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# **FACTORS INFLUENCING LATINA HEALTHCARE SYSTEM DISTRUST**

by

Anthony D. Eldridge

A Thesis

Submitted to the  
Department of Psychology  
College of Mathematics and Sciences  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Clinical Psychology  
at  
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## **Abstract**

Anthony D. Eldridge  
FACTORS INFLUENCING LATINA HEALTHCARE SYSTEM DISTRUST  
2020-2021

Roberta Dihoff, Ph.D.  
Master of Arts in Clinical Psychology

The Latino community's healthcare engagement continues to be a growing national concern (Velasco-Mondragon et al., 2016). Due to sociocultural circumstances and racial marginalization, Latinas experience disproportionate health disparities and inequalities that may be exacerbated by healthcare system distrust (HSD) (Hacker et al., 2015). Ethnic identity, an established protective factor in Latino culture, may contribute to healthcare system (Ai et al., 2012). Additionally, immigration status has been shown to negatively influence Latino's healthcare experiences leading to HSD (Luque et al., 2018). The present study evaluated the influence of sociodemographic factors and ethnic identity on HSD among Latinas. Ethnic identity and education were hypothesized to mediate the paths of sociodemographic characteristics on HSD in a Latina women (N =158). Structural equation model path analyses were conducted to examine the casual paths of these factors on HSD. Results demonstrate a significant direct effect of ethnic identity and education on HSD. Significant indirect effect suggests a partial mediation of immigration on HSD via education. Ethnic identity was also found to mediate the relationship between education and HSD. Individuals with higher levels of ethnic identity had higher levels of healthcare distrust. Ethnic subgroup differences suggest cultural heterogeneity in health-related attitudes. Psychosocial factors, such ethnic identity and education level, may impact Latina women's trust in United States healthcare system which may inform culturally sensitive treatment.

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## **Chapter 1**

### **Introduction**

#### **Latino Health Disparities**

The Latino population, the largest ethnic minority group in the United States (UNITED STATES), continues to be one of the highest growing racial demographics in the nation representing roughly 18% of the country's population (US Census Bureau, 2016). A diverse ethnic group comprising many subgroups, Latinos in the United States population consists of individuals who originate from, or have recent ancestors from, countries Puerto Rico, Mexico, Dominican Republic, and other nations in South and Central America. In research literature, the term Hispanic and Latinos, as far as their racial classification in the United States are often used synonymously. The word "Hispanic", as a racial or ethnic identifier, is a terminology that continues to evoke both social and political debate leading some preference for term "Latino" and/or "Latinas" (Valdeon, 2013). Latino often refers to individuals with ethnic origins from Latin America and Hispanic refers people who descended from Spanish-speaking populations (Arreola, 2009; Calderon, 1992). Additionally, Latinx is a gender-neutral neologism for a more inclusive representation of all Latino gender identities (Salinas & Lozano, 2019). For the purpose of this review and study, the terminology "Latino", representing both males and the entire ethnic group, and "Latina", representing females, will be applied when referring to individuals who identify as part of this cultural group.

For decades, the "Latino Paradox", widespread epidemiological findings that strongly suggests Latinos have higher rates of health-problems yet relatively lower mortality rates, have intrigued researchers in understanding health behaviors in the Latino community (Ruiz et al., 2016). In exploring this health ambiguity, researchers have

debated that research on Latino health disparities often lack conceptual understanding of how Latino living circumstances, economic, and educational opportunities may influence the findings that support the existence of a paradox (Echeverria, 2018). Although the “Latino paradox” may present wavering conceptual understanding of health-related outcomes and behaviors, it has also been criticized for the paucity of substantial, enduring epidemiological research evidence (Ruiz et al., 2016). Research studies continue to indicate cultural identity, language barriers, access to health insurance, and quality of care as racially specific predictors to negative health outcomes (Vargas Bustamante et al., 2009; Velasco-Mondragon et al., 2016). By conceptually grasping how social determinants of health impact each Latino ethnic subgroup can give better representation for the observation of specific health problems.

Contemporary research literature highlights the importance of understanding Latino heterogeneous cultural expressions when examining cultural behaviors, attitudes, and norms (Benuto & Leany, 2018). Each subgroup of the Latino community may encompass vastly different traditions and beliefs hence research approaching Latino health outcomes in a homogenous manner is often criticized (Quintana and Skull, 2009). Regarding health-related behaviors and perceptions, exploring cultural intersectional characteristics within the Latino population may provide meaningful conceptual data in understanding ethnic subgroup health differences. Although past literature examining various social-determinants of health within the Latino community has attempted to examine heterogeneous health-related outcomes, there is a paucity of research examining health-related perceptions of the United States healthcare system (Vitullo & Taylor, 2002; Velasco-Mondragon et al., 2016).

According to the United States’ Center for Disease Control and Prevention (CDC), health disparities are any preventable differences in disease or health that are a

result of social disadvantages (CDC, 2016). Various health disparities, preventable social differences of disease, exist in the Latino community that emphasizes cultural health-related problems. Compared to White adults, Latinos have a higher prevalence rate of chronic illnesses such as a 17% risk for Type 2 diabetes compared to non-Hispanic White adult's 8%, and a 23% higher rate of obesity (CDC, 2016). In fact, Vega et al. (2009) highlighted diabetes as a major influence of mortality disparities for Latinos.

Additionally, Latinos also have high prevalence rates of obesity which increases risks of further developing chronic illnesses and heart disease. High obesity rates differ across gender, with Latino women disproportionately impacted regardless of ethnic subgroup compared to men (Hung et al., 2020). Within Latinas, obesity rates have been found to vary significantly depending on ethnic backgrounds (Daviglius et al., 2012). This also applies to other chronic illnesses. One study evaluating a national sample of chronic conditions in an exclusively Latina sample found Puerto Rican women had higher rates of asthma, Cuban women had higher rates of heart diseases, and Mexican women had higher rates diabetes (Ai et al., 2012). Trends regarding Latino ethnic subgroup differences in rates of chronic illnesses and disease continue to exist in health literature, and, overall, Latina women appear to be disproportionately affected (Paz & Mazzey, 2016; Ramos et al., 2010).

Examinations of health disparities in the Latino community should explore gender differences since past research affirms an increasing discrepancy for Latinas. As the trend predicts, Latinas will comprise approximately 25% of the total United States female population by 2050 (Ramos et al., 2010). With Latinas potentially representing a fourth of the nation's female population, health disparities of this group will become an

increasing pertinent concern. For example, cancer is the leading cause of death for Latinas with breast, thyroid, and colorectum variants found to be the most common (Siegel et al., 2015). In considering this, another study examining Latina health disparities trends found Latinas were less likely to receive preventive screening exams for cancer than other racial groups (Paz & Massey, 2016). Both findings indicate the need for healthcare interventions to include culturally specific mechanisms for Latinas.

Best healthcare practices for the care of Latino patients emphasize interventions that directly addresses cultural barriers to care (Juckett, 2013). For example, interventions including socio-contextual methods of increasing cancer screening specifically in Latinas continue to be developed and may have contributed to the increase in prevention screening (Coronado et al., 2016; Elder et al., 2017; Thompson et al., 2019). Most importantly, social determinants of health, such as systemic racism and discriminatory medical practices, have been historically ingrained into societal structures and are known healthcare barriers for the Latino community (Ramaswamy, 2015). These racial structures have been argued to have promoted health disparities and have prompted researchers to explore ways to address them in medical settings specifically for Latina women (Churhwell et al., 2020; Rosenthal & Lobel, 2019). Developing conceptual insight into how these racial structures may have contributed to Latina's perceptions and attitudes of the healthcare system will provide a clearer understanding of how to culturally address health disparities.

### **Healthcare Distrust in the Latino Population**

Lack of trust and fidelity towards the United States healthcare is argued to be influenced by a historical system of racism and discrimination (Williams & Tucker, 2000). Unequivocally, racial bias and discrimination in United States healthcare system

continues to disproportionately effect ethnic minorities conducting health inequities irrespective of education, access, insurance, and socioeconomic status (Williams et a., 2007; Williams et al., 2016). Recent literature suggested that addressing health inequities should be approached at both individual, cultural, and institutional levels distinctively across racial groups (Cogburn et al., 2019; Yearby, 2021). However, there is a dearth of evidence supporting which cultural factors contribute to healthcare distrust for Latinos. Limitations within the available literature on evidence-supported, conceptual frameworks and interventions for addressing racial inequities have called for critical analyses and distrust has been found to be a factor needing further exploration (Pilecco et al., 2020; Seckin et al., 2021).

In explaining an attitude towards the healthcare system, distrust refers to a suspicion that is informed by a series of negative personal, vicarious, or collective experiences that resulted in a fear and skepticism towards a social structure (Griffith et al., 2021). A common criticism of health-related research surrounding trust is the incorrectly or interchangeable use of the term's "mistrust", "distrust", and "trust" when explaining cultural attitudes and perceptions of medical operations (Williamson & Bigman, 2018). While mistrust suggests an overall general unease, distrust is conceptualized as an informed, targeted suspicious feeling. For Latino communities, targeted distrust towards any portion of the healthcare treatment process may be informed by experiences with deportation or substandard medical treatment compared to other ethnic groups (Nelson, 2003; Nichols et al., 2018). Nevertheless, it is apparent that healthcare system distrust may be an extension of racism and exacerbate health disparities.

Racial discrimination and inequalities can influence health beliefs and behaviors for Latinos. A meta-analysis of 70 studies on racism and healthcare utilization found that experiences with either societal or medical racism was associated with low healthcare-related trust and negative patient experiences (Ben et al., 2017). Conversely, low healthcare system distrust has been associated with low healthcare utilization in both acute and non-acute medical situations (Woskie & Fallah, 2019). These findings suggest that discriminatory practices outside of healthcare settings may negatively influence interpersonal engagement in healthcare settings. For the Latino community, an extensive history with receiving inferior healthcare compared to White communities has may have contributed to distrust towards aspects of United States healthcare (Galvan et al., 2017; Juckett, 2013; Nelson, 2003). Consequently, Latina women's distrust in the healthcare system may impede treatment adherence and positive outcomes related during treatment.

Nationally, public distrust in the healthcare system, and its services, continues to rise (Armstrong et al., 2006; Gille, Smith, & Mays, 2015). For racial and ethnic minorities, distrust in any part of the healthcare system may lead to low care utilization and deepen health disparities. The impact of healthcare distrust among ethnic minorities has mixed conclusions. While some findings suggest that medical distrust and perceived discrimination significantly contributes to lower satisfaction with healthcare (Lopez-Cevallos et al., 2014), other findings show that there is no change in levels of healthcare satisfaction (Abraido-Lanza et al., 2013). Distrust in the healthcare system could negatively influence critical self-care behaviors such as prevention screenings and adherence to physician prescribed regime. Although the United States healthcare system has a long history of mistreatment of Black community (Dovidio et al., 2008; Griffith et

al., 2021), a common criticism of research on healthcare distrust outcomes is that known contributing factors center Black American experiences (Williamson & Bigman, 2018). Within this scope of criticism, research examining medical and healthcare distrust in ethnic minorities indicates a need to further examine Latino cultural healthcare distrust (Sheppard, Huei-Yu, Hurtado-de-Mendoza, Sutton, & LaVeist, 2019). Less is known of what culturally specific factors influence Latino's distrust in the healthcare system.

Latino levels of healthcare distrust appear to be consistently higher than White counterparts in various regions throughout the country (Armstrong et al., 2007). Currently, there appears to be a dearth of literature explaining factors that influence this distrust in the Latino community. Latinos were less likely to have healthcare insurance than their white counterparts and perceive that they will receive lower quality health care (Lillie-Blanton et al., 2000). While such findings provide conceptual insight to Latino cultural attitudes towards healthcare, there's currently a lack of research that focuses on Latina's distrust towards the healthcare system as a whole.

In the United States, healthcare utilization had been found to be significantly lower for the Latino population compared to other racial and ethnic groups (Blackwell et al., 2014). Latinos had been also found to delay engagement with formal healthcare systems and conventional treatment by seeking alternative to care partially due to trust (Lewis, 2017). Gender differences in the Latino community may contribute to lower utilization of care. For Latina women, studies found that distrust in both the healthcare system and physicians significantly contribute to medical non-adherence, lower utilization, and a decrease in positive health-related behaviors (Cunningham et al., 2007;



Oakley et al., 2019; Boyer et al., 2001). Therefore, distrust may worsen health outcomes for Latinas by directly impacting their health-related behaviors and attitudes.

Addressing physician trust and adherence is a common focal feature for preventive care for ethnic minorities. Physician trust had been associated with greater treatment adherence, utilization of preventive care screening, and overall greater treatment outcomes (Cunningham, 2009; Graham et al., 2015). For example, a study on health care system distrust and the adherence to physician recommendations in Latina patients found a negative correlation (Dean et al., 2017). Also, in another study that examined medical interactions between physicians and patients with rheumatoid arthritis and lupus, Latina patients were found to have low physician distrust yet higher trust in the healthcare system which impacted treatment adherence (Berrios-Rivera et al., 2006). Shifts in the medical community's attitudes had demonstrated healthcare providers awareness that treatment non-adherence reflects a behavioral response to substantiated racial barriers, and thus each ethnic group should be conceptualized uniquely (Camp et al., 2020). Whereas factors interplaying physician-patient relationships have been explored for Latinas, little is known surrounding factors that contribute overall healthcare system distrust.

There is a plethora of research evidence establishing a relationship between healthcare distrust and its effects on health-related behaviors in the Latino population (Luque et al., 2018; Hackett et al., 2011). Besides being at higher risk for some health-related problems than other female ethnic groups, Latinas are often primary caretakers of children and make health-related decisions for children (Brodsgaard, et al., 2014; Wang et al., 2017). Therefore, negative beliefs about healthcare may impact both the mother's

and child's health. For instance, a study examining Latina mothers' attitudes and behaviors towards required childhood vaccinations found that trust in the United States healthcare system as a main theme in vaccinations behaviors (deRose, 2017). A common criticism of research examining medical and healthcare distrust in ethnic minorities indicated a need to further examine Latino cultural healthcare distrust (Sheppard et al., 2019). Considering the relevance of racial and ethnic identity for Latina's, it's development may help explain healthcare system distrust.

### **Ethnic Identity**

Ethnic identity is defined as the extent to an individual's affiliation to their own ethnic group (Umaña-Taylor, 2011). As a construct, ethnic identity is often conceptualized as a process of commitment and exploration of their own ethnic group (Brown et al, 2014; Phinney & Ong, 2007). For Latinos, theories surrounding ethnic identity development have emphasized the unique intricacy of group ethnicity and how it does not explicitly fit constructs of race. In Ruiz's (1990) Chicano/Latino ethnic identity model, identity is formed in a five-stage process where Latinos navigate internal crisis's that balance associations with observed Latino groups, assimilation to White culture, and a management of social perceptions of physical ethnic markers. On the other hand, Ferdman and Gallegos' (2007) model of Latino ethnic identity suggests that Latinos develop a sense of identity based on dynamic sociocultural experiences where classification and distinctions between other racial groups, and their own identified ethnic group, guide ethnic identify formation. Ultimately, as a consequence of ethnic identity formation process, the utility of an established ethnic identity may perform unique roles for Latinos.

The conveyance of cultural pride from parent to child, which helps strengthen Latino ethnic identity, has been theorized as one of the methods of strong cultural identity (Balderas et al. 2016; Hughs, 2003). Accordingly, a study found Latino parents often foster cultural pride in their children and a positive ethnic identity mitigates the negative effects of discrimination (Ayon, 2015). Given this, existing theories of Latino ethnic identity describe the development of racial and ethnic identity throughout the child to be fundamental to the substantiation of adulthood identity transitions (Umaña-Taylor et al., 2014; Chavez & Guido-DiBrito, 1999). Adulthood marks a moment where ethnic and racial identity in Latinos may be more securely recognized and largely depending on factors such as familial upbringing, acculturation, generational age differences (Rivera-Santiago, 1996). Thus, ethnic identity likely oscillates and serves varying purposes during adulthood.

Ethnic identity had been theorized as a factor that serves a multidimensional role in healthy development and adjustment for Latinos in adulthood (Rivera-Santiago, 1996). According to Quintana and Scull (2009), Latino ethnic identity may serve as a protective factor against social marginalization and assist with the acculturation process during immigration. Further, for Latinos living in the United States, ethnic identity may also serve as a protective cultural strength to a successful adaptation into American society (Ai et al., 2014). As mentioned earlier, Latinos often experience inferior care when presenting in health settings. Therefore, when engaging in healthcare, attitudes towards the healthcare system may be informed from previous experiences with marginalization and their ethnic identity may help their expedition of healthcare interactions.

Ethnic identity may also have protective effects depending on a Latino's subgroup identity. For instance, a study found that compared to other Latino groups, and to Latino's with lower ethnic identity, Cubans with higher levels of ethnic identity were less likely to sense discrimination (Perez et al., 2008). Ethnic identity may also impact health behaviors and predict health outcomes. A study evaluating ethnic identity on the effectiveness of health interventions found that Latinos and African Americans, with high ethnic identity, experienced greater health-related improvements compared to groups with lower identity (Murayama et al., 2016). Few studies have produced findings that contradict the protective value of ethnic identity in Latinos. High ethnic identity had been found to intensify the psychological burden of discrimination in a sample of Latinos (Woo et al., 2019). Additionally, higher levels of ethnic identity have been found to predict lower levels of service utilization for mood and anxiety disorders in Latinos (Keyes et al., 2015). Despite this, the protective factor of ethnic identity appears as an influencing factor in health behaviors and may serve a crucial function in healthcare beliefs.

Dearth of research on Latina's ethnic identity's relationship with health behaviors and beliefs, as well as research that approaches this association heterogeneously, suggests a gap in the literature. Some studies have attempted to bridge this gap in the research literature. For instance, one study found that foreign-born, pregnant Latinas who reported high ethnic identity were less likely to engage in smoking behaviors compared to those with low ethnic identity. Another study examining ethnic identity in Latina breast cancer survivors found ethnic identity to be associated with perceived healthcare discrimination (Campesino et al., 2012). While differences in cultural subgroup health behaviors and

health-related outcomes exist, Latinas utilize health services at a low rate (Ai et al., 2013). The mixed findings in ethnic identity's impact on healthcare distrust for Latina's suggest that additional relevant factors may also be of consideration.

### **Education's Influence on Healthcare Perception**

Social determinants of health, such as education, largely influence health related behaviors and outcomes for Latinas. The United States Census Bureau reported that compared to 92.9% non-Hispanic whites, only 68.7% of Latinos have earned high school diplomas and, compared to 35.8% of non-Hispanic whites, only 16% of Latinos have earned a bachelor's degree. This may indicate that Latinos have significantly disproportionate levels of educational attainment. Davis et al. (2012) found that Latino's with less education were less likely to engage with preventative medical services and reported high levels of medical distrust. Further, lower education was also found to be associated with higher physician mistrust in Blacks and Latinos compared to Whites (Armstrong et al., 2007). Educational attainment appears to be a factor that contributes to navigation, communication, and comprehension of health services for the Latino community (Escarce & Kapur, 2006), but less is known of its influence of Latina's trust in the healthcare system.

There are mixed findings on whether education directly influences distrust in healthcare systems. Research has indicated less education to be correlated with increased hesitancy to pursue preventative healthcare and distrustful attitudes towards vaccinations (Davis et al., 2012; Paul et al., 2021; Reuben et al., 2020). Contrarily, other studies found education to not be a significant predictor of negative health perceptions or distrust (Gupta et al., 2014; Guerrero et al., 2015). Many of these studies either had small or no

samples of Latinos which limits generalizability. Since higher education had been associated with higher socioeconomic status, greater medical adherence, and greater access to healthcare services thereby significantly improving health equity, researchers argued that reducing gaps in education may also help decrease misconceptions of the healthcare system in Latinos (Gomez et al., 2019; Hahn & Truman, 2015). Further, a recent study highlighted a buffering relationship that ethnic identity and education may interplay for Latino's perceptions of healthcare services (Concha et al., 2021). Therefore, it is likely that the interaction between ethnic identity and education may also serve a particular function in the development of healthcare distrust.

Both education and ethnic identity shape health and social adjustment with each serving distinctive roles depending on environmental contexts (Roberts et al., 1999). In the healthcare context, little is known of how ethnic identity and education may contribute to healthcare system distrust specifically for Latina women. Additionally, Latina's experience unique disadvantages in receiving access to education, such as language barriers and limited economic resources, if they or their parents immigrated to the United States (Schneider et al., 2006). Depending on ethnic background, traditional cultural norms may not align with American cultural norms. For instance, Marianismo, an aspirational Latina cultural belief that women maintain a submissive, nurturing, and sacrificing role in their family systems, is an essential value for some Latina subgroups (Morelas & Perez, 2020). More importantly, Marianismo has been found to be strong a predictor of higher ethnic identity, self-sacrificing caregiving, education attainment, and immigration for Latinas (Mendez-Luck & Anthony, 2016; Morelas & Perez, 2020; Sanchez et al., 2017). Considering how sociocultural factors, such as ethnic identity, can

shape education and healthcare experiences for Latina, exploring immigration's role in these processes may broaden our understanding of healthcare distrust.

### **Immigration's Influence on Healthcare Perception**

The process of immigration to the United States had been found to be a stressful process that drastically and negatively impacts the reception of societal resources (Crosnoe & Turley; Erisman & Looney, 2007). Language barriers, immigration-related stress, and education inequalities have been shown to contribute to psychological distress for immigrant women (Sternberg et al., 2016). Moreover, Latino immigrants are more likely to experience socioeconomic barriers further effecting medical insurance access for healthcare (Escarce & Kapur, 2006). Though healthcare insurance is a critical resource for healthcare access, healthcare utilization for immigration Latino has also been found to be influenced by perception of the providers, perceived quality of care, and potential distrust in healthcare system (Castaneda, 2017). Thus, it is imperative to considered attitudes towards healthcare when exploring immigration's probable impact on distrust.

Anti-immigrant political climate has been shown to contribute to distrust and fear of healthcare system networks (Luque et al., 2018). Structural racism in the United States targeted towards immigrant Latinos, such as state-level immigration policies, have been found to contribute to health care inequities for Latino immigrants, and even target United States Born Latinos (Philblin et al., 2018). In a study examining immigrant Latino's healthcare experiences and perceptions compared to that of United States Born Latinos, Blacks, and Whites, both Guatemalan and Mexican immigrants were found to have significantly higher barriers to healthcare than other groups (Jacquez et al, 2015). Additionally, in response to such type of policies, a qualitative study on Latino

communities reported increased maltreatment from healthcare providers and beliefs that such mistreatments were meant to discourage their healthcare engagement (Cleveland & Ihara, 2012). Policies that target marginalized immigrant Latinos are likely to negatively contribute to an negatively impact in all aspects of healthcare utilization. Subsequent studies reported a fear of possible deportation when engaging with healthcare, which may contribute to hesitancy in engaging with United States healthcare systems (Hacker et al., 2015; Perriera & Pedroza, 2019). For Latino immigrants, perceptions regarding the healthcare system can vary.

Trust in treatment and care for immigrant Latino's may contribute to perception of overall healthcare. However, there are mixed results on whether it contributes or improve healthcare utilization and engagement. In evaluating mental healthcare engagement, Falgas-Bague et al. (2019) found that trust in present treatment and mistrust of past treatment was significantly associated treatment completion in a sample of Latino immigrants. Whereas another study examining medical mistrust in Latino male immigrants found that it mediated the relationship between perceived discrimination medical treatment adherence (Galvan et al., 2017). These findings shed light on the positive relationship between immigration and healthcare trust, but less is known of how immigration may influence these attitudes toward the entire healthcare system for Latinas.

Studies surrounding immigrant and United States born Latino's health outcomes have demonstrated variances in prevalence rates and health behaviors. In a cross-sectional, telephone survey study on perceived discrimination in the healthcare system, United States born Latinos were found to be less likely to perceive discrimination (Mays,



Jones, Delaney-Brumsey, Coles, & Cochran, 2017). Additionally, one study examining religious attendance and medical mistrust in a Latino sample found a positive association between having immigrant parent and medical mistrust (Lopez-Cevallos, Florez, & Derose, 2019). Mixed results on health-related, outcomes also exist in United States born and immigrant Latinos. Differences in mortality rates exist between immigrant and non-immigrant Latino's that suggests non-immigrant Latino's have higher rates of mortality (Lariscy, Hummer, & Hayward, 2015). Moreover, Samson (2016) found that Latino, specifically those who are immigrant, have mixed physician mistrust that may be linked to societal medical mistrust. Little is known about how immigration or education may influence Latina's distrust in healthcare system distrust despite these factors collectively demonstrated probable theoretical relevance.

### **Theoretical Framework**

There are many models that address Latino ethnic identity contextual factors, but most have not explored those relationships in healthcare systems. Hong, Tauscher, and Cardel (2017) proposed a conceptual framework model that aims to describe the bidirectional relation between individual characteristics, health services quality, contextual factors, and health service utilization in Asian and Hispanic communities. The authors presented modifications to Ronald M. Anderson's Behavioral Model of Health Services, a widely used framework for understanding health service utilization dynamics, that included factors culturally specific to racial and ethnic minority groups (Anderson et al., 2011; Hong et al., 2017). Hong et al. (2017) model explain that individual factors can impact both healthcare service quality factors and healthcare utilization factors separately

(see Appendix C). Using the framework from this model, Latina's individual characteristics can be directly related to their trust in the healthcare system.

Cultural factors reside within the model's domain of individuals characteristics. They can be defined as predisposing, enabling, and health needs descriptors. For the purpose of the current study, predisposing factors are considered as cultural factors. Previous literature demonstrated cultural factors specific health behaviors for Latinas can include ethnic identity (Gast et al., 2020; Murayama et al., 2017). Furthermore, health service quality contextual factors can include, and be considered as, healthcare distrust. In consideration of this theoretical framework, there appears to be a paucity of research literature that examines the relationship between ethnic identity, immigration, and education, and healthcare system distrust in Latinas. Factors that may influence this potential relationship could provide further insight into culture-specific moderators.

### **Significance and Purpose of the Study**

The relationship between ethnic identity and healthcare system distrust has yet been clarified in the research literature. Some studies have explored possible factors that influence healthcare system distrust in Latino population (Jacobs et al., 2011), but does not explore the relationship between the two variables. Eldridge (2020) found a positive correlation between ethnic identity and healthcare system distrust in a sample of 60 Latina women. However, little is known of how education, age, immigration status can influence the relationship between ethnic identity and distrust in the healthcare system in Latinas. Research on ethnic minority health disparities suggest future studies should explore factors that influence healthcare system distrust in minority sample to help better understand potential contributing determinants, particularly in Latino samples

(Armstrong et al., 2008; Hong, Tauscher, & Cardel, 2018; Yang, Chen, & Noah, 2015).

Therefore, the purpose of this study is to determinate factors that influence healthcare system distrust in Latinas

### **Research Questions and Hypotheses**

Research question 1: Does immigration influence ethnic identity?

Hypothesis 1: Immigration has a significant positive direct effect on ethnic identity

Research question 2: Does education influence healthcare system distrust?

Hypothesis 2: Education has a significant negative direct effect on healthcare distrust.

Research question 3: Does ethnic identity influence healthcare system distrust?

Hypothesis 3: Ethnic identity has a significant positive direct effect on healthcare system distrust

Research question 4: Does age influence healthcare system distrust?

Hypothesis 4: Age has a significant positive indirect impact via ethnic identity on healthcare system distrust.

Research question 5: Does immigration and education effect healthcare system distrust?

Hypothesis 5: Immigration has a significant indirect effect on healthcare system distrust via education.

Research question 6: Does healthcare distrust significant differ by ethnic group?

Hypothesis 6: Healthcare system distrust will differ significant based on ethnic group membership.

## Chapter 2

### Method

#### Procedure

##### *Participants*

This study exclusively recruited Latina women. Inclusion criteria for recruitment were participant who self-reported their ethnicity as any Latino subgroup and identified as female. Exclusionary criteria consisted of participants who are younger than 18 years of age, participants who do not consent to research study, participants who did not speak English, participants who identified as male, and participants who identified their ethnicity as non-Latino, non-Hispanic. Participants were recruited from Rowan University in Glassboro, NJ, utilizing the SONA program, word-of-mouth, and at community-based events. For community-based recruitment, homogeneous purposive sampling was used to recruit participants who may identified as Latina. Of the 205 participants who completed the initial screening survey, a total of 34 (16%) participants were excluded for not meeting the studies criteria, as they either identified as male (42%) or non-Hispanic, non-Latina (58%). The remaining 171 participants meet the inclusionary criteria. However, an additional 13 failed to complete the survey which resulted in a final sample of 158 participants.

All participants identified as female. The age of our sample ranged from 18 years to 72 years, with a mean age 33.4 years ( $SD = 12.37$ ). Majority of our sample 88% ( $n = 139$ ) indicated some form of employment and, of these participants, 73.3% ( $n = 102$ ) indicated full-time employment. Lastly, majority of participants 43.3 % ( $n = 69$ ) reported romantic relationship status as single.

## ***Research Design***

The current study utilized a correlational, cross-sectional design. A cross-sectional research design was selected to examine associations in the Latina population, not to establish a cause-and-effect relationship (Sedgick, 2014). Since the variables present for analysis do not involve manipulation, a cross-sectional, correlational design can allow exploration of numerous variables without direct intervention. An online, self-report survey may also provide easier access than in-person administration of study material. Approval of the study was obtained through the Institutional Review Board of Rowan University (IRB#: Pro201800051).

## ***Measures***

**Demographic Questionnaire.** Participants responded to items designed to assess sociodemographic factors such ethnicity, gender, education, employment, insurance, and nationality. Frierson et al. (2017) demographic questionnaire formulation was utilized to collect descriptive information of racial and ethnic minorities in health-related research. Categories of ethnic group belonging will be assessed through both open-ended and forced-choice methods. Demographic information for insurance, employment, and gender will be assessed through forced-choice methods, such as “Female” or “Male” and “Full-Time Employment” or “Part-Time Employment”. Participants responded to years of education through numeric values. For instance, “12 years” indicated a high school education whereas “16” indicate a college/university bachelor's degree.

**Multigroup Ethnic Identity Measure - Revised (MEIM-R).** Participants responded to a brief, validated instrument that is designed to measure an individual's level to which they identify with their own ethnic group. The Multigroup Ethnic Identity Measure - Revised (MEIM-R) is valid and reliable, six-item, Likert scale that evaluates an individual's level of ethnic identity (Phinney & Ong, 2007). Each item is scored on a

5-point Likert rating and full-scale scores range from 6 to 30 (see Appendix A). Since its introduction, the Multigroup Ethnic Identity Measure (MEIM), the original ethnic identity measure, has contributed immensely to the contextualization and establishment of ethnic identity across various ethnic groups in both child and adult population (Avery et al., 2007; Phinney, 1992). Although highly utilized, revisions to the original scale addressed concerns about the extent of generalizability, validity, and brevity (Feitosa et al., 2017; Phinney & Ong, 2007; Yoon, 2011). The MEIM-R consists of a two-factor model of ethnic identity that includes subscales of exploration and commitment, both subscales consist of three items. Sample items of the MEIM-R are “I have often done things that will help me understand my ethnic background better” and “I have often talked to other people in order to learn more about my ethnic group”. For this study, full scaled scores were used. Herrington et al. (2016), in a study comparing the reliability of MEIM and the MEIM-R across various samples, found an increase in the MEIM-R reliability,  $\alpha = .88$ , compared to the MEIM reliability of  $\alpha = .84$ . Further, a study examining the reliability of the MEIM-R in a Latina sample found moderately higher means of ethnic identity and a good reliability,  $\alpha = .88$  (Brown et al. 2014).

**Healthcare System Distrust Scale (HSDS).** The nine-item Healthcare System Distrust Scale (HSDS) was used to assess participants' level of healthcare system distrust. This particular scale was selected because it demonstrated good psychometric properties in both ethnically and educationally varied samples,  $\alpha = .83$  (Rose et al., 2004; Shea et al., 2008). The HSDS is a nine-item, Likert scale measure that evaluates an individual's level of distrust in a healthcare system on two subscales distrust, values and competence. Each item is scored on a 5-point Likert rating and full-scale scores range from 9 to 45 (See Appendix B). The HSDS consists of a two-factor model of healthcare that includes two subscales, values and competence. Sample items of the HSDS are “The healthcare

system does its best to make patient feel better” and “The healthcare system covers up its mistakes”. Research studies examining healthcare system distrust in ethnic diverse samples have utilized the HSDS (Dean et al., 2021; Mousilim et al., 2020).

## **Analytic Strategy**

### ***Preliminary Analyses***

Descriptive analyses on collected data were analyzed using SPSS version 27.0. First, participants descriptive characteristics were analyzed by frequency and percentage. Healthcare system distrust, age, ethnicity, education, and ethnic identity were analyzed by mean and standard deviation. Pearson correlations and eta square values were used to examine the effect size of statistically significant associations.

A correlation matrix was computed to explore the bivariate relationships among the study variables (see Table A2). All study variables were found to have at least one correlation with another variable. Pearson correlation coefficients were used to describe the association between continuous variables (Cohen, 1988; Hemphill, 2003). Also, eta squared coefficients were used to describe the associations between bivariate, nominal variables and interval variables (Shieh, 2012).

### ***Main Analyses***

SPSS version 27.0 and AMOS 27.0 was used for path analysis and ANOVA for main analyses. To test the fit of the data to the hypothesized model, structural equation modeling (SEM) was conducted using Analysis of Moment Structure (AMOS, version 27.0) (Arbuckle, 2019). Dummy coding was used to translate the only categorical variable (e.g., immigration) used in our model and 1 was used as a reference group

(Arbuckle, 2019; Daly, Dekker, & Hess, 2016). SEM path analyses were used to estimate hypothesized casual mechanisms, and estimate indirect, direct, and total effects (Bollen & Pearl, 2013). Bollen-Stine bootstrapping was used for the transformation of non-normal data to evaluate model fit (Kim & Millsap, 2014). Beta coefficients and confidence intervals were examined to interpret the effect size and evaluate for evidence against the null hypotheses that the coefficient for the paths in our model are equal to 0. Lastly, squared multiple correlations coefficients (SMC) were used to evaluate the proportion of variance explained by the exogenous variables on distrust (Arbuckle, 2019).

To test normality of our sample, kurtosis and skewness values were assessed. Healthcare system distrust, ethnic identity, and age were not normally distributed. These three variables were expected to not be normally distributed as previous research have indicated variability with ethnic identity and overall higher distrust in Latino samples (Perez et al., 2008; Woo et al., 2019). The Bollen-Stine method was used to evaluate the model fit (Bollen & Stine, 1993; Kim & Millsap, 2014). To assess the fit of our model, Kline (2005) recommended that, at minimum, the comparative fit index (CFI), normed chi-square ( $\chi^2$ ), root mean square residual (RMR), and root mean square error of approximation (RMSEA) be reported when examining SEM fit indices.

To evaluate statistically significant mean group differences, a one-way ANOVA was conducted to assess ethnic group membership impact on healthcare system distrust (HSD). Brown-Forsythe and Welch test were used to assess equality of means employed. While both are robust tests and does not assume equal variances, the Welch is best at managing Type I error rates and the Brown-Forsythe, although also recommended for Type I errors, is best when evaluating variances in equal groups (Tomarken & Serlin,



1986). Lastly, post hoc analyses were used to uncover specific group differences. The Hochberg's GT2 post hoc assisted with identifying specific group differences and maintain power in spite of significant unbalanced sample sizes (Shingala & Rajyaguru, 2015).

## Chapter 3

### Results

#### Demographic and Descriptive Statistics

Demographic and descriptive statistics can be found in Table A1. For immigration status, 23.4% ( $n = 37$ ) reported not being born in the United States. The mean Multigroup Ethnic Identity Measure score of our sample was 21.84 ( $SD = 7.07$ ) and mean Healthcare System Distrust Scale score was 31.26 ( $SD = 10.45$ ). Participant's years of education ranged from 8 years to 18 years of schooling ( $M = 13.22$ ,  $SD = 10.45$ ). Education years indicated the number of years that participants attended any schooling during their lifetime. Therefore, 8 years of schooling roughly suggested a discontinuation of primary schooling and years about 12 roughly suggested higher education schooling. For ethnic subgroup, 9 ethnic subgroups were represented in our sample and most endorsed ethnic subgroup, 33.5% ( $n = 53$ ), identified as Mexican.

**Table 1**

*Demographic and Descriptive Characteristics of the Sample*

Characteristics	<i>f</i>	%
Ethnic Group		
Puerto Rican	48	30.3
Dominican	36	22.7
Mexican	53	33.5
Cuban	6	3.7
El Salvadorian	5	3.1
Guatemalan	4	2.5
Peruvian	2	1.2
Columbian	2	1.2
Honduran	2	1.2

Characteristics	<i>f</i>	%
Full-Time	89	56.3
Part-Time	40	25.3
Unemployed	28	17.7
Retired	1	<1
Relationship Status		
Married	47	29.7
Partnered	41	25.9
Single	69	43.6
Widowed	1	<1
Total N	158	

### **Bivariate Correlations**

Bivariate correlations are displayed in Table 2. Of significant associations found, Bivariate correlations are displayed in Table A2. Of significant associations found, the greatest significant correlation was a positive, large association between ethnic identity and HSD,  $r(156) = .67, p < .05$ . Accordingly, as ethnic identity full scale scores increased, HSD score also increased. Education and ethnic identity were negatively with a medium effect size, associated with a small effect size,  $r(156) = -.29, p < .05$ . Education and HSD were negatively associated with a medium effect size,  $r(156) = -.47, p < .05$ . Also, age and education were significantly negatively associated,  $r(156) = -.17., p < .05$ . with a small effect size. However, age was not significantly associated with ethnic identity or HSD.

**Table 2***Descriptive Statistics and Correlation Coefficients for Study Variables*

Variable	M	SD	1	2	3	4
1. Ethnic Identity	21.8	7.1				
2. HSD	31.3	10.5	.67*			
3. Education	31.3	10.5	-.29*	-.47*		
4. Age	33.5	12.4	-.08	0.05	-.17*	
5. Immigration	-	-	0.30	0.15	0.09***	.02*

*Note:* Pearson's correlation coefficients are indicated in variables 1 – 4. Eta squared effect size values are indicated for variable 5, immigration. \* < p. 05, \*\* < p.01, \*\*\*< p.001

As explained by Lakens (2013), eta squared ( $\eta^2$ ) values are efficient ways to examine effect sizes of within samples since eta partial squared ( $\eta^2_p$ ) are best suited for between group samples. Therefore, immigration was not significantly associated with distrust,  $F(1, 157) = 3.79, p = .053, \eta^2 = 0.154$  or ethnic identity,  $F(1, 157) = 1.03, p = .312, \eta^2 = .304$ . However, immigration was significantly and positively associated with age with a small effect size,  $F(1, 157) = 4.34, p = .039, \eta^2 = 0.027$ . Immigration was also significantly and positively associated with education, with a small effect size,  $F(1, 157) = 15.90, p < .001, \eta^2 = 0.093$ . This suggest that United States born participants were found to have higher education that immigrant participants.

**Fitness of the Hypothetical Path Model**

After bootstrapping, our model's Bollen-Stine value was  $p = .323$  and, therefore, we did not find evidence of discrepancy between our model and the observed data. The

hypothetical path model's chi square goodness-of-fit was  $\chi^2 = 3.350$  ( $p = .323$ ). Varying suggestions about goodness of fit interpretation using comparative fit index (CFI) suggest a minimum benchmark of either a .90 or .95 to indicate good fit (Schumacker & Lomax, 2010; Hu & Bentler, 1999). With this, our model's CFI was .998, indicating that it meets the goodness of fit. Moreover, an additional fit index all supported goodness of fit of our hypothetical path model: RMSEA = .027, 90% confidence interval (CI) [.000, .140]. The standardized direct, indirect, and total effects of the predictor (exogenous) variables on HSD and squared multiple correlation values are shown in Table A3.

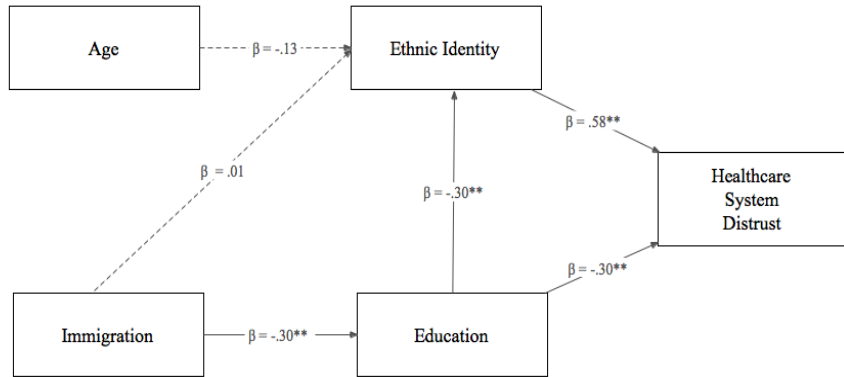
### **Structural Equation Model: Path Analysis**

#### ***Direct Effects***

Model representation of path direct effects are displayed in Figure 1. For direct effects, immigration had a significant, negative direct effect on education ( $\beta = -0.30$ , 95% CI [-.450, -.131]). Education had significant negative, direct effect on HSD ( $\beta = -0.30$ , 95% CI [-.424, -.178]) (see Figure 2). Further, education also had a significant, negative direct on ethnic identity ( $\beta = -0.30$ , 95% CI [-.479, -.152]). Ethnic identity had a significantly large positive, direct effect on HSD ( $\beta = 0.58$ , 95% CI [.457, .691]) (see Figure 3). For direct effects, immigration did not have significant direct effect on ethnic identity ( $\beta = 0.01$ , 95% CI [-.138, .497]). Also, age did not have a significant direct effect on ethnic identity ( $\beta = -.129$ , 95% CI [-.087, .147]).

**Figure 1**

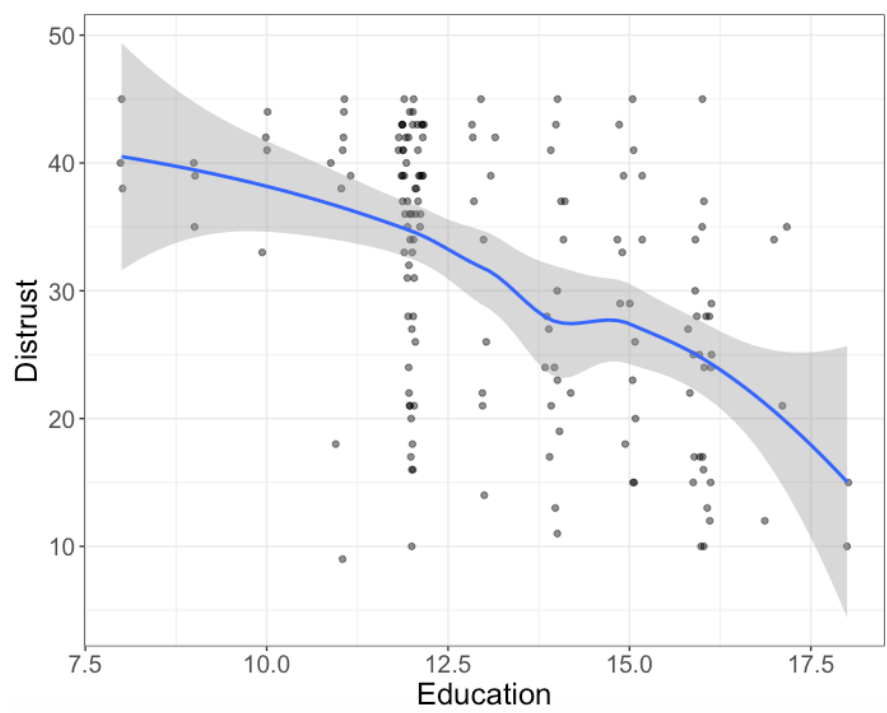
*Path Diagram for the Model*



*Note.* Path coefficients were standard estimates. \*  $p < .05$ , \*\*  $p < .01$ ,

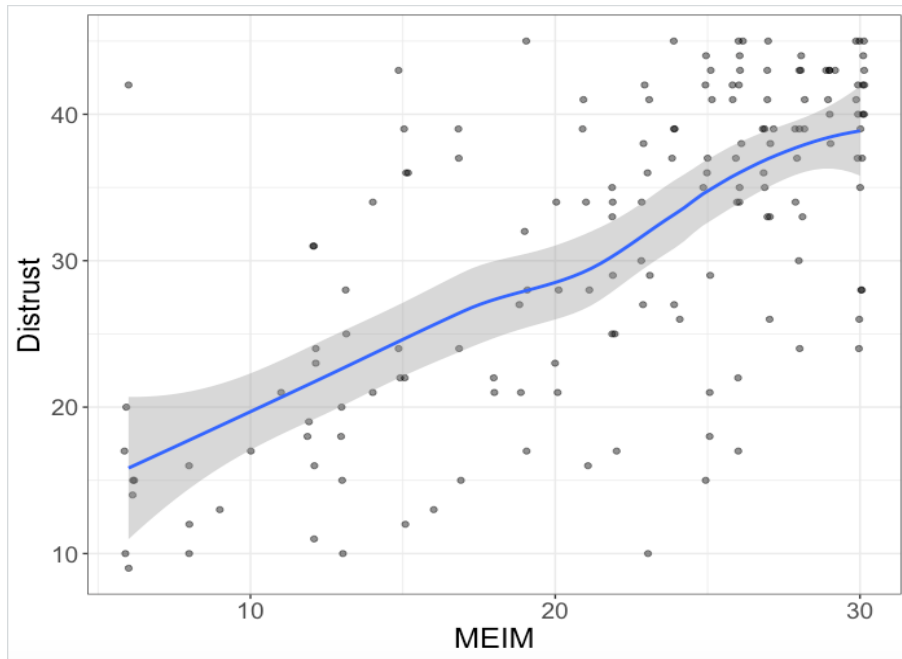
**Figure 2**

*Interaction between Education and Distrust*



**Figure 3**

*Interaction between Distrust and Ethnic Identity*



***Indirect Effects***

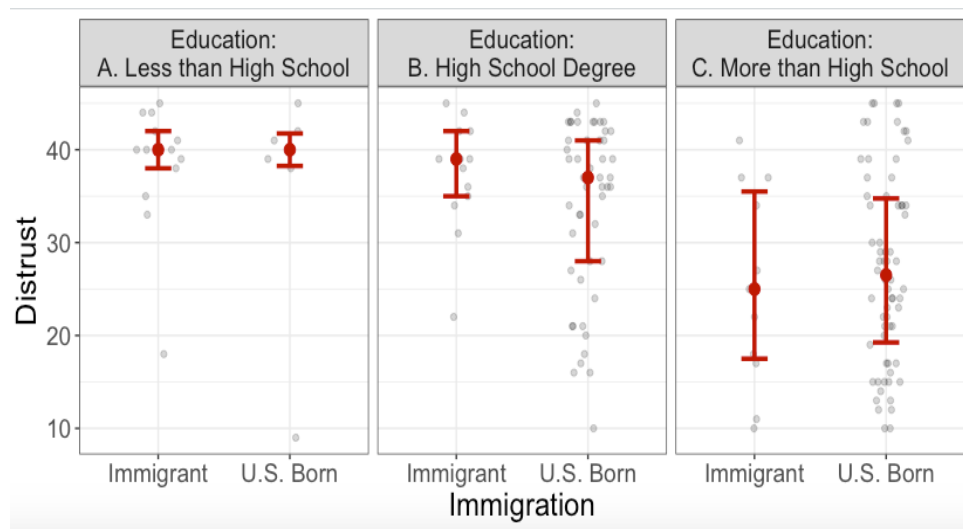
For indirect effects, immigration had a significantly positive, indirect effect on HSD via education ( $\beta = 0.15$ , 95% CI [.037, .276]). As shown in Figure 4, the error bars with each cluster of education are paneled against the relationship between immigration and HSD to illustrate an increasingly small variation between United States born and immigrant participants across panels. Our model also showed that immigration had a significant positive, indirect effect on ethnic identity via education ( $\beta = 0.09$ , 95% CI [.032, .183]).

Education had a significant negative, indirect effect on HSD via ethnic identity ( $\beta = -0.17$ , 95% CI [-.283, .086]). As shown in Figure 5, within the low scale and high scale cluster of ethnic identity scores, the relationship between education and HSD is non-

linear. However, within the moderate score ethnic identity panel, the relationship between education and HSD appears negative. Taken together, the scatterplots within each cluster of ethnic identity are paneled against the relationship between education and HSD to illustrate an increase in distrust when mediated by higher ethnic identity. Both significant and insignificant indirect effect standardized coefficients can be found in Table 3.

**Figure 4**

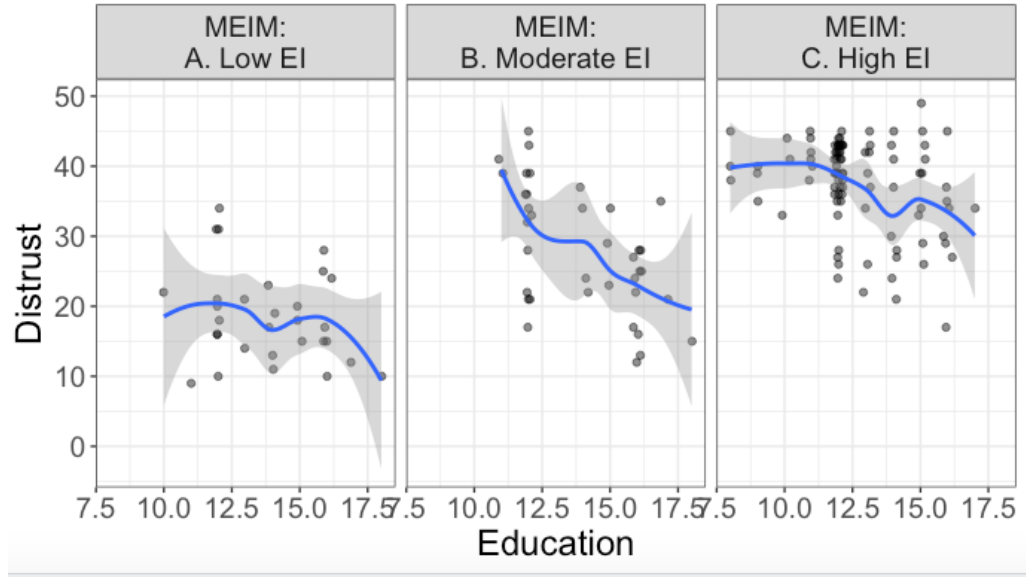
*Interaction between Immigration, Distrust, and Education*





**Figure 5**

*Interaction between Distrust, Education, and Ethnic Identity*



***Total Effects***

Education had a significantly negative, total effect on HSD ( $\beta = -0.479, p = .003$ , 95% CI [-.619, -.152]). Based on an estimated total effect of education on HSD of -0.479, when education increases one standard deviation when holding ethnic identity constant, then HSD will decrease 0.479 standard deviations. In terms of standardized units, the direct effect of education was found to be greater than its indirect effect via ethnic identity. Overall, the total effect of education on HSD is greater than both the indirect and direct effect. Immigration also had a significantly negative, total effect on education ( $\beta = -0.30, 95\% \text{ CI } [-.0450, -.131]$ ). However, immigration did not have a significant total effect on HSD ( $\beta = 0.15, 95\% \text{ CI } [.037, .276]$ ) or ethnic identity ( $\beta = 0.10, 95\% \text{ CI } [-.037, .249]$ ).

Finally, the squared multiple correlation (SMC) coefficients were evaluated for each endogenous variable based on its predictors. Ethnic identity, age, immigration, and education accounted for .54 (54%) of the variance on HSD. Additionally, age, immigration, and education account for .11 (11%) of the variance on ethnic identity. Last, immigration accounted for .09 (9%) of the variance on education.

**Table 3***Standardized Direct, Indirect, and Total Effects and SMC of the Variables*

Endogenous Variables	Exogenous Variable	Direct Effects			Indirect Effects			Total Effects			SMC
		$\beta$	p-value	95% CI	$\beta$	p-value	95% CI	$\beta$	p-value	95% CI	
Distrust	MEIM	0.58	.005*	.457, .691				0.584	.005*	.457, .691	0.539
	Education	0.30	.004*	-.424, -.178	-0.17	.002*	-.283, -.086	0.479	.003*	-.619, -.152	
	Age				-0.07	.122	-.172, .023	0.075	.122	-.172, .023	
MEIM	Immigration				0.15	.018*	.037, .276	0.151	.018	.037, .276	
	Age	0.13	.125	-.087, .147				0.129	.120	-.287, .047	0.106
	Immigration	0.01	.967	.138, .497	0.09	.002*	.037, .183	0.102	.154	-.037, .249	
Education	Education	-0.30	.002*	-.479, -.152				0.303	.002*	-.479, -.152	
	Immigration	-0.30	.005*	-.450, -.131				0.304	.004*	-.450, -.131	0.093

*Note.* The larger the value of  $\beta$ , the greater the influence on endogenous variables.

Abbreviations:  $\beta$ , standardized regression weight; p-value, probability value; CI, confidence intervals; SMC, squared multiple correlation; MEIM, ethnic identity.

\*  $p < .05$ ,

## **Ethnic Group Differences**

The analysis of variance showed that the effect of ethnic group membership was significantly associated with HSD at the  $p < .05$  level [ $F(8,149) = 2.26, p = 0.026$ ]. Table 4 shows the means and standard deviations of each ethnic group's HSD scores. To address unbalanced groups, Levene's statistic was evaluated to assess if the assumption of homogeneity of variance was met. To further support this assumption, the Brown-Forsythe test was used to evaluate the assumption of equal variance and also was found significant further supporting equal variances in our groups. Given the unequal sample sizes of each ethnic group, a Hochberg's GT2 post-hoc test was used because it is most conservative towards potential Type I errors for samples with large unbalanced groups, particularly when the assumption of variances is met (Field, 2013; Shingala & Rajyaguru, 2015). However, when employed, the Hochberg's GT2 post-hoc found no significant differences between each ethnic group at the  $p < .05$ .

## Chapter 4

### Discussion

#### Overview of Results and Conclusion

##### *Overview of Results*

The main purposes of our study were to: (a) examine the relationship between ethnic identity, education, and healthcare system distrust (HSD) (b) evaluate the degree that immigration impacts ethnic identity and education, (c) assess the relationship between age and ethnic identity, and (d) examine differences between ethnic subgroup's HSD. Although past research has examined the relationship between some of these constructs and factors, currently no study has evaluated the mediated paths that influence HSD in a sample of Latina women. Results of the present study suggest that ethnic identity may play an important role in Latina women's healthcare system attitudes. The average HSD score of our sample was  $31.26 \pm 10.25$  on a maximum full scale of 45 suggesting a moderate to high overall distrust (Shea et al., 2008). While relatively few studies have examined an exclusively Latina sample's trust in the entire healthcare system, this finding is similar to studies that examined trust in aspects of United States healthcare in Latino and Hispanic samples (Armstrong et al., 2007; Abradio-Lanzo et al., 2011). In this study, mean scores of Multigroup Ethnic Identity Measure was  $21.84 \pm 7.07$  on a maximum full scale of 30 suggesting moderate ethnic identity which further contributes to various findings suggest Latino and Hispanic ethnic identity to.

Immigration was found to have no significant effect on ethnic identity which failed to support our first hypothesis. In other words, regardless if the participant indicated that they were born in the United States or elsewhere, their ethnic identity did not vary in our study. A few possible reasons could explain this observation. Past studies have found acculturation, assimilation, and time-point of immigration to also influence

ethnic identity in Latino individuals who were not born in the United States (Abraido-Lanza, Echeverria, & Florez, 2016; Montgomery, Zhang, & Imamura, 2012; Quintana, 2009). These factors have been argued reflect strongly upon newly immigrated Latinos and can contribute to stronger ethnic identity. However, the presence of stressful changes during the immigration process, such as a loss of cultural norms or difficulty in adjusting to new culture, has also been found to impact ethnic identity (Bhugra & Becker, 2005). Examining immigration status alone without the context at which this migration occurred may not provide sufficient background into how that immigration was experienced. It is likely that the present study's findings differ from those found in the literature due to a lack of assessment of these additional immigration factors.

Hypotheses 2 and 3 of the present study were supported. A significantly positive large direct effect was found between ethnic identity and healthcare distrust. To put differently, both ethnic identity and education were factors that independently influenced healthcare system distrust. Our finding on education's inverse relationship on distrust is similar to those found in examining healthcare distrust and education (Armstrong et al., 2013; Chen & Yang, 2014). However, this finding extends the research literature on Latina women's years of education impact on healthcare distrust. In respect to ethnic identity, our finding expands the research literature on the value of ethnic identity on health-related attitudes and perceptions of the healthcare system and provides conceptual data on this process for Latinas. Prior to our findings, little is known of the relationship ethnic identity impact on perceptions of the healthcare system in Latina woman.

Although the findings are similar to those found regarding physician and medical distrust in other Latino samples within health literature (Griffith et al., 2021; Oakley, Lopez-Cevallos, & Harvey, 2019).

Age was found to not have an indirect effect on HSD via ethnic identity which failed to support our hypothesis 4. For Latinos, ethnic identity was conceptualized to evolve, and many instances, strengthen throughout development suggesting that younger Latina's may have differing ethnic identity than older Latinas (Quintana & Scull, 2009). This finding may be explained by our primary adult sample. Previous findings suggest that Latino tend to experience a significant increase in ethnic identity during adolescence depending on their academic environments (French et al., 2006; Umaña-Taylor et al., 2014). However, alternative frameworks of Latino ethnic identity also suggest that additional social context factors may have more profound impacts on ethnic identity well into adulthood (Umaña-Taylor et al., 2014; Rivera-Santiago, 1996). Ultimately, racial and ethnic identity has also been argued to further evolve and shape through adulthood with various stages and conflicts presenting potential impacts on ethnic identification regardless of age (Chavez & Guido-DiBrito, 1999).

Immigration was found to have a significantly positive indirect effect on HSD via education, with a small effect size. In other words, education mediated the path from immigration to healthcare system distrust. Consistent with previous literature, education can be a barrier for immigrants' access, knowledge, and awareness of resources related to healthcare. According to a Saadi et al. (2020), some immigrants report an ethnic community distrust surrounding the health care system due perceptions surrounding reporting of legal immigration documentation. Moreover, education may have mediated this path for various other social determinant contexts. Numerous barriers include, but are not limited to, stress of immigration process, limited English proficiency, family responsibilities, and financial need are established barriers that Latino immigrants face disproportionately higher than US-born Latinos (Crosnoe & Turley, 2011; Erisman &

Looney, 2007). Still, this finding contributes to existing literature that education can impact healthcare-related trust (Bonds et al. 2004; Grupta et al. 2014).

Lastly, the present study did not support our last hypothesis. Although healthcare system distrust did significantly differ based on ethnic group membership, our post-hoc test did not indicate any specific group differences. A possible explanation that our post-hoc analyses did not identify specific subgroup differences in distrust may be due to the large group imbalances we observed in our sample. For instance, in our sample of Latinas, Puerto Rican's comprised of 30.4% whereas Hondurans, Columbians, and Guatemalan's represented 1.2% respectively. Previous research examining health related factors have also found with similar Latino subgroup imbalances but were able to have larger samples than this study (Berdahl & Torres Stone, 2009; Gast et al., 2020). Considering the heterogenous nature of Latino ethnicity, Quintana and Skull (2009) argues the importance of evaluation attitudes and beliefs of Latinos independently. While this study aimed to examine these subgroup difference, it did not achieve a representative sample size of each group to find a difference.

### ***Conclusion***

Our findings highlight specific cultural and demographic factors that may play a key role in Latina's attitudes and perceptions of the healthcare system. Ethnic identity may be a significant contributor to healthcare system distrust and may serve a protective role. Education and immigration may also influence healthcare system distrust, with education playing a mediating role in both immigration and ethnic identity. Taken together, our finding indicate that established social determinants of health may present a casual path for Latina's distrust in the healthcare system with some factors, such as obtained education and lower ethnic identity, contributing to less distrust. Likewise,



Latina ethnic subgroup membership is likely to play critical role in trust of the healthcare system.

## **Limitations and Future Directions**

### ***Limitations***

There are at least six potential limitations of concerning the results found in this study. A first limitation concerns the sample size of our study. Although our analyses indicate a significant power at detecting statistical significance, increasing our sample size may have contributed to greater generalizability of findings. Similarly, a larger sample size may have provided a greater representation of underrepresented groups in our samples. Greater immigrant and ethnic subgroup representation in our sample would have extended our findings to a greater population of Latinos. This leads to our next limitation of lack of ethnic subgroups representation. As observed in our findings, many ethnic subgroups sample sizes were less than 10 participants compared to others that were greater than 40 participants. Purposive sampling of specific ethnic subgroups could increase sample size and balance ethnic groups. Although, proportionally, this study is similar to sample characteristics of subgroup Latino representation in samples of other health literature (Blanco et al., 2014; Blendon et al., 2014), the differences in our sample may have been influenced by selection bias. Due to these imbalances, conceptual inferences on specific Latina groups were unable to be concluded.

A third potential limitation is that all of our measures were self-report. All measures were completed by the participants and no objective measures were included in this study. Furthermore, participants may have identified with more than one Latino subgroup but were limited in how many could be reported. In considering the data regarding individual ethnic group affiliations, there may have been an influence of social desirability bias when participant chose which ethnic subgroup to report. As observed in

Latino samples, acquiesce has been found to be significantly higher than non-Hispanic individuals and can lead to self-misrepresentation partially due to social desirability (Davis et al., 2020; Davis et al., 2019). Since data was collected in community samples with recruiters present for most of the time, this may have impacted self-report responses in this sample.

Another potential limitation is that our study design. Cross-sectional study design limits our ability to assess incidence, make casual inferences, and establish temporal relations (Wang & Cheng, 2020). While mediations often imply causal relations, our study design prevents casual interpretation and conclusions of our findings. Another limitation of our study was our use of only English-speaking participants. Although English proficiency and acquisition is rising among non-English speaking Latinos (Krogstad et al., 2015), significant group imbalances, resulting in less than a quarter of present study's sample indicating immigration, may excluded a representation of Spanish-speaking individuals whose identity scores may have indicated nuanced differences. For instance, Quintana and Scull (2009) argued that Spanish-speaking, immigrant Latinos may struggle with their ethnic identity during the acculturation process when presented with rhetoric promoting English-only or anti-immigrant standards. Multiple studies detail the negative impact of language-barriers on Latina healthcare engagement, attitudes towards to healthcare system, and health disparities (Alper, 2018; Sheppard et al., 2014; Steinber et al., 2016; Weinick et al., 2002). Including our study's measures in Spanish may have bridged the language barrier and provide a broader collection of data. Ultimately, inclusion of Spanish-only-speaking Latinas would have improved the generalizability of our findings.

The last limitation is the possible existence of confounding variables that may have affected the observed mediations but were not accounted for in the data collection or

analyses. Variables such as socioeconomic status, medical insurance, and legal status of immigration were not assessed and therefore could not be controlled. Ruiz and Steffen (2007) argued that financial stability and legal status may determine the likelihood of whether Latinos can acquire medical insurance and higher education. It is possible these variables may have contributed to the results of this present study. Specifically, there is a possibility that indirect effect observed in our study may be biased towards a potential confound. For instance, socioeconomic status may be the reason for certain education levels of educational attainment thereby also explaining the association with lower healthcare system distrust. Therefore, interpreting the findings should be approached within the context of the conducted data was presented.

### ***Future Directions***

Much work remains to be done before a full understanding of the extent various factors impact on healthcare system distrust in Latina women. The present study represents a first attempt to understand what influences distrust of the healthcare system in Latina women and each factors contribution to its presence in healthcare settings. Further research examining a larger sample of Latina women with greater and more diverse subgroup representation may be a pivotal next step in further understanding the paths that lead to distrust. Additionally, evaluating other latent and observed sociocultural variables found in theoretical models, such as insurance status, acculturation, assimilation, and perceived discrimination may shed light on other relationship with healthcare distrust (Hong et al., 2018). Clinically, these findings can further inform healthcare providers of patients with potential barriers to care and what characteristics may suggest probable distrust

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## Appendix A

### Healthcare System Distrust Scale - Revised

Please respond to the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The Health Care System does its best to make patients' health better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care System covers up its mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients receive high quality medical care from the Health Care System.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care system makes too many mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care System puts money above patients' needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care System gives excellent medical care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients get the same medical treatment from the Health Care System, no matter what the patient's race or ethnicity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care System lies to make money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Health Care System experiments on patients without them knowing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix B

### Multigroup Ethnic Identity Measure – Revised

Please respond to the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a strong sense of belonging to my own ethnic group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand pretty well what my ethnic group membership means to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have often done things that will help me understand my ethnic background better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have often talked to other people in order to learn more about my ethnic group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a strong attachment towards my own ethnic group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix C

### Conceptual Framework of Health Service Utilization

