Catherine A. Chesla, and Alicia Fernandez. 2015. "'It's Not the Doctor- It's me': How self-blame obscures language and other structural barriers to diabetes care among low-income Latinos with Limited English Proficiency." *Education, Social Factors, and Health Beliefs in Health and Health Care Services,* 33: 187-208.

Chaufan, Claudia, Mi-Kyung "Miki" Hong, and Alicia Fernandez. 2017. "'Lost in Translation': How Clinicians Make Sense of Structural Barriers to Diabetes Care among US Latinos with Limited English Proficiency." *Research in the Sociology*

of Health Care, Health and Health Care Concerns Among Women and Racial and Ethnic Minorities, 35:127–43.

Derose, Kathryn P., Benjamin W. Bahney, Nicole Lurie, and Jose J. Escarce. 2009. "Immigrants and Health Care Access, Quality, and Cost." *Medical Care Research and Review* 66(4):355-408.

Driscoll, Susan D. and Christine E. Lynn. 2016. "Barriers and facilitators to cervical cancer screening in high incidence populations: A synthesis of qualitative evidence." *Women & Health,* 56(4): 448-467. Retrieved May 6, 2019.

Garcia, Carolyn M. and Laura J. Duckett. 2009. "'No te entiendo y tu no me entiendes': Language barriers among immigrant Latino Adolescents seeking health care." *Journal of Cultural Diversity,* 16(3): 120-126.

Garrett, P., Dickson, H., Lis-Young, Whelan, A., & Roberto-Forero. (2008). What do non-English-speaking Patients value in Acute Care? Cultural competency from the patient's perspective: a qualitative study. *Ethnicity & Health*, 13(5), 479–496.

Herbst, Rachel B., Darren R. Bernal, Jonathan Terry, and Brian Lewis. 2016. "Undocumented Latina/o Immigrants in Multidisciplinary Settings: Behavioral Health Providers' Role in Promoting Optima, Ethical Healthcare." *Journal for Social Action in Counseling and Psychology,* 8(1): 89-108.

Maleku, Arati, Youn Kyoung Kim, Guijin Lee. 2019. "Social cohesion and immigrant health: does language-efficacy matter?" *International Journal of Migration, Health, and Social Care,* 15 (1): 17-30. Retrieved May 10, 2019.

Massey, Philip M., Brent A. Langellier, Tetine Sentell, and Jennifer Manganello. 2017. "Nativity and Language Preference as Drivers of Health Information Seeking:

Examining Differences and Trends from a U.S. Population-Based Survey." *Ethnicity and Health* 22(6):596–609.

Meuter, Renata F. I., Cindy Gallois, Norman S. Segalowitz, Andrew G. Ryder, and Julia Hocking. 2015. "Overcoming Language Barriers in Healthcare : A Protocol for Investigating Safe and Effective Communication When Patients or Clinicians Use a Second Language." *BMC Health Services Research* 1–5.

Moreno, Gerardo, Kara Odom Walker, Leo S. Morales, and Kevin Grumbach. 2011. "Do Physicians with Self-Reported Non-English Fluency Practice in Linguistically Disadvantaged Communities?" *Journal of General Internal Medicine* 26(5):512–17.

Raynor, Eileen M. 2016. "Factors Affecting Care in Non-English-Speaking Patients and Families." *Clinical Pediatrics,* 55(2):145-149. Retrieved May 5, 2019. doi: 10.1177/0009922815586052

Rojas-Guyler, L., Denise H. Britigan, Keith A. King, Judy Zulig, and Lisa M. Vaughn. 2016. "Health Information Seeking Behaviors and Preferences among Latino Immigrants: The role of Acculturation and Functional Health Literacy." *The Health Educator,* 48(1): 10-18.

Scambler, G, ed. 2001. *Habermas, Critical Theory and Health.* New York, NY and London, UK. Routledge.

Schutt, Russell K. and Camila Mejia. 2017. "Health Care Satisfaction: Effects of Immigration, Acculturation, Language." *Immigrant Minority Health,* 19: 1372-1378. Retrieved May 10, 2019.

Sentell, Tetine and Kathryn L. Braun. 2012. "Low Health Literacy , Limited English Proficiency , and Health Status in Asians , Latinos , and Other Racial / Ethnic

Groups in California." *Journal of Health Communication* (17):82–99.

Soulé, Isabelle. 2014. "Cultural Competence in Health Care: An Emerging Theory."
Advances in Nursing Science 37(1):48–60.

Squires, Allison. 2018. "Strategies for Overcoming Language Barriers in Healthcare."
Nursing Management April: 20-27.

Tan, Lawrence, Gisselle Gallego, Thi Thao Cam Nguyen, Les Bokey, and Jennifer Reath.
2018. "Perceptions of Shared Care among Survivors of Colorectal Cancer from
Non-English-Speaking and English-Speaking Backgrounds: A Qualitative Study."
BMC Family Practice 19(1):1–11.

Ulmer, Cheryl, Bernadette McFadden, and David R. Nerenz, eds. 2009. *Race, Ethnicity,
and Language Data: Standardization for Health Care Quality Improvement.*
Washington, DC: The National Academic Press.

Zhou, Anne Q., Hee Yun Lee, and Richard M. Lee. 2019. "Who Has Low Health
Literacy and Does It Matter for Depression? Findings from Aggregated and
Disaggregated Racial/Ethnic Groups." Cultural Diversity and Ethnic Minority
Psychology 25(1):73–81.

Zong, Jie and Jeanne Batalova. 2015. "The Limited English Proficient Population in the
United States." Migration Policy Institute 1–11.