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Associations Between Perceptions Of U.s. Immigration Enforcement Policies, Physical Health, Psychological Distress, And Health Care Utilization In A Hispanic Border Community

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ASSOCIATIONS BETWEEN PERCEPTIONS OF U.S. IMMIGRATION ENFORCEMENT POLICIES, PHYSICAL HEALTH, PSYCHOLOGICAL DISTRESS, AND HEALTH CARE UTILIZATION IN A HISPANIC BORDER COMMUNITY

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DEDICATION

Dedicated to migrants and people waiting to become immigrants everywhere. You belong.

You are needed. We are all in this together.

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by

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ABSTRACT

Since the beginning of the current U.S. federal administration, immigration policies have become more restrictive and immigration enforcement has been strengthened. This cross-sectional survey study examines associations between perceptions of and experiences with current immigration enforcement policies and self-rated physical health, psychological distress, and health care utilization among Hispanic adults with different residency statuses in the U.S. Paso del Norte region. This study further investigates moderating effects of collective efficacy and engaged coping strategies on associations between policy perceptions and psychological distress.

The study sample included 211 Hispanic adult residents of the U.S. Paso del Norte Region (i.e., El Paso, Hudspeth, Doña Ana, Luna, and Otero counties) who were enrolled via convenience (N=184) and web-based respondent-driven (N=27) sampling (RDS) between April and July 2019. An original bilingual survey was completed on paper by two-thirds and electronically by one-third of the sample. Quantitative survey data were analyzed using univariate analyses, bivariate analyses, and multiple linear and logistic regression with statistical analyses software SPSS Version 23 and STATA Version 15. The significance level for analyses was set at alpha < .05.

Among 198 participants with reported residency status, 97 (49%) were U.S.-born citizens, 37 (19%) were foreign-born U.S. citizens, 34 (17%) were legal permanent residents (LPRs), 15 (8%) were legal temporary residents (LTRs), and 15 (8%) were undocumented.

Bivariate analyses demonstrated respondents with a more protected residency status experienced lower fear of deportation and fewer issues with immigration enforcement than participants with a more vulnerable residency status (p=.007 and p=.003, respectively). Participants with a less protected residency status were less likely to have received medical check-ups for blood pressure, blood glucose, and cholesterol in the past three years (p=.003).

Multiple regression analyses revealed fear of deportation and experiences of issues with immigration enforcement were significantly associated with greater psychological distress in regression models adjusted for age, sex, education, income, insurance status, length of U.S. residency, and survey language ($p = .007$ and $p < .001$, respectively). Participants who experienced issues with immigration enforcement were also marginally statistically more likely to have delayed or avoided medical care ($p = .059$). Participants who experienced issues with immigration enforcement who engaged in positive thinking reported significantly lower psychological distress compared to those who did not report this coping strategy ($p = .001$). Collective efficacy was not associated with psychological distress.

Limitations of this study include the limited generalizability of findings, inability to assess causality, and minimal success with RDS to reach more hidden members of the community. Future research is needed to examine effects of recent changes to immigration policies and enforcement approaches (e.g., the 'public charge' rule change, 'zero tolerance', and 'remain in Mexico' policies) on physical and mental health as well as access to essential health care services for immigrants, refugees, and asylum seekers.

Implications from this study include a need for policy- and decision makers to consider spillover effects of current immigration enforcement policies on community well-being, including in the form of adverse mental health effects and avoidance of health care services. Furthermore, health care providers ought to be aware of the potential for mental health problems and avoidance of services among their patients and clients related to immigration enforcement policies, especially among individuals with a vulnerable residency status. With a global rise in nationalism and strengthened immigration enforcement, it is crucial for governments to consider the impacts of corresponding policies on community well-being.

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CHAPTER I

INTRODUCTION

The focus of this dissertation is on associations between perceptions of U.S. immigration enforcement policies, self-rated physical health, psychological distress, and health care utilization among Hispanic adults with different legal/immigration (residency) statuses in the U.S.-Mexico border region. Since the beginning of the current federal administration, the adoption of restrictive immigration policies has increased and immigration enforcement intensified, with notable developments in the border region (Pierce, 2019). A growing body of literature has revealed adverse effects of U.S. immigration enforcement policies on physical and mental well-being as well as health care utilization that disproportionally affected Hispanics in the U.S. (Khullar & Chokshi, 2019; Roche, Vaquera, White, & Rivera, 2018). However, relatively few studies have examined associations between changes to immigration enforcement policies under the current federal administration and health, mental health, and service utilization within Hispanic border communities. This dissertation examines the relationship between perceptions of and experiences with current U.S. immigration enforcement policies, physical health, psychological distress, and health care utilization among Hispanic residents in a bi-national border community.

HISTORICAL AND CURRENT SOCIO-DEMOGRAPHIC, LEGISLATIVE, AND POLICY CONTEXT

In the U.S., Hispanics[1] constitute the largest ethnic minority with 18 percent of the current total population and an estimated 24 percent by 2065 (López, Passel & Rohal, 2015).

[1] To adopt gender-neutral, inclusive language, the term Hispanic will be used to refer to Mexican Americans and individuals from (or with ancestry from) Spanish-speaking countries, in line with use of this terminology by prominent critical race theorists, including Laura E. Gómez (2007). The terms Latin-American or Latino/a will be used when the reference group includes Brazilians or people with Brazilian ancestry and for discussion of

Two thirds of current Hispanic residents were born in the U.S. About three quarters of all 43.2 million foreign-born U.S. residents have lived in the country for over 10 years. They include naturalized citizens (44.1%), lawful permanent (26.6%) or temporary residents (4.8%), and undocumented persons (24.5%) (Flores, 2017; López, Bialik, & Radford 2018; López & Radford, 2017). An estimated 11 million undocumented immigrants reside in the U.S. and 16.7 million people live with an undocumented family member, including 5.9 million U.S. citizen children (Mathema, 2017). Overall, one in four children in the U.S. is foreign-born and/or has a foreign-born parent (Council on Community Pediatrics, 2013). The nation's social fabric is thus comprised of individuals with varying residency statuses who are biologically and socially connected.

About half of the population on the U.S. side of the U.S.-Mexico border region is Hispanic and predominantly of Mexican descent (Stepler & Lopez, 2016; United States-México Border Health Commission, 2014). The U.S.-Mexico border was established by the treaty of Guadalupe Hidalgo in 1854 following the war between the two nations, which led to Mexico's loss of almost half its territory and consequently, the forced choice upon many Mexicans and indigenous peoples between Mexican and U.S. citizenship (Seavello, 2016). According to the binational 1983 La Paz agreement, the border region is defined as an area of 100 kilometers (62.5 miles) above and below the boundary between the two countries (Gomberg-Muñoz, 2017).

Legislative and policy context

At Federal-level. One of the earliest federal immigration laws that shaped today's legal framework was the *Immigration Act* of 1924 which restricted immigration from eastern European, Asian, and African nations and established the U.S. Border Patrol (USBP). At the

studies which adopted this terminology. The term Hispanic will be used in this dissertation in the absence of a universally adopted alternative term, acknowledging that it is considered problematic by some (Gómez, 1992). The convention in Social Sciences and government documents is to refer to Hispanics, non-Hispanic whites, etc. as a noun. Therefore, this dissertation uses this terminology in line with this convention.

time, USBP was part of the U.S. Department of Labor and primarily concerned with the regulation of immigration flows from the southern border according to seasonal labor needs. The growing demand for agricultural labor from Mexico following the Great Depression and beginning of World War II led to the *Bracero Program* in 1942, which continued until 1964 and recruited about five million farmworkers from Mexico to the U.S (Gomberg-Muñoz, 2017; Office of the Historian, 1945; 62 Stat. 3887, 1948; 65 Stat. Public Law 78, 1951). In 1965, the *Immigration and Nationality Act* (also known as *Hart-Celler Act*) and its subsequent amendment in 1975 removed national-origins quota, but implemented numeric caps for immigrants, including from Mexico and other Latin American nations, thereby introducing legal limits to previously largely unrestricted migration from the south (Gomberg-Muñoz, 2017). In 1986, the *Immigration Reform and Control Act* took more concrete measures to curb illegal migration by prohibiting the employment of workers without documentation and by increasing funds for USBP. However, the bill also enabled 2.7 million immigrants to legalize their immigration status if they met certain requirements, such as residency in the U.S. since 1982 and lack of criminal background (Davies, 2009; Gomberg-Muñoz, 2017).

Restrictive immigration policies in the U.S. became more prominent throughout the 1990s and early 2000s, following the terrorist attacks on September 11, 2001. The *Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)* of 1996 introduced restrictions for immigrants with less than five-year residency for federally-funded public benefits, including Medicaid, Temporary Assistance for Needy Families (TANF), the Supplemental Nutrition Assistance Program (SNAP), and the Children's Health Insurance Program (CHIP) (Hagan, Rodriguez & Capps, 2003). Under the 2009 Children's Health Insurance Program Reauthorization Act (CHIPRA), states were given the option to extend Medicaid and CHIP to pregnant women and children regardless of their length of residency.

Twenty-three states have adopted this extension for pregnant women and children, including New Mexico (Office of the Assistant Secretary for Planning and Evaluation, 2009). Texas solely extended this coverage to children but not pregnant women (Kaiser Family Foundation, 2019).

The *Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA)* of 1996 introduced considerable changes to immigration enforcement policies by expanding criminal offenses for which immigrants could be deported, authorizing federal officers to order removals of non-citizens without a formal court hearing, and increasing the budget for immigration enforcement (Donato & Rodriguez, 2014). The IIRIRA also included the *section 287(g)* provision, which permits states and local governments to enter into agreements with federal authorities to carry out immigration enforcement (Donato & Rodriguez, 2014).

Following the terrorist attacks on September 11, the Bush administration signed into law the *Patriot Act* (2001), which increased surveillance, apprehension, and detention of immigrants who were suspected to be part of terrorist groups. In addition, proposed legislation to expand opportunities for immigrant workers to gain legal residency prior to the attacks dwindled with governmental reprioritization of national defense and anti-terrorism measures, as well as public favoring of stricter immigration controls (Hines, 2002). The *Homeland Security Act* (2002) established the Department of Homeland Security (DHS) to replace the Immigration and Naturalization Service (INS) and oversee the Bureau of Customs and Border Protection (CBP), USBP, and the Bureau of Immigration and Customs Enforcement (ICE). While CBP and USBP are concerned with border security and immigration enforcement in U.S. border areas, which span 100 miles from any external boundary and in which two thirds of the U.S. population reside, ICE primarily enforces immigration laws in the interior of the country (Donato & Rodriguez, 2014; Plascencia, 2017). For instance, since 2008, the *Secure Communities* initiative allows for identification of

a person's immigration status through fingerprints upon their arrest by state or local law enforcement. The program is in place in all 3181 U.S. jurisdictions[2] (U.S. Immigration and Customs Enforcement, 2018a). The impact of these and analogous policy changes was reflected in a substantial rise in deportations from 70,000 persons in 1996 to 420,000 in 2012, a trend that continues to this day with deportations reaching nearly 400,000 persons annually (Rosenblum, Meissner, Bergeron & Hipsman, 2014).

Importantly, Hispanics have been disproportionally affected by deportation policies despite legal guidelines prohibiting discrimination in immigration enforcement. Specifically, Hispanics made up an estimated 75 percent of the undocumented population between the years 2000 and 2009, but comprised at least 90 percent of the deported population during this period and in subsequent years (Passel & Cohn, 2009; U.S. Department of Homeland Security, 2009, 2018).

In the border region. Certain immigration enforcement policies solely concerned the U.S.-Mexico border. For instance, *Operation Hold the Line*, which began in El Paso in 1993, involved an enhanced presence of Border Patrol along the border and increased inspections at official ports of entry (Dunn, 2009; United States General Accounting Office, 1994). *Operation Gatekeeper*, a similar program which began in California in 1994, involved construction of a 13-mile border fence from the Pacific Ocean to the San Ysidro Port of Entry (Carcamo, 2018; 142 Cong. Rec. E390, 1996; Nevins, 2002). In 2005, *Operation Streamline* initiated the criminal prosecution of individuals who crossed the border without legal documentation (Office of Inspector General, Department of Homeland Security, 2015; Slack, Martínez, & Whiteford, 2018). Finally, the *Secure Fence Act* of 2006 authorized construction of 670 miles of fences along the U.S.-Mexico border, including the border fence between the

[2] Secure Communities had been temporarily replaced in 2014 by the *Priority Enforcement Program (PEP)*, in part to address concerns about Fourth Amendment violations, but was reinstated in January 2017 under the Trump administration. PEP prioritized individuals with a criminal conviction or who were considered a threat to public safety (U.S. Immigration and Customs Enforcement, 2017a).

cities of El Paso and Ciudad Juárez (Dorsey & Díaz-Barriga, 2017; The Washington Office on Latin America, 2011).

Policy changes under the current federal administration

Under the Trump administration, policy changes have limited access to forms of legal immigration to the U.S., expanded resources for immigration enforcement, and increased the magnitude of detention and deportation of undocumented immigrants. Immediately upon taking office, the Trump administration released a series of *Executive Orders (EO)* focusing on border security, immigration enforcement in the U.S. interior, and restriction of entry to the U.S. for foreign nationals from seven Muslim-majority countries (Pierce, 2019). The EO entitled *"Border Security and Immigration Enforcement Improvements"* called for a border wall construction and hiring of 5,000 additional CBP agents (The White House Office of the Press Secretary, 2017a). The EO entitled *"Enhancing public safety in the interior of the United States"* authorized the hiring of an additional 10,000 ICE officers, extended the prioritization for deportation to anyone in the country without legal documentation, and promoted expedited removals (i.e., deportations without a hearing with an immigration judge) (The White House Office of the Press Secretary, 2017b).

A corresponding Memorandum by DHS removed factors in place under previous administrations to mitigate immigration enforcement, such as lack of criminal background, prior U.S. military service, or old age, and instructed the implementation of immigration enforcement policies without "exempt[ion] or exclu[sion] [of] a specified class or category of aliens" (U.S. Department of Homeland Security, 2017, p.4). While the Obama administration is known for its higher numbers of deportations compared to previous administrations, its shifting focus on deporting immigrants with a criminal record or who had recently crossed

the border during the later years of the administration are no longer reflected in current enforcement practices (Rosenblum et al., 2014).[3]

Accordingly, administrative arrests of undocumented immigrants (i.e., arrests based on a civil violation of U.S. immigration laws) increased by 30 percent from approximately 110,000 arrests in 2016 to over 143,000 arrests in 2017, and to over 158,000 in 2018 (U.S. Immigration and Customs Enforcement, 2017, 2018b). Among at-large administrative arrests of undocumented immigrants (i.e., arrests conducted in community rather than custodial settings), 5,498 arrests (18%) involved undocumented immigrants without a criminal conviction in 2016, compared to 13,600 arrests (34%) in 2017, and 17,412 arrests (43%) in 2018 (U.S. Immigration and Customs Enforcement, 2017, 2018b). These patterns reflect the guidance to prioritize any undocumented immigrant for deportation under the Trump administration.

The third EO entitled "*Protecting the Nation from Foreign Terrorist Entry into the United States*" prohibited nationals from seven Muslim-majority countries from entering the U.S. The EO version which ultimately went into effect based on the Supreme Court decision of *Trump v. Hawaii* restricts entry to the U.S. for refugees and certain visa holders from Iran, Libya, North Korea, Somalia, and Yemen (National Immigration Law Center, 2018a).

In September 2017, the administration rescinded the *Deferred Action for Childhood Arrivals (DACA)* program which left an estimated 690,000 DACA recipients and potential future applicants in a state of uncertainty (U.S. Citizenship and Immigration Services, 2017). Since its inception in 2012, DACA grants permission to work or study to immigrants who

[3] For instance, the number of deportations during the first five years of the Obama administration (over 1.9 million) was almost as high as deportation numbers during all eight years of the Bush administration (2 million) (Rosenblum et al., 2014). Nonetheless, the Obama administration was criticized by those in favor of stricter immigration enforcement for its use of prosecutorial discretion in deciding about immigration cases and executive orders to provide access to legal residence for some undocumented immigrants, such as DACA or the Deferred Action for Parents of Immigrants (DAPA); the latter was blocked by a federal injunction in 2015 (Rosenblum et al., 2014).

came to the U.S. before their 16th birthday, do not have a criminal record, and meet several additional criteria. Although the Trump administration's termination of the program was halted by two federal district courts and a lawsuit by seven states was decided in favor of maintaining DACA, its future remains uncertain (Shear, 2018).

Furthermore, the administration terminated the *Temporary Protected Status (TPS)* program for 98% of its recipients, including TPS holders from El Salvador, Haiti, Nicaragua, Nepal, and Sudan. TPS provides temporary residence to over 300,000 persons from countries that have encountered wars or natural disasters since 1990. By extension, this decision would have affected an estimated 273,000 U.S. citizen children of TPS holders (This American Life, 2018; Warren & Kerwin, 2017). However, federal judges have temporarily halted the termination of TPS for immigrants from Honduras, Haiti, El Salvador, Nepal, Nicaragua, and Sudan (Gomez, 2018; Catholic Legal Immigration Network. Inc., n.d.).

The Trump administration sought further avenues to restrict legal immigration for temporary legal status holders. Specifically, the administration proposed changes to the "*public charge*" rule which were expected to go into effect on October 15, 2019 (Hjelm, Hauer, & Richards, 2019), but were halted by federal judges from three states prior to this date (Wamsley, Fessler, & Gonzales, 2019). Under these changes, the use of non-cash benefits would be considered a negative factor in permanent residency applications, including the Children's Health Insurance Program, non-emergency Medicaid, and the Supplemental Nutrition Assistance Program (National Immigration Law Center, 2018b; Shear & Baumgaertner, 2018). Health care professionals have expressed concerns that this change may prevent immigrants from seeking necessary social services and health care for themselves or family members (Behrman et al., 2019). In fact, health care providers have already noticed declines in enrollment for federal nutrition assistance programs, such as the Women, Infants, and Children (WIC) program among immigrant families due to their

concerns of how the use of such benefits might affect their future legal residency applications (Bottemiller Evich, 2018; Jewett, Bailey & Andalo, 2018).

According to a study by Bernstein and colleagues at the Urban Institute (2019), one in seven adults from immigrant families (and one in five adults from low-income immigrant families) did not seek noncash government benefits in 2018 due to the risk of not being eligible for a green card in the future. Importantly, being in an 'immigrant family' in this study meant that respondents were foreign-born or had a foreign-born family member, thus indicating potential impacts of the proposed public charge rule change on families, beyond temporary legal status holders targeted by this rule (Bernstein, Gonzalez, Karpman, & Zuckerman, 2019). In April 2019, the Department of Housing and Urban Development released a proposal to ban households with one or more undocumented immigrant members from public housing, which would affect an estimated 108,000 public housing residents (Budryk, 2019).

Further means of restricting legal residency for immigrants, including foreign-born citizens, have included the establishment of a task force by the department of U.S. Citizenship and Immigration Services (USCIS) to identify grounds that justify revoking citizenship from naturalized citizens (e.g., fraud on applications or prior deportation orders) (Lind, 2018a). In a further measure, the Trump administration has announced the denial of diplomatic visas to same-sex partners of United Nation employees and foreign diplomats who are not married (BBC News, 2018). Another policy change has narrowed eligibility criteria to obtain citizenship for foreign-born children of naturalized U.S. citizens, which primarily affects children of military or other U.S. government employees (Alvarez, Sands, & Browne, 2019). Furthermore, the Trump administration has reduced the refugee admissions cap to 30,000 in 2018 and 18,000 in 2019, which constitute the lowest ceilings since passage of the Refugee Act (Alvarez, 2019; Borger, 2018).

With respect to interior immigration enforcement, the administration repeatedly announced the conduct of nationwide ICE raids beginning in July 2019, primarily to target approximately 2,000 individuals with prior deportation orders (Visser, 2019). Despite limited arrests of immigrants due to the announced rates thus far (with a notable exception of an ICE raid in Mississippi which led to the arrest of 680 undocumented workers), announcements of the proposed raids reportedly sparked considerable fear among immigrant communities (Gallagher, Shoichet, & Holcombe, 2019; Montoya-Galvez, 2019).

Legislative changes at state level. Alongside federal policy changes, the adoption of state legislation related to immigration policies grew in 2017 by 110 percent – from 98 laws in 2016 to 206 laws in 2017 (National Conference of State Legislatures, 2018).[4] Newly enacted laws were most commonly related to state budget allocations (25%), followed by laws addressing immigration enforcement (19%) (National Conference of State Legislatures, 2018). For instance, *Texas Senate Bill (S.B.) 4*, signed into law in May 2017 and temporarily enacted as of March 2018, facilitates immigration status checks by local law enforcement and mandates compliance by local jails with ICE detainer requests (Aguilar, 2018a; Núñez, 2018).

Immigration policy changes and enforcement in the U.S.-Mexico border region

Immigration enforcement policies in the U.S.-Mexico border region have hardened similarly with measurable consequences on the surrounding border and wider immigrant community. With respect to notable enforcement activities, an ICE raid at a trailer park in Las Cruces, New Mexico in February 2017 was followed by a 60 percent increase in absences from public schools in the city the following day (Blitzer, 2017a). In the same month, ICE officers detained an undocumented woman at the El Paso courthouse after she

[4] In 2018, the adoption of state legislation related to immigration decreased by fifteen percent to 175 laws (National Conference of State Legislatures, 2019).

obtained a protective order based on a domestic violence claim, which reportedly contributed to local and nationwide fears among victims of domestic violence to engage with law enforcement (Blitzer, 2017b; Lockhart, 2017).

Notably, several policy changes affected asylum seekers at the U.S.-Mexico border in particular. For instance, the Trump administration called for the limited use of humanitarian parole for asylum seekers ("on a case-by-case basis […] only when an individual demonstrates urgent humanitarian reasons or a significant public benefit derived from such parole") in its EO focused on border security from January 2017, which led to a significant increase in the detention of asylum seekers who previously would have been released on parole (The White House Office of the Press Secretary, 2017a). According to a 2009 DHS Parole Directive, a "significant public benefit" refers to cases where asylum seekers with credible fear of persecution are released on parole when they do not pose a flight risk or danger to the community (American Civil Liberties Union, 2019).

In May 2018, former Attorney General Sessions announced a "*zero-tolerance*" policy which entailed the criminal prosecution of anyone crossing the border without legal authorization, including asylum seekers (Lind, 2018b). As a consequence of this policy and the prior testing of this policy beginning in July 2017, at least 5,400 children were separated from their parents and accompanying family members until the policy was ceased in June 2018, though the Office of Inspector General found the total number of separated children is unknown (Spagat, 2019; U.S. Department of Health & Human Services Office of Inspector General, 2019). [5] As of August 2018, almost 500 children remain separated from their caregivers and parents of 322 separated children have been located outside the U.S. (Barajas, 2018; Lind, 2018c).

[5] This policy had been pilot-tested in the El Paso sector in the summer of 2017, partially explaining the larger number of family separations which the government was originally unable to account for.

Notably, there has been a five-fold increase in the detention of migrant children, from 2,400 in May 2017 to 12,800 in September 2018, including at the Tornillo camp near El Paso, which had grown from a 400 to a 2400-bed capacity before it was closed in January 2019 (Delgado, 2018; Dickerson, 2018; Mekelburg, 2019). In June of 2019, a group of attorneys revealed severely concerning and inhumane conditions inside a child detention center in Clint, TX (located about 26 miles from El Paso). The up to 700 children who were held in the facility (including infants as young as 5 months of age) did not have access to adequate medical care, sanitation, clothing, food, drinking water, bedding, or caregivers – conditions which pose severe threats to childrens' physical and mental health (Romero, Kanno-Youngs, Fernandez, Borunda, Montes, et al., 2019). Similarly harmful conditions were also observed in detention facilities for migrant families in the U.S., including severe overcrowding, lack of access to adequate medical care, drinking water, food, and sanitation (Holpuch, 2019; Kanno-Youngs, 2019). The UN Human Rights Council released a statement to call for the release of detained children given that detention "severely hampers their development, and in some cases may amount to torture" (United Nations Human Rights Office of the High Commissioner, 2018).

In June 2018, former Attorney General Sessions announced an additional ruling under which victims of domestic or gang violence would no longer qualify for asylum in the U.S., which however was subsequently overturned by a federal judge (O'Toole, 2018; Rose, 2018). This policy disproportionally affected asylum seekers, especially women, fleeing sexual and physical violence in Central American countries, including Guatemala, Honduras, and El Salvador (Newell, 2018).

Moreover, in June 2018 reports emerged of asylum seekers being turned away by CBP officers at official ports of entry, preventing individuals from exercising their legal right to seek asylum (Moore, 2018; Lind, 2018d). This *"metering" or "queue management"*

policy allows for CBP officials to turn migrants away at ports of entry until a later date (up to several months later) in an unsystematic manner (Lind, 2019a). In January 2019, the administration officially adopted the *"Remain in Mexico"* or *"Migrant Protection Protocols"* policy which allows for asylum seekers at the U.S.-Mexican border, who are nationals from countries other than Mexico, to be sent back to Mexico to wait for their court hearings in the U.S. (Lind, 2019b).

Furthermore, the U.S. entered into an agreement with Guatemala in July 2019 under which asylum seekers from Central America ought to seek asylum in Guatemala instead of the U.S. (Narea, 2019). This approach was part of a broader policy to render asylum seekers ineligible to seek asylum in the U.S. if they come from a country other than an immediate neighboring country (a so-called "third country"). While this policy was struck down by a federal judge, the U.S. Supreme Court overruled this decision and allowed for the policy to go into effect until further judicial rulings (Barnes, 2019; Lanard, 2019).

Additionally, a regulation announced in August 2019 would allow for immigrant families to be held in detention indefinitely, despite a limit of 20 days for the detention of children as established by the Flores Settlement (Kim, 2019; The Guardian, 2018). However, similar to the fate of several recent immigration enforcement policy changes, this decision was blocked by a federal judge (Jordan, 2019).[6]

Alongside the strengthening of immigration enforcement and worsening of conditions for migrants in detention facilities, U.S. politicians in the highest levels of office have repeatedly engaged in dehumanizing and fear-provoking rhetoric about migrants (Levin, 2019; Rivas, 2019). Similar language was included in a manifesto by a 21-year old resident of Allen, Texas who murdered twenty-two and injured twenty-six individuals, specifically

[6] The legislative and policy context described in this thesis focuses predominantly on the period prior to completion of the data collection in July 2019. A more exhaustive assessment of the changes to immigration policies and enforcement practices under the current administration is beyond the scope of this dissertation.

targeting Hispanics, in one of the deadliest mass shootings in modern U.S. history in El Paso, Texas on August 3rd, 2019 (Law & Bates, 2019).

U.S. immigration enforcement policies and international human rights conventions

Several provisions of internationally recognized human rights conventions are in stark contrast with current U.S. immigration enforcement policies. For instance, under Article 14(1) of the Universal Declaration of Human Rights (UDHR), "[e]veryone has the right to seek and to enjoy in other countries asylum from persecution" (United Nations, 1948). Furthermore, the UDHR and International Covenant on Civil and Political Rights (ICCPR) of 1976 (ratified by the U.S. in 1992) grant individuals a right to freedom of movement and to leave a state (United Nations Human Rights Office of the High Commissioner, n.d.). Provisions of the ICCPR also enshrine individuals' right to liberty, right not to be subject to arbitrary detention, and right to due process (Article 9). In addition, the convention recognizes the family as a "fundamental group unit of society […] entitled to protection by society and the state" (Article 23) (United Nations, 1966).

The 1951 Convention Relating to the Status of Refugees and subsequent Protocol Relating to the Status of Refugees in 1967, which the U.S. has ratified, specifically outlined the rights of refugees, including the right of non-refoulement (i.e., the forcible return of asylum seekers to the country from which they are fleeing persecution) (Article 33), right to access a country's courts (Article 16), and right not to be punished for illegal entry to a foreign territory (Article 31) (UNHCR, n.d.). Thus, current immigration policies with respect to regulations for refugees and asylum-seekers in particular are in violation of numerous principles established by international treaties that the U.S. has ratified.

Federal funding for immigration enforcement under the current administration

In the Fiscal Year (FY) 2018 spending bill, Congress allocated $1.6 billion to border security (Livingston, 2018). Part of this budget has been used to fund a steel border fence

construction in Santa Teresa, New Mexico and El Paso County, Texas (Aguilar, 2018b). In February 2019, Congress approved $1.375 billion for fifty-five miles of border fence construction. In order to increase this budget, the president announced a national emergency to divert $600 million from the Treasury Department, $2.5 billion from the Drug Interdiction Program by the Department of Defense, and 3.6 billion from military construction programs (e.g. for recovery efforts in Puerto Rico after Hurricane Maria, operations to deter Russian aggression in Europe, and schools on military bases) for additional border wall construction (American Immigration Council, 2019; Phifer & Laporta, 2019; Ward, 2019).

Notably, the private prison industry plays a prominent role in the implementation of immigration enforcement policies, as almost three quarters of the detainee population in 2016 were held in detention centers operated by private prison companies (Luan, 2018). Under the Trump administration, ICE has entered into new contracts with for-profit prison companies, such as GEO Group and Core Civic to expand immigration detention facilities (Luan, 2018). While congressional appropriations in the FY 2018 budget allocated funds for an additional 1,196 detention beds (as opposed to the administration's requested 9,000 additional beds), increasing political influence by private prison companies could further expand federal resources for detention facilities (Luan, 2018).

State of the literature on health effects of immigration enforcement policies

With the strengthening of U.S. immigration enforcement policies and border security during the 1990s, there has been an increase in studies with focus on links between such policies and health outcomes among Hispanic populations at national, state, and local/regional level, including the borderlands. Overall, these studies have demonstrated adverse effects of strengthened immigration enforcement policies on health outcomes and health care utilization among Hispanics.

For instance, studies have shown adverse impacts of state-level immigration enforcement policies on self-rated health (Anderson & Finch, 2014) and mental health (Hatzenbuehler et al., 2017). Following enactment of state-immigration enforcement policies, studies also revealed a decline in public assistance use among Mexican mothers (Toomey et al., 2014), and decreases in visits to county health (White, Blackburn, Manzella, Welty, & Menachemi, 2014a), pediatric emergency (Beniflah, Little, Simon, & Sturm, 2013), and mental health departments (Fenton, Moss, Khalil, & Asch, 1997) among Hispanic adults. In addition, local immigration raids by ICE were found to be associated with elevated levels of immigration enforcement stress, poorer self-rated health, and low birth weight in infants of Hispanic mothers (Lopez et al., 2017; Novak, Geronimus & Martinez-Cardoso, 2017). Qualitative studies have further identified policy-related barriers to healthcare seeking among unauthorized immigrants, mixed-status families, and Hispanic communities broadly, including fear of authorities, fear of driving, changes to documentation requirements, perceived racial profiling, and a perceived lower position in the social hierarchy (Hardy et al., 2012; Heyman, Nuñez, & Talavera, 2009; Valdez, Padilla &Valentine, 2013).

However, based on the literature review for this dissertation, it appears that few studies have investigated the effects of recent changes (actual and proposed) to immigration enforcement policies on health and health care service use among Hispanics, particularly in the border region. In addition, about half of the research which informed this review did not include a measure of participants' residency status and even fewer studies have quantitatively assessed variation between different legal status groups. Lastly, few studies have investigated protective factors that are beneficial to health and health care service utilization among Hispanics who have been affected by immigration enforcement policies.

STATEMENT OF THE RESEARCH PROBLEM

The focus of this dissertation is on the relationship between perceptions of and experiences with current immigration enforcement policies and self-rated health, psychological distress, and health care service utilization among Hispanic adults with different residency statuses. The proposed study is also concerned with exploring factors that promote well-being and service use among Hispanics who perceive and/or experience negative effects due to strengthened immigration enforcement policies, specifically engaged coping strategies and collective efficacy.

The numerous changes to immigration policies and strengthened immigration enforcement under the current federal administration, as outline above, have raised concerns among health care providers and academic scholars regarding their adverse effects on the health and service utilization in immigrant and ethnic minority communities (Behrman et al., 2019; Heymann & Sprague, 2017; Kirsten & Boneparth, 2017; Page & Polk, 2017). An inquiry into the health effects of current immigration policies would therefore provide valuable insights for service providers, policymakers, and Hispanic community leaders who are concerned with community well-being and adequate health care service utilization in a climate of enhanced immigration enforcement, especially in the borderlands.

THEORETICAL FRAMEWORK

The proposed dissertation is guided by three theoretical frameworks and an original conceptual model based on a review of the literature. The relevant theories include the framework of the social determinants of health as outlined in the World Health Organization (WHO) Commission report (WHO Commission on Social Determinants of Health, 2008), the pyramid of immigration enforcement effects by Dreby (2012), and Social Stress Theory by Pearlin (1989).

Social determinants of health

Social determinants of health refer to the "conditions in the social, physical, and economic environment in which people are born, live, work, and age" (Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020, 2010, p.2). Based on the conceptual framework outlined in the WHO Commission on Social Determinants of Health (CSDH) (2008), health and well-being are influenced by the socioeconomic and political context, so-called "structural drivers", which underlie a person's social position and material circumstances that matter to health. According to this framework, policies play a critical role in shaping the distribution of critical resources (e.g., education, a livable wage, and access to health care) and conditions (e.g., safe work places and neighborhoods) for people to live in good health. By stipulating regulations that affect people's well-being (or withholding regulations), policies shape the conditions which promote or hinder healthy lives for individuals across gender, ethnicity, race, and residency status, amongst other social categories. Thereby, policies are a critical source of social and health inequities and simultaneously carry the potential for eradication of disparities (WHO Commission on Social Determinants of Health, 2008).

Related to this framework, Castañeda and colleagues (2015) argued for an examination of health outcomes among immigrants through a 'social determinants of health' lens. According to the authors, this approach would recognize the role immigration policies play in shaping access to medical services and other relevant resources for immigrants. In addition, this approach would acknowledge the complex interplay between social structures that shape health inequalities across gender, race, ethnicity, economic status, and citizenship, amongst other factors (Castañeda et al., 2015).

Menjívar and Abrego (2012) expand on this notion by arguing that U.S. immigration policies create a social hierarchy based on a person's legal status, with U.S. citizens at the

top, declining status with forms of less permanent legal status in the middle, and undocumented status at the bottom. Furthermore, according to the authors, immigration enforcement policies have increasingly restricted forms of legal immigration over time and simultaneously increased means of criminal prosecution of immigrants, thereby increasing their vulnerability and exploitability. Based on this recognition, Menjívar and Abrego describe immigration enforcement policies as "forms of structural and symbolic violence that are codified in the law and produce immediate social suffering" (Menjívar & Abrego, 2012, p. 1384).

This dissertation recognizes immigration enforcement policies as part of the structural conditions which determine an individual's access to resources and their social position, which are both fundamental to their well-being. In addition, this dissertation considers immigration status itself a factor that determines individuals' social standing and corresponding access to resources relevant to health.

The pyramid of immigration enforcement effects

Dreby's "deportation pyramid" (2012) visualizes the different types of effects of immigration enforcement policies on children along a pyramid-shaped hierarchy (see figure 1). At the top, the most severe, but numerically smallest impacts are on children who experienced an arrest, detention, and/or deportation of a family member. A larger group in the middle of the pyramid includes children living in fear of deportation for themselves or a family member. The bottom of the pyramid portrays the most distal impacts of immigration enforcement policies, which however affect the greatest number of children. In this group, children struggle with perceived social stigmas associated with their identity (i.e., perceiving being Hispanic as synonymous with being undocumented).

Despite the focus of this theoretical model on children, it is applicable to Hispanic adults as well. Accordingly, the most severe effects of immigration enforcement in form of family dissolution and corresponding material and emotional hardships similarly impact the smallest group of adults. The middle of the pyramid would include adults who live in fear of deportation for themselves and/or family members or friends. Finally, the largest group who is furthest removed from direct immigration policy effects experience conflicts in accepting their Hispanic identity based on societal conflations of ethnicity, immigration status, and criminality. Thus, according to this theory, a large group of Hispanic individuals can be affected by immigration enforcement policies regardless of their immigration status, albeit to varying extents. This theoretical framework is critical to the focus of this dissertation as the impacts at all levels of the pyramid carry the potential to interfere with a person's well-being and/or health care service utilization.

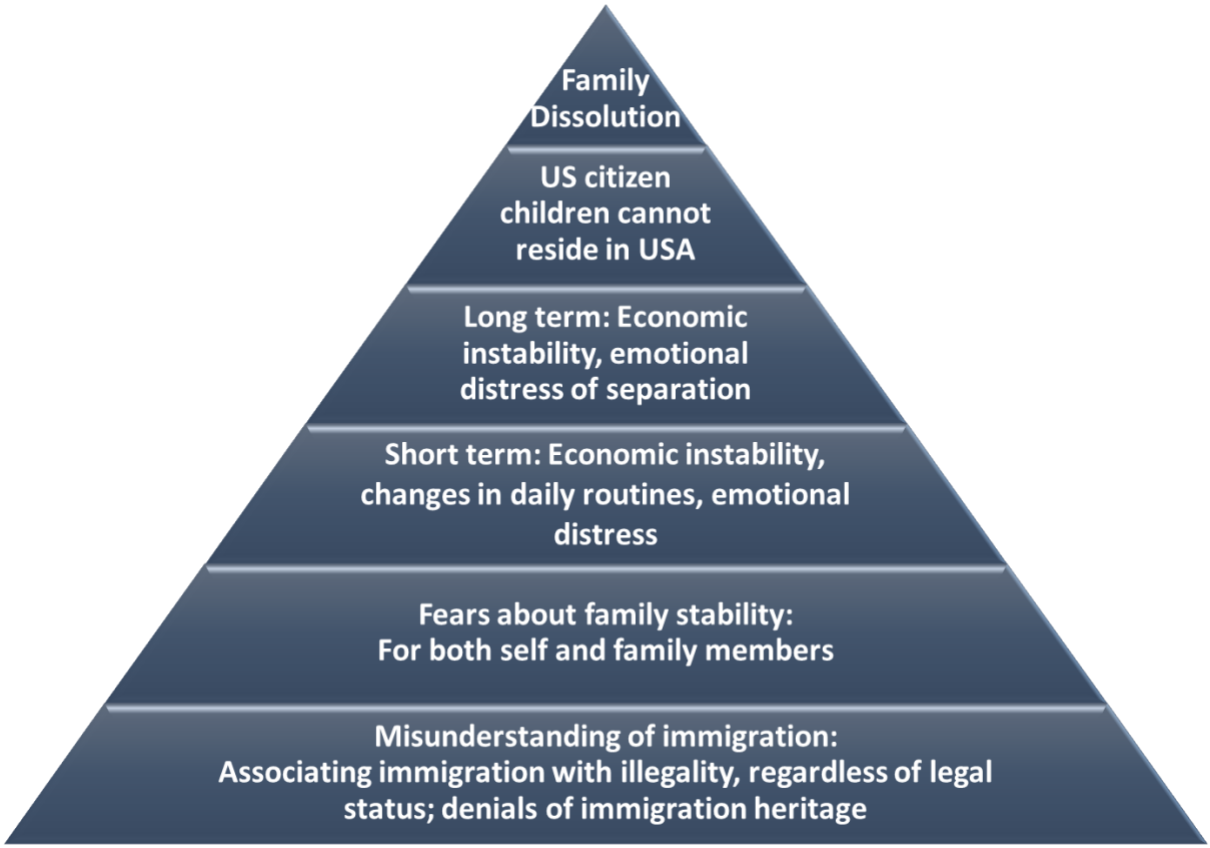

Figure 1. Pyramid of burden of deportation policies on children by Dreby (2012)

Social Stress Theory

According to Pearlin's theory of social stress (1989), individuals' social standing and structural contexts in which they live constitute sources of stress and determine abilities to cope with stress. More concretely, the perception of stress is influenced by an individual's social position and their corresponding self-regard, access to opportunities, and resources to cope with acute (e.g., dealing with the loss of a loved one) or chronic (e.g., handling demanding social roles) stressors (Pearlin, 1989; Aneshensel, 1992). Related to this theory of social stress, Romero and colleagues (2017) put forward the concept of "immigrant stigma stress". Exclusionary immigration enforcement policies provoke the experience of this type of stress by creating conditions for stigmatization of immigrants and their "systematic alienation from society" (p. 25), especially among those without current legal status. The experience of stress is a result of perceived discrimination, structural inequalities, and inferior social status, which in turn is associated with social disconnectedness and corresponding adverse health outcomes (Romero, Anguas, O'Leary, & Covarrubias, 2017).

This dissertation considers immigration enforcement policies a factor which shapes an individual's social standing, access to resources that matter to health (i.e., health care, education, living wages), and systematic exclusion from societies (e.g., through discrimination, alienation, and stigmatization). Thus, immigration enforcement policies carry the potential to shape experiences of stress through the impact of immigration status on individuals' social identity and corresponding experiences in their social environments.

CONCEPTUAL FRAMEWORK

The conceptual framework underlying this dissertation is based on research about associations between immigration enforcement policies and health and health care utilization among Hispanics in the U.S. Specifically, this conceptual model illustrates pathways through

which immigration enforcement policies have shown to affect health outcomes and health care utilization. This framework depicts effects of U.S. immigration enforcement policies on Hispanics with different forms of residency statuses and Hispanic populations broadly, as several studies did not capture the legal status of participants (see figure 2).

As depicted in this framework, research has shown an increase in perceived anti-immigrant sentiments based on immigration enforcement policies, for instance, following implementation of *Section 287(g)* in North Carolina and *S.B. 1070* in Arizona[7] (Rhodes et al., 2015; Szkupinski Quiroga, Medina & Glick, 2014). Viewing a state's immigration policy as unfavorable toward immigrants has been associated with poorer self-rated health among Latinos in a nationwide study. Moreover, perceiving an anti-immigrant or both, an anti-immigrant and anti-Hispanic climate in a state was associated with a greater report of mental health problems among Latinos in this study (Vargas, Sanchez, & Juarez, 2017a).

Enhanced immigration enforcement has also been associated with an increase in fear of deportation for participants themselves, and/or their family members and friends (Becerra, Androff, Cimino, Wagaman, & Blanchard, 2013; Dreby, 2012; Hacker et al., 2011; Skupinski Quiroga et al., 2014). This fear of deportation has also been linked to poorer mental health, regardless of participants' immigration status (Vargas et al., 2017a). Furthermore, fear of deportation has been linked to individuals' avoidance of driving or being outdoors due to the risk of encountering law enforcement and being asked about ones' immigration status (Hardy et al., 2012; Rhodes et al., 2015; Salas, Ayón & Gurrola, 2013; White, Yeager, Menachemi & Sarinci, 2014b). Additionally, deportation fears have been found to increase mistrust of authorities, avoidance of information sharing (Hardy et al., 2012; Hacker, Chu, Arsenault, &

[7] Arizona's S.B. 1070 of 2010 instructs state and local law enforcement officers to determine an individual's immigration status during a lawful stop, detention, or arrest (other parts of the law were ruled unconstitutional in June, 2012) (Anderson & Finch, 2014).

Marlin, 2012; Hagan et al., 2003; White et al., 2014b), and decrease in health care service utilization (Rhodes et al., 2015; White et al., 2014a).

Family separation constitutes one of the rarer, but most impactful consequences of immigration enforcement, which shapes the well-being and health care access of affected family members. For instance, family separation and to a lesser extent, perceived threat thereof, have been associated with adverse effects on children's' psychological health (Gulbas et al., 2016; Rojas-Flores, Clements, Hwang Koo, & London, 2017; Zayas, Aguilar-Gaxiola, Yoon, & Rey, 2015). Furthermore, family separation has been found to cause financial and housing instability among affected family members, especially, women and children (Ayón, 2013; Dreby, 2015; Enriquez, 2015) and damage to family relationships, such as children feeling resentment toward their deported parent (Brabeck & Xu, 2010; Dreby, 2015).

Studies also found associations between immigration enforcement policies and perceived discrimination among Hispanic adults, including in terms of finding employment and housing (Szkupinski Quiroga et al., 2014). Experiences of discrimination were also perceived to be related to limited English proficiency and physical appearance (e.g., looking "Mexican") (Ayón & Becerra, 2013; Sabo et al., 2014). The link between discrimination and poorer physical health has been well established in research, including among Hispanics and African Americans (Finch, Hummer, Kol, & Vega, 2001; Williams, 1999). Additionally, perceptions of social inferiority due to individuals' immigration status can create a barrier to access to medical services (Heyman et al., 2009).

Lastly, immigration policies have introduced legal barriers to medical services based on changes to eligibility criteria and documentation requirements. For instance, the *PRWORA* (1996) introduced residency requirements for access to Medicaid unless states continued to fund the program for all immigrants. This change has been linked to decreases in prenatal

care utilization among Hispanic women (Fuentes-Afflick et al., 2006) and outpatient health care use among immigrant elders, despite their continued eligibility (Yeo, 2017). The *Affordable Care Act* (2010) excludes undocumented persons and DACA recipients, thereby causing legal obstacles to health care access for undocumented and documented immigrants (Castañeda & Melo, 2014; Raymond-Flesh, Siemons, Pourat, Jacobs & Brindis, 2014; Siemons, Raymond-Flesh, Auerswald, & Brindis, 2017). Furthermore, confusion about service eligibility or inability to provide necessary documentation for revised proof of citizenship or legal residency requirements has created additional barriers to care (Ayón & Becerra, 2013; Castañeda & Melo, 2014; Heyman et al., 2009; White et al., 2014b).

Heyman and colleagues (2009) revealed the intersection between barriers to health care facing the general population (e.g., difficulty gaining insurance status and costs of medical care) and barriers related to a person's legal status among unauthorized immigrants in El Paso County. The latter included eligibility requirements (e.g., proof of legal status and residency) as well as mobility restrictions due to immigration enforcement, perceived pressures from employers, households and kin networks to abstain from care, as well as "a constant awareness of deportability" (Heyman et al., 2009, p. 12). These barriers in turn were associated with disruptions in care seeking for chronic conditions, a tendency to seek care for acute needs only, limited checkups and diagnoses, and reduced monitoring of long-term illnesses (Heyman et al., 2009).

While the review for this dissertation identified fewer studies with this scope, research has also identified protective factors that have minimized adverse effects of immigration policy stressors on well-being and service utilization among Hispanic youth and adults.[8] For instance, a positive ethnic identity was found to improve self-esteem and lower depressive

[8] These protective factors are depicted in yellow boxes in the conceptual model. The dashed lines connected to these boxes overlay the lines emerging from risk factors associated with poorer health and lower health care utilization to indicate their potential moderating effects on these associations.

symptoms among ninety-nine Latino students in a study about reactions to Arizona's *S.B. 1108*[9] (O'Leary & Romero, 2011). In the same study, engaged coping responses to this bill protected the self-esteem of students at even high levels of stress. These coping behaviors included activities such as talking to families and friends, concentrating on positive things, and participating in activism (O'Leary & Romero, 2011). Additional studies found self-efficacy to be beneficial to individuals' ability to cope with immigration enforcement stressors and navigate service use for families (Ayón, Valencia-Garcia, & Kim, 2017; Philbin & Ayón, 2016; Xu & Brabeck, 2012).

Some studies, which are described in the following paragraph, also found an improved ability to handle policy stressors among individuals who experienced social support and connectedness. Specifically, in a study by Xu and Brabeck (2012), undocumented Hispanic parents relied on their social networks to gain better access to medical services, to obtain information about services, and to seek help with transportation and interpretation of information (Xu & Brabeck, 2012). In addition, collective efficacy significantly buffered stress responses to enhanced immigration enforcement policies among a Hispanic community in Arizona (Romero et al., 2017). Lastly, being active in immigrant rights or advocacy groups strengthened empowerment, as well as social and emotional capital among undocumented and formerly undocumented youth in Florida (Vaquera, Aranda, & Sousa-Rodriguez, 2017). Thus, preliminary research suggests the potential for psychological, behavioral, and social factors to protect against adverse effects of immigration enforcement policies on health, as depicted in this model.

[9] A proposed amendment to Arizona's S.B. 1108 in 2008 sought to remove ethnic studies and prevent ethnic-related student groups at Arizona's state-funded educational institutions, which ultimately failed to pass (O'Leary & Romero, 2011).

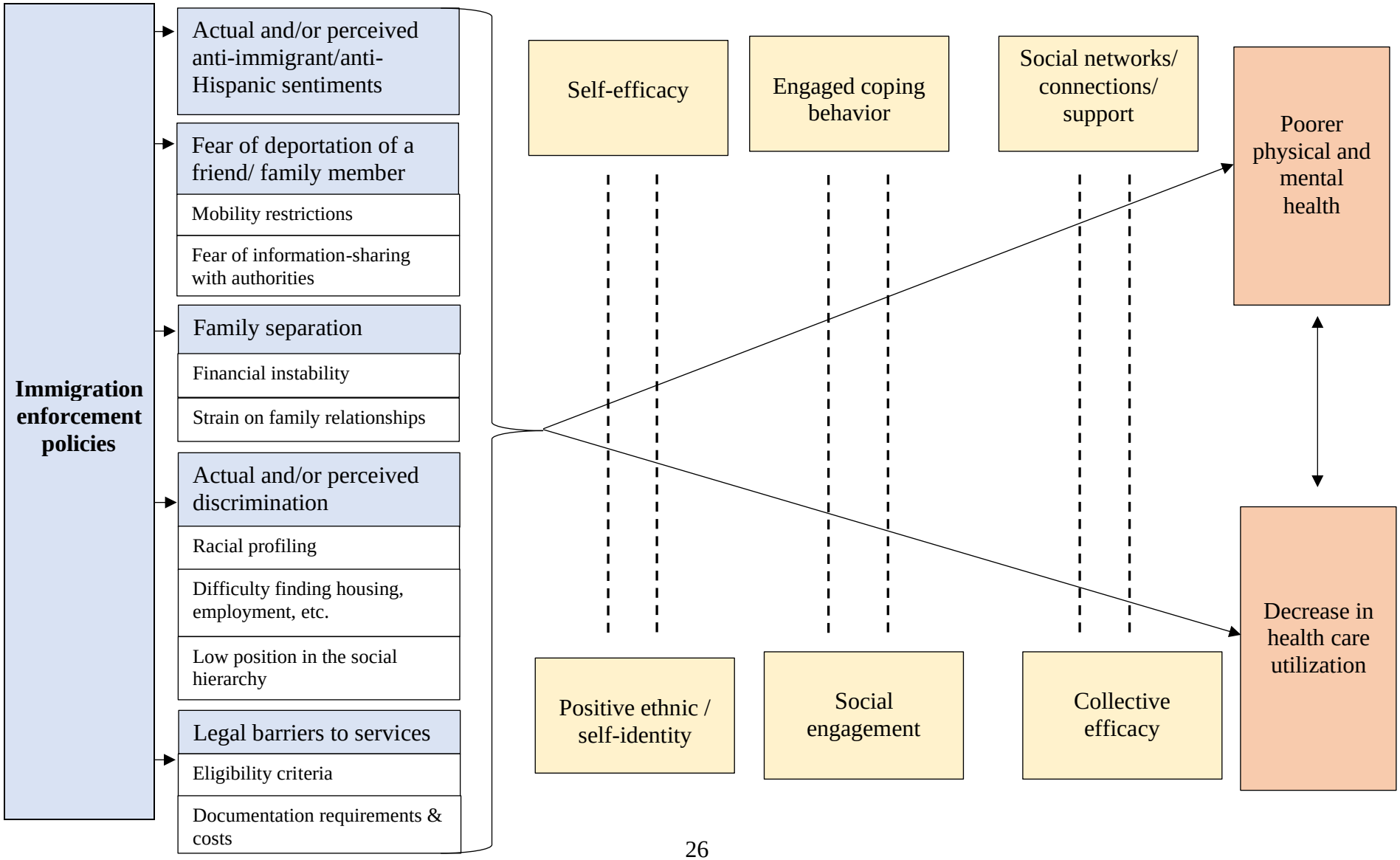

Figure 2. Conceptual framework of effects of immigration enforcement policies on health and health care utilization among Hispanic adults

PURPOSE OF THE STUDY

The purpose of the dissertation research is three-fold: 1) to assess experiences with and perceptions of current U.S. immigration enforcement policies, self-rated physical health, psychological distress, and health care service utilization among Hispanic adults in the U.S. Paso del Norte region by residency status; 2) to analyze the relationship between perceptions of and experiences with current U.S. immigration enforcement policies and physical health, psychological distress, and health care service utilization; and 3) to examine whether collective efficacy and engaged coping strategies moderate associations between perceptions of and experiences with immigration enforcement policies and physical health, psychological distress, and/or health care service utilization.

DEFINITION OF MAIN CONCEPTS AND SCOPE

Geographic location and population. This dissertation focuses on the U.S. Paso del Norte region, which includes El Paso and Hudspeth counties in Texas and counties of Doña Ana, Luna, and Otero in New Mexico. The entire Paso del Norte region also includes Ciudad Juárez in Mexico. While U.S.-based policies impact communities on both sides of the border, a binational assessment would have been beyond the scope of this dissertation. The study population was recruited primarily in El Paso, but extended to the U.S. Paso del Norte area.

Self-rated physical health. The concept of 'health' in this dissertation follows the 1946 WHO definition as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, n.d., para. 1). Physical health was assessed with a commonly used singular item asking participants to rate their overall physical health on a 5-point scale ranging from 'poor' to 'excellent'.

Psychological distress. The mental health outcome of interest in this study is non-specific psychological distress. This study utilizes the Kessler Psychological Distress Scale (K6), developed by Kessler and colleagues (2002) to measure this construct, as this scale has

demonstrated the ability to detect clinically meaningful differences in mental health, possesses strong internal consistency, and has been used among Spanish-speaking Hispanic populations (Albrecht & McVeigh, 2012; Dismuke & Egede, 2011; Kessler, Andrews, Colpe, Hiripi, Mroczek, et al., 2002; Prochaska, Sung, Max, Shi, & Ong, 2012).

Health care utilization. The concept of 'health care utilization' refers to the extent to which individuals have access to care, following the Institute of Medicine (IOM)'s definition of health care access as the "degree to which people are able to obtain appropriate care from the health care system in a timely manner" (National Research Council, 2006, p. 411). This study focuses on two indicators of health care utilization: whether participants received three basic physiological assessments in the past three years for blood pressure, blood glucose, and cholesterol, and whether participants delayed or avoided medical care they needed in the past twelve months. A subsequent question asks about reasons for the delay or avoidance of care, if applicable.

Immigration enforcement policies. The focus of this dissertation is on U.S. immigration enforcement policies at federal, state, and regional level (i.e., pertaining to the U.S.-Mexico border region) since the beginning of the current federal administration. The term 'policies' broadly refers to legislation, executive orders, memoranda, and policies relating to immigration enforcement in the U.S. The terminology 'immigration enforcement policies' is used to focus primarily on policies concerned with the enforcement of immigration law. This study examines perceptions of immigration enforcement under the current federal administration by asking about fear of deportation, experiences of issues with immigration enforcement, experience of immigration enforcement-related stress, and whether fear of deportation prevented the participant from using medical or social services.

Residency status. The population relevant to this dissertation includes Hispanic U.S. residents with different legal/immigration (i.e. residency) statuses, including native-born and

naturalized U.S. citizens, immigrants with permanent residency (e.g., green card holders), temporary legal status holders (e.g., DACA recipients, study, or work permit holders), and undocumented immigrants[10].

Protective factors. The focus of this study is on exploring the moderating role of beliefs about one's community and coping strategies on associations between immigration enforcement-related perceptions, health, and health care seeking. Specifically, the factors under study include collective efficacy and engaged coping strategies. These factors relate to the concept of "resilience", which refers to an individual's ability to positively adapt to and/or cope with stressful life circumstances (Luthar, Cicchetti & Becker, 2000).

Collective efficacy. Based on the definition by Romero and colleagues (2017), this concept refers to a belief in the community's ability to bring about positive change for immigrants.

Engaged and disengaged coping strategies. Following the definition of these concepts put forward by O'Leary & Romero (2011), 'engaged coping strategies' refer to direct coping with a stressor or one's emotions about it, whereas 'disengaged coping strategies' involve the "distancing [of] one's thoughts, emotions, and physical presence from the stressor" (O'Leary & Romero, 2011, p.20).

RESEARCH QUESTION, STUDY AIMS, AND HYPOTHESES

The overarching research question of this dissertation is as follows: What are associations between perceptions of and experiences with current U.S. immigration enforcement policies and self-rated physical health, psychological distress, and health care

[5] The terms "undocumented", "unauthorized", "without legal status", and "without documentation" will be used in this document interchangeably to refer to individuals without current legal immigration status in the U.S. While the term "illegal alien" implies a criminal offense, the word "undocumented" and similar terminology is more aligned with the fact that residing in the U.S. without authorization constitutes a civil offense and entry into the country without documentation for the first time a misdemeanor (Define American, 2018).

utilization among Hispanic adults with different residency statuses in the U.S. Paso del Norte region? To address this question, this project collects and analyzes original quantitative survey data. The corresponding study aims and hypotheses are as follows:

Study Aim I: Assess perceptions of and experiences with current U.S. immigration enforcement policies, self-rated physical health, psychological distress, and health care utilization among Hispanics adults living in the U.S. Paso del Norte region and differences by residency status.

Hypothesis 1.a: Respondents with a more protected legal status demonstrate fewer negative perceptions or experiences with immigration enforcement policies compared to less protected respondents.

According to this hypothesis, respondents with the highest level of protected immigration status (i.e., U.S. citizens) will demonstrate fewer negative perceptions and experiences compared legal permanent residents (LPRs); LPRs in turn, will report fewer negative perceptions and experiences than temporary legal residents (LTRs), and LTRs will report fewer negative perceptions and experiences than undocumented respondents.

Hypothesis 1.b: Respondents with a more protected legal status demonstrate better self-rated physical health compared to less legally protected respondents.

Similarly, this hypothesis states that U.S. citizens will report better self-rated health compared to LPRs, who will report better self-rated health compared to TPRs, who will report better self-rated health compared to undocumented respondents.

Hypothesis 1.c: Respondents with a more protected legal status demonstrate lower psychological distress compared to less legally protected respondents.

Accordingly, citizens will report lower psychological distress compared to LPRs, who will report lower psychological distress compared to LTRs, who will report lower psychological distress than undocumented respondents.

Hypothesis 1.d: Respondents with a more protected legal status demonstrate greater health care utilization compared to less legally protected respondents.

The reasoning behind hypothesis 1.d is that individuals with a more protected legal status are expected to have a greater ability to access health care services compared to residents with a more vulnerable status. Based on the final hypothesis under this aim, undocumented respondents will report lower health care utilization compared to LTRs, who will report lower health care utilization compared to LPRs, who will report lower use of health care services compared to U.S. citizens.

Study Aim II: Investigate associations between perceptions of and experiences with immigration enforcement policies and self-rated physical health, psychological distress, and health care utilization among Hispanic adults, adjusting for residency status and socio-demographic control variables.

Hypothesis 2.a: Hispanic adults who experience greater fear of deportation for themselves, a close friend, or a family member report poorer self-rated physical health, greater psychological distress, and lower health care utilization.

Hypothesis 2.b: Hispanic adults who experience greater issues with immigration enforcement report poorer self-rated physical health, greater psychological distress, and lower health care utilization.

Study Aim III: Examine whether collective efficacy and engaged coping strategies moderate associations between perceptions of and experiences with immigration enforcement policies and self-rated physical health, psychological distress, and/or health care utilization among Hispanic adults, adjusting for residency status and socio-demographic controls.

Hypothesis 3.a: Associations between perceptions of and experiences with immigration enforcement policies and self-rated physical health, psychological distress, and/or health care utilization are moderated by collective efficacy.

Hypothesis 3.b: Associations between perceptions of and experiences with immigration enforcement policies and self-rated health, psychological distress, and/or health care utilization are moderated by engaged coping strategies.

The examination of study aim III was subject to the nature of associations revealed under study aim II. Specifically, moderating effects were examined for significant associations between policy-related perceptions or experiences and health outcomes under study.

STUDY SIGNIFICANCE

Immigration policies under the current federal administration have strengthened enforcement and introduced changes to restrict legal immigration concerning both the undocumented and documented immigrant population (Pierce, 2019). Anecdotal evidence has shown increased fears of deportation and corresponding behavioral changes among Hispanic communities, such as avoiding the outdoors and refraining from reporting domestic violence due to immigration enforcement and related political rhetoric under the current federal administration (Blitzer, 2017a; Edwards, 2018; Engelbrecht, 2018; Ross, Davis, & Achenbach, 2017). In addition, health care providers have noticed delays and declines in utilization of health care services by immigrants (Behrman et al., 2019). Similarly, journalists have reported immigration enforcement-related declines in health insurance and government assistance enrollment, including Medicaid, the Children's Health Insurance Program, and nutrition assistance programs (Davis, 2017; Dewey, 2017; Lowrey, 2017). Thus, there are many indications of links between policy changes and harmful health effects, many of which disproportionally impact women and children. However, scientific research is needed to systematically assess the extent to which current immigration enforcement policies shape

health and health care seeking, especially among Hispanic and immigrant communities as well as refugees and asylum seekers.

Lack of appropriate health care seeking poses threats to individuals' health and the communities in which they live due to risks associated with untreated, undertreated, or undiagnosed acute and chronic health problems (Behrman et al., 2019). For instance, lower rates of vaccination, screening service use, and treatment seeking for infectious diseases increases risks for the transmission of sexually and other communicable illnesses within communities. Additionally, health care seeking at later stages of diseases and for preventable medical emergencies poses greater costs for state and local health care systems (Behrman et al., 2019). Thus, interference of deportation fears with health care utilization poses a number of challenges for health care professionals' adequate service provision in the border region and beyond.

Adverse health effects of immigration enforcement policies might also exacerbate existing health and socio-economic disparities among Hispanic and immigrant populations in the U.S., including lower health insurance enrollment, higher levels of poverty, and poorer working conditions (Khullar & Chokshi, 2019). While national studies have shown relative advantages in mortality and morbidity among Hispanic compared to non-Hispanic whites (the so-called 'Hispanic Paradox') (e.g., Dominguez et al., 2015; Ruiz, Hamann, Mehl, & O'Connor, 2016), Hispanics experience distinct disparities in certain health outcomes and socio-economic conditions, which are especially pronounced in the borderlands. Relative to whites, Hispanics experience higher rates of diabetes, hypertension, certain types of cancer (e.g., cervical, stomach, and liver), HIV/AIDS, Tuberculosis, and obesity (Center for Border Health Research, 2005; Moya, Loza & Lusk, 2012; United States-México Border Health Commission, 2014; Vega, Rodriguez, & Gruskin, 2009). Furthermore, residents in border counties, and Hispanics more so than whites, are more likely to be poor, earn a lower income,

lack health insurance, and have lower access to health care, compared to residents in non-border counties (Coalition for a Healthy Paso del Norte, 2016a; Dominguez et al., 2015; Kang-Kim et al., 2008; Shen, Gai, & Feng, 2016). In addition, the Health Professional Shortage Area scale by the U.S. Department of Health and Human Services that ranges from 0 to 26 (with higher scores indicating greater need) for El Paso county included values between 7 and 25 across primary, mental health, and dental care. Values above 20 applied to all three types of care for certain locations, thus indicating the need for improved service coverage for El Paso (Health Resources & Services Administration, n.d.).

Given the high proportion of El Paso residents with diabetes (13.9% overall and 43.4% among persons aged 65 and over), amongst other chronic conditions, continuance of care is particularly critical in this region (Healthy Paso del Norte, 2019a). Furthermore, an elevated incidence of certain communicable diseases (e.g., tuberculosis) in the border region compared to national levels, in addition to increased infectious disease transmission-risks at international ports of entry, emphasizes the importance of prompt access to care in the borderlands (Centers for Disease Control and Prevention, 2013; Moya et al., 2012).

Additionally, according to a binational survey among 1,000 randomly selected residents of El Paso and Ciudad Juarez, one third of El Paso residents purchase medication in Mexico, highlighting the importance of cross-border mobility for access to pharmaceuticals (Rivera, Ortiz, & Cardenas, 2009). Núñez and Heyman (2009) point to existing mobility restrictions due to immigration enforcement mechanisms in the border region, including immigration checkpoints and a regular presence of CBP (Núñez & Heyman, 2007). Increased deportation fears for individuals themselves and/or family members could thus further restrict care-seeing mobility and thereby limit treatment options for border residents.

While it is crucial to focus on harmful consequences of policies, less attention has been paid to existing capacities for resilience in communities to buffer adverse effects. In

fact, relatively little is known about the potential for certain psychological, behavioral, and social factors to moderate associations between immigration enforcement and health. While preliminary research has identified the protective role of beliefs about one's identity and society, social connections, as well as certain coping strategies, these studies did not focus on current immigration enforcement policies, were not located in the Texas border region, and were not generalizable to the larger Hispanic population.

In sum, assessing effects of current immigration enforcement policies on health care utilization, mental health, and health broadly is critical for a comprehensive understanding of factors relevant to well-being of immigrant and Hispanic communities. A global trend towards increasing nationalism and xenophobia further highlights the need for studies about the implications of strict immigration enforcement on the well-being of minority and immigrant populations.

This study contributes to our understanding of associations between current immigration enforcement policies, health, and health care utilization among Hispanic residents with different residency statuses in a border community. Additionally, this study explores whether collective efficacy and engaged coping strategies moderate the relationship between immigration enforcement policies and adverse health effects. This study focuses on collective efficacy because of El Paso's generally welcoming attitude toward immigrants, reflected not only in the city's demographic characteristics, but also in the relatively high number of non-profit organizations serving immigrants as well as community events for immigrants. The study focuses on the role of engaged coping strategies because they constitute modifiable behaviors. Study findings could thus lead to recommendations for behavioral changes that could be readily adopted by individuals.

Findings from this study seek to assist providers, policymakers, community leaders, and researchers with a more comprehensive understanding of health impacts of immigration

enforcement policies, recommendations for policies that promote well-being of diverse communities, and suggestions for further research about immigration policy impacts on health.

CHAPTER II

BACKGROUND AND SIGNIFICANCE

This chapter provides an overview of studies focusing on effects of immigration policies and enforcement on physical and mental health and health care utilization among Hispanic populations in the U.S. First, this chapter presents an overview of the literature included in this review. Next, findings from studies are summarized for each health outcome (i.e., physical health, mental health, and health care utilization) separately, followed by studies focused on protective factors against immigration enforcement-related negative effects. Subsequently, this chapter provides an overview of research gaps that informed the focus of this study. The final section discusses findings from an exploratory mixed-method study which assessed provider perceptions of immigration enforcement-related effects on service utilization in El Paso and shaped the scope of this dissertation study.

LITERATURE REVIEW OVERVIEW

Four databases related to health and social sciences were used to identify relevant articles for this review, including Academic Search Complete, PsycINFO, CINAHL, and Web of Science. Key words (e.g., immigration, enforcement, law, policy, Hispanic, Latino, health, health care, mental health, and well-being) were systematically applied to all databases. Articles published between the years of 1990 to 2019 were considered for review in order to identify timely studies on the topic. Additional publications were identified via journal articles' bibliographies, references to relevant studies in the news, recommendations by the dissertation committee, and regular checks for new research on this topic on Google Scholar.

Studies included in this review examined associations with or effects of immigration enforcement policies and health outcomes, including with primary focus on self-rated health

and other physical health outcomes (N=10), mental health outcomes (N=43), and health care utilization (N=25). Studies examining impacts on mental health focused on children and youth (N=10), adults (N=14), and families and communities (N=14). An additional five studies explored positive mental health effects of DACA. Among studies with focus on effects on health care utilization, twelve examined health care use broadly, whereas thirteen assessed specific types of care. Finally, six studies explored the influence of protective factors on relationships between immigration policies or enforcement and well-being.[11]

In terms of methodologies, most studies used quantitative designs (N=41), either cross-sectional or longitudinal in nature, followed by qualitative (N=29) and mixed method (N=10) approaches. Policies and legislation specific to immigration under study varied from broad assessments (e.g., effects of detention/deportation policies), to examinations of laws at federal (e.g., PRWORA) and state (e.g., S.B. 1070 of Arizona) levels. In order to measure the impact of laws or policies, studies utilized a range of approaches, including pre-post designs (i.e., examining changes in an outcome of interest before and after implementation of a new law or policy), questions about perceptions of or experiences with policy changes, and assessments of perspectives from key informants regarding community changes following a law or policy change.

2.1 Research with focus on U.S. immigration enforcement policies and health outcomes under the current federal administration

This review identified five studies and one report that examined physical and mental health outcomes in relation to the beginning of the current federal administration and immigration policy and enforcement under the administration (see table 22). A longitudinal

[11] This summary focuses on the outcomes of interest to the proposed dissertation topic, which does not mean that studies in this review solely focused on these outcomes. In addition, some studies examined multiple outcomes of interest to this study simultaneously.

study by Krieger and colleagues (2018) assessed changes in preterm birth (PTB) rates due to sociopolitical stressors among infants of immigrant, Hispanic, and Muslim women in New York City. Comparing PTB rates from the period prior to presidential candidate nominations (September 2015 to July 2016) to the post-inauguration period (January to August 2017), relative risks of PTB were significantly higher among Hispanic women overall, and specifically among foreign-born women of Mexican or Central American origin (Krieger, Huynh, Li, Waterman & Van Wye, 2018).

A national study by Gemmill and colleagues (2019) compared pre-term birth rates among U.S. Latinas after the 2016 presidential election with expected pre-term birth rates had the election not occurred, drawing on data from the period January 2009 to July 2017. Pre-term birth rates subsequent to the election were significantly higher compared to the expected rate if the election had not happened (Gemmill et al., 2019).

Roche and colleagues (2018) examined psychological distress in response to immigration actions and news among 213 Latino parents with different residency statuses living in Atlanta. This study revealed that adverse impacts of immigration actions and news (e.g., worries about family separation, perceived negative effects on children, and changes in daily routines) were more commonly experienced by undocumented residents, immigrants with temporary protected status (TPS), and legal permanent residents compared to U.S. citizens. Undocumented immigrants and/or TPS holders experienced certain adverse effects most commonly (e.g., avoidance of medical care, the police, or public assistance, difficulties obtaining or maintaining a job), indicating the vulnerability of immigrants regardless of temporary legal status protections. Furthermore, this research identified significant associations between the experience of immigration-related impacts and psychological distress, regardless of parents' residency status (Roche et al., 2018).

Two studies assessed physical and psychological impacts of immigration policy under the current administration among Hispanic youth (Eskenazi et al., 2019; Stafford, Bigatti, & Draucker, 2019). Eskenazi and colleagues (2019) investigated associations between concerns about immigration policy effects and physical and mental health outcomes among 397 adolescent U.S.-citizen children of Latino immigrants in Salinas, California. The researchers found significant associations between adolescents' degrees of worries about policies, higher anxiety, and poorer sleep quality following the 2016 presidential election. In the same study, the authors conducted a separate comparison of health outcomes before and after the 2016 election, which revealed significantly greater anxiety symptoms among youths who reported greater worries about immigration policies. Thus, this study highlights negative consequences for the mental health of second-generation Latino youths when immigration policies are perceived as threatening to their families and themselves (Eskenazi et al., 2019).

A qualitative study by Stafford, Bigatti, and Draucker (2019) explored cultural stressors among 24 Latinas aged 13 to 20 with depressive symptoms residing in a Midwest American city between 2016 and 2018. One of the main four stressors that emerged from the study's interviews involved fear of deportation for themselves or a family member. Notably, these fears were related to the announcement of policy changes under the current federal administration and corresponding uncertainties about how these might impact participants' families (Stafford et al., 2019).

Lastly, a recent mixed-methods report by Human Impact Partners and La Unión Del Pueblo Entero (2018) revealed impacts of current immigration policies on health and equity using survey data, in-depth interviews, and focus groups among 212 residents in the Rio Grande Valley in June 2018[12]. Overall, 19% of parents reported their children experienced

[12] Note, unlike other research discussed in this review, these findings have not been published in (a) peer-reviewed journal(s) to date, however were considered relevant for inclusion in this review, given limited existing research in scientific journals with focus on health effects of immigration policies and enforcement under the current federal administration in the U.S.-Mexico border region.

symptoms of post-traumatic stress disorder. This finding did not differ between citizen, protected (i.e., with lawful permanent residence or DACA status), and undocumented immigrant parents. Children's experience of stress because of their parents' immigration status however varied based on respondents' legal status. Twenty-nine percent of undocumented respondents reported this stress in their children compared to 11% of protected and 7% of citizen parents. While solely descriptive in nature, this report revealed a number of mental health problems associated with immigration-related stressors in a Hispanic border community. According to the authors, recent changes to immigration policies were particularly reflected in enforcement carried out by local police, including closer collaboration with immigration officials and increased referrals of residents to immigration officials; other exclusionary policies, such as requiring proof of legal residency to obtain a driver's license, had been in place in Texas since 2008 (Human Impact Partners and La Unión Del Pueblo Entero, 2018).

2.2 Research with focus on U.S. immigration enforcement policies and health outcomes prior to the current administration

This section presents findings from studies prior to the current federal administration with focus on effects of immigration policies and enforcement on physical and mental health and health care utilization among Hispanic populations in the U.S.

Physical and self-rated health outcomes

The majority of studies in this review that examined associations between immigration enforcement policies and self-rated health or physical health outcomes yielded significant findings. For instance, Vargas and colleagues (2017) examined associations between the number of anti-immigrant laws that were passed in 21 states and self-rated health. Latinos who lived in states which passed a high number of anti-immigrant laws

compared to states which passed medium or low numbers were less likely to report optimal health, with no difference by citizenship (Vargas, Sanchez, & Juarez, 2017b). In a separate nationwide study, Vargas and Ybarra (2017) investigated associations between perceptions of state immigration policies and child health. Parents who perceived their state's immigration policy as unfavorable toward immigrants were less likely to report optimal child health. In addition, U.S citizen Latinos and legal permanent residents were more likely to report optimal child health compared to members of mixed-status families (Vargas & Ybarra, 2017). At state level, Anderson and Finch (2014) examined self-reported health before and after passage of Arizona's S.B. 1070 and found poorer self-reported health among participants who preferred the Spanish (vs. English) version of the survey following the law's implementation. Lastly, a cross-sectional study by Cavazos-Rehg, Zayas, and Spitznagel (2017) found an association between concerns about deportation and poorer self-rated health among 143 foreign-born Latinos in St. Louis.

Studies in this review have also examined associations between immigration enforcement and objective measures of physical health. For instance, Novak and colleagues (2017) discovered higher rates of low birth weight among infants of Latina mothers compared to infants of white mothers following an immigration raid in Postville, Iowa using data from birth records. Torres et al. (2018) revealed associations between high (vs. low) deportation worries for participants themselves, family members, or friends and cardiovascular disease risk factors, including BMI, obesity, waist circumference, and pulse pressure among Mexican women in California. In addition, women who reported moderate (vs. low) deportation worries had a greater likelihood to be overweight and had a higher systolic blood pressure (Torres et al., 2018). In contrast, Martinez and colleagues (2017) found greater household deportation fears to be associated with a lower BMI and lower salivary uric acid levels (a biomarker related to hypertension, stress, and the metabolic

syndrome). The authors considered undereating due to fear a possible explanation for the low BMI association (Martinez, Ruelas, & Granger, 2017). Finally, Cho (2011) examined infant mortality rates before and after the PRWORA among Mexican-origin women and found a slower decline of infant mortality rates among foreign-born Latinas with low levels of education compared to U.S.-born Latinas, especially in states which did not continue to provide Medicaid to all immigrants.

In conclusion, several studies in this review have identified associations between immigration enforcement policies and poorer self-reported or objective physical health outcomes. The majority of these studies did not stratify findings by participant's residency status (see table 23), however those which did either found impacts among Latinos regardless of their legal status (Vargas et al., 2017) or greater negative effects among non-citizens/non-permanent resident status holders (Vargas & Ybarra, 2017).

Mental health outcomes in Hispanic children and youth

Multiple studies in this review revealed adverse impacts of parental detention/ deportation or threat thereof on mental health outcomes among Hispanic U.S. citizen children (see table 24). For instance, Rojas-Flores and colleagues (2017) found significantly higher Posttraumatic Stress Disorder (PTSD) symptoms and internalizing mental health problems among children of detained or deported parents compared to children of undocumented parents without prior contact with ICE. Similarly, Zayas and colleagues (2015) uncovered significantly higher levels of emotional health problems and lower levels of positive mental health indicators in children affected by parental detention/deportation compared to children whose undocumented parents had not been detained or deported. Findings from a mixed-method study by Gulbas et al. (2016) showed that certain psychosocial stressors were experienced by children of undocumented parents regardless of whether they had been deported or not (e.g., inability to communicate with friends and financial struggles), whereas

other stressors (e.g., loss of a supportive school network and violence) were predominantly felt by children affected by a parent's deportation. In a mixed-method study, Gulbas and Zayas (2017) identified several mechanisms through which the experience or threat of parental deportation caused harm to children's wellbeing. These included stress and fear related to the threat of parental deportation, limited access to resources, inability to speak openly about their parents' immigration status and process emotions, confusion about their own identity, poor academic performance, and experiences of discrimination. Yet, the risk of these negative effects was moderated by characteristics of the family, parent, and children themselves. For instance, some children demonstrated resilience despite the hardships they faced, which was facilitated by access to resources, social support, and family cohesion, amongst other factors (Gulbas & Zayas, 2017). In a qualitative study, Dreby (2015) documented adverse effects of family separation on children's well-being, including loss of a caregiver, corresponding emotional insecurities, and the experience of sudden poverty. Children were also affected by anxiety and destabilization among families due to the mere threat of deportation (Dreby, 2015).

Studies also examined mental health effects of immigration policies among Latino youth. Santos and Menjivar (2014) revealed associations between awareness of S.B. 1070 and an increased likelihood to engage in risky behavior among Latino youth in the Phoenix metropolitan area. Furthermore, youth who reported being affected by the law demonstrated poorer abilities to regulate their emotions in the classroom and perceived greater discrimination by teachers and authorities due to their ethnicity. The authors also found that first- and second-generation immigrant youth and their peers experienced a weaker sense of being American, a reduced sense of psychological well-being, and lower levels of self-esteem (Santos & Menjivar, 2014). In a qualitative study about immigration experiences among twenty Hispanic children and youth in mixed-status families, Delva and colleagues (2013)

identified mental health problems, most commonly withdrawal-depressed, anxious-depressed, and rule breaking behaviors in the majority of participants.

In conclusion, studies included in this review demonstrate how the experience or threat of parental deportation affects the psychological well-being of Hispanic children and youth, regardless of their own immigration status. While effects tend to be more severe in children directly affected by family separation, the mere threat of deportation also seems to provoke mental health issues. In addition, research has linked awareness of immigration enforcement measures to perceived discrimination, engagement in risky behavior, and a decreased ability to regulate emotions among Latino youth.

Mental health outcomes in adults

Research in this review has also shown associations between immigration enforcement policies and psychological well-being among Hispanic adults (see table 25). For instance, residents in states with more exclusionary immigration policy climates experienced higher rates of poor mental health days than individuals from states with less exclusionary policy climates in a cross-sectional examination of 31 states. Moreover, the association between state policy climates and poor mental health days was significantly stronger among Latinos compared to non-Latinos (Hatzenbuehler et al., 2017). Becerra and colleagues (2013) found Latinos' experiences of issues with immigration enforcement policies (e.g., expanded documentation requirements) to be associated with increased fears of deportation for participants themselves, a family member, or close friend, and a lower likelihood to use government services. These associations did not differ between citizens and non-citizens (Becerra, Androff, Cimino, Wagaman, & Blanchard, 2013). Similarly, Vargas and colleagues (2017a) found a link between perceptions of an anti-immigrant climate in ones' state and a greater likelihood to report mental health problems among Latino adults. Furthermore, respondents who perceived both an anti-immigrant and an anti-Hispanic climate were more

likely to report poor self-rated health and mental health problems, regardless of their immigration status (Vargas et al., 2017a).

Research has identified stress and fear, amongst other outcomes, as common responses to immigration enforcement policies among Hispanics. For instance, Lopez and colleagues (2017) found higher levels of immigration enforcement stress and lower self-rated health among Latino adults following an immigration raid in Washtenaw County, Michigan. Immigration enforcement stress was based on the experience of day-to-day stressors related to immigration enforcement, including a person's experience that their legal status has limited their contact to family and friends and fearing the consequences of deportation. Respondents also reported feeling less free to interact with their social networks, less able to use government services, and increasingly fearful of the consequences of deportation after the raid (Lopez et al., 2017). Similarly, Brabeck, Sibley, and Lykes (2016) revealed a link between legal vulnerability (based on participants' immigration status and prior detention/deportation experiences of themselves and their family members) and higher stress with respect to occupation, immigration, and legal status. In a mixed methods study by Szkupinski Quiroga and colleagues (2014), more than half of respondents reported fear of deportation of a friend/family member due to heightened attention to immigration enforcement in Arizona. Respondents also reported difficulties with utilizing medical care due to this heightened attention, which varied by immigration status; 26% of undocumented, 19% of documented foreign-born, and less than 1% of U.S.-born Latinos reported such difficulties (Szkupinski Quiroga et al., 2014). Finally, Hispanic adults in a qualitative study in North Carolina expressed fear of driving and being stopped by police, staying home out of

fear of having to disclose one's immigration status, feelings of occupational exploitation, and isolation due to implementation of Section 287(g) and the REAL ID Act[13] (Bailliard, 2013).

Focusing on mental health impacts of immigration enforcement in the border region, Sabo and colleagues (2014) found immigration-related mistreatment by immigration officials among a quarter of 299 Mexican adults who had either experienced (62%) or witnessed (38%) mistreatment. Among participants with mistreatment experiences, half reported instances of ethno-racial profiling, 38% reported physical, and 23% verbal forms of mistreatment (Sabo et al., 2014). In a separate, binational study, the authors found heightened stress related to anticipated encounters with immigration officials among farmworkers based in Arizona and farmworkers based in Sonora (Sabo & Lee, 2015).

In conclusion, studies have revealed associations between immigration enforcement policies and poorer mental health outcomes among Hispanic adults. While some studies in this context did not assess participants' immigration status and found effects among Hispanic populations broadly (e.g., Hatzenbuehler et al., 2017; Ebert & Ovink, 2014), several large-scale studies found mental health effects across immigration statuses (Arbona et al., 2010; Becerra et al., 2013; Becerra et al., 2015; Vargas et al., 2017a). However, some studies found poorer mental health outcomes due to immigration policies and enforcement to be more pronounced in Hispanic adults with a more vulnerable immigration status (Brabeck et al., 2016; Rodriguez, Paredes, & Hagan, 2017; Szkupinski Quiroga et al., 2014).

Mental health outcomes in families and communities

Studies that assessed health impacts of immigration enforcement policies in families and communities revealed shared fears of deportation and corresponding negative effects on daily activities and well-being (see table 26). For instance, in a California-based study among

[13] "The REAL ID Act, coupled with Section 287(g), provided local law enforcement with the legal basis to check immigration status through license checks and detain individuals without proof of legal residence." (Bailliard, 2013, p. 344)

undocumented parents of U.S. citizen children, participants stated that a fear of deportation was passed on to their children, restricted their abilities to travel, led to families' shared adoption of risk-management strategies (e.g., monitoring presence of the police), and minimized their family's economic stability and opportunities for upward mobility (Enriquez, 2015). Similarly, in an Arizona-based qualitative study conducted by Salas and colleagues (2013), Mexican adults and adolescents described how fear of a family member's deportation limited their mobility and thereby created a barrier to access medical care. Adolescents in this study also expressed the psychological distress they felt due to fears of parental deportation, of being denied necessary medical care, and of never being able to purse their career goals. Mothers in this study felt fear of their husbands being deported and corresponding economic instability for their families (Salas et al., 2013). Additionally, parents in a study by Ayón et al. (2012) described how fear of deportation increased a need for mental health and support services for their children (Ayón, Gurrola, Salas, Androff, & Krysik, 2012).

Studies in this review also showed the psychological burden on families and children who experienced deportation of a family member. For instance, Dreby's (2015) interviews with Mexican children and parents revealed changes in the family structure, economic deprivation, and housing insecurity due to a family members' detention or deportation (typically the husband/father). Horner and colleagues (2014) found Latino youth to be impacted by parental deportation in numerous ways, including experiences of confusion, fear, sadness and frustration, longing for family reunification, and having to deal with "oppressive uncertainties" (e.g., whether to move back to ones' country of origin) (p.39).

Studies also examined adverse community effects of immigration enforcement. For instance, Juby & Kaplan (2011) investigated effects of an immigration raid in Postville, Iowa based on key informant interviews. Community impacts included restructuring of the community, economic hardships, and increased service needs. Among families, the raid

reportedly led to fear, stress, and behavioral problems among children (including U.S. citizens) and stress due to sudden economic instability, family separation, and re-traumatization (e.g., for individuals who already experienced government-led separation in their home country, such as Guatemala) (Juby & Kaplan, 2011). Hardy and colleagues (2012) also drew on qualitative data from key informants, including residents and service providers, to assess effects of S.B. 1070 in a Latino community in Flagstaff, Arizona. According to their findings, the implementation of S.B. 1070 led to declines in health and health-seeking behaviors by increasing fear, limiting mobility, and reducing trust in local officials among community members. In addition, service providers reported a decrease in the use of medical services, including for general doctor visits, vaccines, and prenatal care (Hardy et al., 2012).

Thus, studies in this review have shown negative impacts of immigration enforcement policies on the well-being of Hispanic families, children, and communities broadly. Negative effects manifested themselves in various ways, including fear and stress, economic instability, mobility restrictions, changing health behaviors, and declines in the use of medical services.

Mental health effects of DACA

Research about the mental health effects of DACA found generally positive results among eligible individuals (see table 27). For instance, Venkataramani et al. (2017) examined self-reported health and psychological distress in a nationwide sample of Hispanic adults before and after DACA implementation. While there were no differences in self-reported health, psychological distress declined significantly among DACA eligible versus non-eligible participants following its implementation (Venkataramani, Shah, O'Brien, Kawachi, & Tsai, 2017). Corroborating these findings, Patler and Pirtle (2018) found improvement in self-reported psychological well-being following DACA among 487 eligible Latino youth. However, comparisons were based on retrospective vs. current assessments of participants'

mental health, which is a less objective method (Patler & Pirtle, 2018). In addition, Hainmueller and colleagues (2017) revealed significantly fewer adjustment and anxiety diagnoses in children of DACA eligible mothers compared to children of illegible mothers subsequent to the implementation of the program.

While qualitative studies uncovered positive health effects of DACA, they also revealed remaining needs among recipients. For instance, Raymond-Flesh and colleagues (2014) found improvements since DACA in some aspects (e.g., access to driver's licenses which facilitated transportation to services and access to employment opportunities with job-based insurance), but participants reported remaining confusion about benefit eligibility, continued fear to share information with authorities and health care providers, and concerns about undocumented family members. Similarly, Siemons et al. (2017) revealed positive effects of DACA in participants' lives, including better social integration, access to resources, a sense of greater autonomy, improved sense of self, and less stress. However, participants also described a lack of access to health insurance, high tuition fees, and concerns about the temporary nature of their legal status (Siemons et al., 2017).

Thus, most studies in this review have demonstrated positive mental health effects of DACA among eligible candidates, including their children. However, research has also discovered remaining health needs among program recipients.

Health care utilization

Research in this review has shown a number of ways in which immigration enforcement policies impact health care service utilization among Hispanic populations (see table 28). Based on this dissertation review of studies using medical records data to compare health care visits before and after the implementation of a strengthened immigration enforcement law, a typical effect has been a decline in the use of general medical services and/or an increase in the need for high-acuity care. For instance, White and colleagues

(2014a) found a decline in county health department visits among Latino adults by 28% in visits for communicable diseases, 25% for sexually transmitted diseases, and 13% for reproductive health services following adoption of Alabama's House Bill (H.B.) 56[14] among Latino adults (White et al., 2014a). Studies by Beniflah et al. (2013) and Fenton and colleagues (1997) discovered declines in general service visits but increases in high acuity visits at pediatric emergency departments and mental health care clinics, following adoption of Georgia's H.B. 87[15] and California's Prop 187[16], respectively. Researchers also found associations between immigration policies (including, Section 287(g), PROWRA, and S.B. 1070) and inadequate prenatal care (Fuentes-Afflick et al., 2006; Rhodes et al., 2015) and post-natal care use among Latina mothers (Toomey et al., 2014).

Qualitative studies identified several reasons for declines in service use related to immigration enforcement policies, which typically either constitute "direct legal" barriers or "indirect barriers", as distinguished by Heyman and colleagues (2009, p.9, 19). With respect to direct legal barriers, changes in eligibility or documentation requirements for insurance programs have been associated with lowering participants' access to care (Park, Sarnoff, Bender & Korenbrot, 2000; White et al., 2014b) and creating differential access to care in mixed-status families (Castañeda & Melo, 2014; O'Leary & Sanchez; Rehm, 2003). Indirect legal barriers include a mistrust of service providers (Hagan, 2003; O'Leary & Sanchez, 2011; Pedraza, Nichols, & LeBrón, 2017), confusion about eligibility requirements, fear of deportation, and fear of how service use might affect chances of future legalization

[14] Alabama's H.B. 56 (aka Alabama Taxpayer and Citizen Protection Act) requires proof of lawful residency from applicants for public benefits, with exceptions for certain public health services (e.g., immunizations, medical screenings and care for communicable diseases, and prenatal care). The law also requires local law enforcement to assess a person's immigration status during a lawful stop (White et al., 2014b).
[15] Georgia's H.B. 87 grants authority to local and state police officers to inquire about a person's immigration status (Beniflah et al., 2013).
[16] California's Proposition 187 restricted all state-funded health services (except for emergencies) for undocumented immigrants and required providers to report suspected unauthorized persons to the Immigration and Naturalization Service (INS) (although full implementation of the law was immediately challenged) (Fenton et al., 1996; Spetz, Baker, Phibbs, Pedersen & Tafoya, 2000).

(Castañeda & Melo, 2014; Hacker et al., 2012, Park et al., 2000). Qualitative research also revealed negative consequences due to immigration-related service underutilization, including interruptions of regular care for chronic conditions (Heyman et al., 2009; Rehm 2003), uses of informal sources of care (Kline, 2017), and medication sharing among family members (Castañeda & Melo, 2014).

While some studies found no or minimal effects of immigration policies on health care service use among Hispanic populations (Joyce, Bauer, Minkoff & Kaestner, 2001; López-Cevallos, Lee, & Donlan, 2014; Loue, Cooper & Lloyd, 2005; Marx et al., 1996; Spetz, Baker, Phibbs, Pedersen, & Tafoya, 2000), the majority of research uncovered changes in service use, as outlined above. In addition, studies focusing on impacts of immigration policies on health insurance coverage discovered enrollment declines for Medicaid and other public benefits among eligible Hispanic individuals following the PRWORA's introduced residency requirements (Kandula, Grogan, Rathouz & Lauderdale, 2004; Gerst, 2009). Similarly, Watson (2014) revealed associations between increases in enforcement activity (based on deportation rates) and decreased Medicaid and other insurance coverage for children of noncitizen mothers, especially women born in Mexico.

Protective factors

Despite a larger focus on adverse health effects, some studies have explored ways to moderate the impact of immigration enforcement-related stressors and both individual and social-level factors emerged as influential (see table 29). With respect to individual-level factors, research has identified ethnic identity and ethnic affirmation as buffers against negative effects of discrimination as a stressor on psychological well-being among Hispanic youth (Romero, Edwards, Fryberg, & Orduña, 2014; Umaña-Taylor, Wong, Gonzales, & Dumka, 2012). In addition, several studies found better mental health outcomes related to immigration enforcement policies among participants who demonstrated greater self-efficacy

(i.e., the belief in one's capacity to deal with challenges) (Ayón et al., 2017; Philbin & Ayón, 2016; Xu & Brabeck, 2012). For instance, higher self-efficacy was associated with lower perceived risks for children to be adversely affected by immigration policies in Arizona (Ayón et al., 2017). Research also showed that a more positive ethnic identity (i.e., based on knowledge of ones' cultural history and heritage) was positively associated with greater self-esteem and fewer depressive symptoms among Latino students in Arizona (O'Leary & Romero, 2011).

Moreover, studies identified protective qualities of both social and behavioral factors (Ayón et al., 2017; Philbin & Ayón, 2016; Xu & Brabeck, 2012; O'Leary & Romero, 2011; Vaquera et al., 2017). For instance, Vaquera, Aranda, and Sousa-Rodriguez (2017) examined individual-level and social coping strategies to immigration-related stressors among undocumented or formerly undocumented youth in Florida. While participants considered some individual coping strategies helpful (e.g., exercise, listening to music, confiding in others, volunteer work), the most beneficial and sustainable coping strategies involved being with individuals who face similar problems and being active in immigrant rights/advocacy groups. This type of social engagement provided a source of empowerment, a safe space, social connectedness and helped establish social and emotional capital (Vaquera et al., 2017).

O'Leary and Romero (2011) revealed that engaged coping strategies (i.e., the direct engagement with rather than avoidance of a stressor) were associated with a high level of self-esteem among Mexican, Mexican American, and Chicano/a youth, despite an experience of high stress due to a proposed "anti-ethnic studies bill". On the other hand, students who reported engaged coping to a lesser extent experienced lower self-esteem at high levels of stress (O'Leary & Romero, 2011). Lastly, Romero and colleagues (2017) found that collective efficacy (i.e., the belief that a community can create positive change together) was associated with significantly lower immigrant stigma stress following implementation of S.B.

1070 among a Mexican community in Arizona. Thus, these studies suggest the potential for individual and social factors to moderate associations between immigration enforcement and poorer well-being.

2.3 Literature Gaps

While the number of studies investigating effects of immigration policies on health outcomes has increased in recent years, based on this review, our knowledge regarding health effects of current immigration policies in Hispanic communities, particularly in the borderlands, remains limited. Specifically, according to this review, little research has quantitatively assessed comprehensive impacts of recent policy changes under the current administration on the well-being, mental health, and health care utilization in a Hispanic border community. In addition, research on differences in associations between immigration enforcement policies and health outcomes by residency status has been relatively scarce as well. Finally, few studies in this review focused on factors which lower adverse effects of immigration policy-related impacts on health and service utilization in Hispanic communities. Existing research has mostly focused on Hispanic youth, has not been located in the border region, has been qualitative in nature, or had limited generalizability.

The purpose of this study is to complement the existing evidence base by investigating associations between perceptions of and experiences with immigration enforcement policies under the current federal administration, physical health, psychological distress, and health care utilization among Hispanic adults with different residency statuses in a border community. In addition, this study explores moderating influences of collective efficacy and engaged coping strategies on the relationship between immigration enforcement policy perceptions or experiences and health outcomes.

2.4 Findings from an exploratory study on provider perceptions of effects of immigration enforcement policies on service utilization in El Paso, TX

In addition to the review of the literature, this study is informed by an exploratory, mixed-method assessment conducted by Professor Lusk, Professor Heyman, and myself, of perceived effects of current immigration enforcement among service providers in the Paso del Norte region (Latz, Lusk, & Heyman, 2019). We conducted telephone interviews with twenty service providers in health care, mental health, nutrition assistance, legal assistance, and immigrant advocacy from El Paso and Doña Ana County in the spring of 2018.

Eighteen participants in this study reported their work has been either negatively or both, positively and negatively, affected by enforcement policies under the current federal administration. One the one hand, providers reported a decrease in service utilization since the beginning of the current administration, largely due to fear-related service avoidance and uncertainty about the influence of immigration policy changes on service eligibility. On the other hand, participants noted an increased need among their clients and patients for public education about immigration policy changes, eligibility for services for individuals with different residency statuses, and their civil rights. About half of the respondents in this study talked about spillover effects of immigration enforcement on the larger community, affecting individuals across immigration statuses. However, one third of providers in this sample reported positive developments since the beginning of the current federal administration, including increased cooperation among immigrant-serving organizations and greater community activism. While small in scale, findings from this study indicate perceived changes in health care seeking, mental health, and coping strategies by providers in this border community (Latz et al., 2019).

CHAPTER III

METHODS

The purpose of this cross-sectional, quantitative survey study was first, to assess differences in perceptions of and experiences with current U.S. immigration enforcement policies, self-rated health, psychological distress, and health care utilization among Hispanic adults living in the U.S. Paso del Norte region by residency status (study aim I). The second purpose of this project was to examine associations between perceptions of and experiences with immigration enforcement policies, self-rated health, psychological distress, and health care utilization among Hispanic adults (study aim II). The third goal of this study was to examine whether collective efficacy and/or engaged coping strategies moderate associations between policy perceptions/experiences and health outcomes under study (study aim III).

This chapter provides an overview of the proposed research design, study setting, population, and sample. Next, this chapter outlines the proposed study instruments, data collection, and data analysis procedures. The chapter concludes with a description of the study's protection of participants given the sensitive nature of this project.

RESEARCH DESIGN

The proposed research followed a cross-sectional quantitative survey design. The study population involved adults aged 18 or above who were living on the U.S. side of the Paso del Norte region and identified as Hispanic. Primary data collection sites were located in El Paso County and Doña Ana County (see table 3). The study utilized an original, bilingual survey, consisting of measures to assess participants' self-rated physical health, psychological distress, health care utilization, experiences with and perceptions of immigration enforcement policies, residency status, and socio-demographic characteristics (i.e., sex, age, household income, level of education, insurance status, country of birth, and

length of U.S. residency). The survey items were largely based on existing measures from surveys used in studies with Hispanic populations (or slight modifications thereof), and established mental health scales (see table 21). The selection of survey items was informed by the literature review, findings from the prior exploratory study, and recommendations from expert panels[17].

Statistical analyses included descriptive statistics to summarize measures across health outcomes, experiences with and perceptions of immigration enforcement policies, and socio-demographic variables under study. Bivariate analyses were conducted to assess differences between health variables, experiences with and perceptions of immigration enforcement policies, and socio-demographic characteristics by residency status. Subsequently, multiple regression analyses were used to investigate associations between perceptions of and experiences with immigration enforcement policies and health outcomes under study, with and without adjustment for socio-demographic factors. The following multiple regression analyses were used to determine moderating effects of collective efficacy and engaged coping strategies on the association between perceptions of/experiences with immigration enforcement policies and health outcomes under study.

3.1 Setting, population, and eligibility criteria

This study was located in the U.S. side of the Paso del Norte region, including two counties in west Texas (El Paso and Hudspeth) and three counties in southern New Mexico (Doña Ana, Luna, and Otero). This region has approximately 1.2 million residents (Coalition for A Healthy Paso del Norte, 2016). The population in four of the five included counties is predominantly Hispanic (ranging from 66.9% in Luna to 82.8% in El Paso) with 67.1% of residents in the overall area identifying as Hispanic (Healthy Paso del Norte, 2019b).

[17] Four subject experts provided guidance for the selection of survey items, including three Professors at UTEP in Anthropology and Social Work, and one Paralegal expert in Immigration.

Approximately 8% of residents in El Paso are undocumented (66,000 of 835,000 total) and 25% are foreign-born (U.S. Census Bureau, 2017; Migration Policy Institute, 2014). The number of temporary and permanent resident holders in El Paso could not be determined based on available population statistics.

To be eligible for this study, participants had to be 18 years old or older, identify as Hispanic or Latino/a, and reside on the U.S. side of the Paso del Norte region. Data for this study was collected between April and July, 2019. The study received ethical approval from the Institutional Review Board at the The University of Texas at El Paso in March 2019.

3.2 Sample size, sampling methods, and participant recruitment

Determinations of the required sample size for the study were based on considerations of the effect size, significance level, statistical power, planned analyses, and distribution of individuals with different residency statuses. Using the software G*Power (Heinrich Heine Universität Düsseldorf, 2019), sample sizes for different scenarios were created with a fixed power value of .80 (which is commonly applied in social sciences), alpha values of .05 or .10 for the level of significance, and effect sizes of .10, .30, and .50 to reflect small, medium, or large effects, respectively (which for Logistic Regression are equivalent to Odds Ratios of 1.3, 1.5, 1.7) (Green, 1991).

Given that estimates for legal status groups in El Paso County were only available for foreign-born and undocumented residents (25% and 8%, respectively), legal status groups quota were set at 8% for non-citizen groups (i.e., undocumented, legal temporary, and legal permanent residents), and at 76% for citizens. As presented in tables 1 and 2, 184 represented the minimum sample size to be able to detect between-moderate-and-large effects across all proposed analyses at alpha level of .05 (with 15 participants per non-citizen immigration status group). Specifically, a sample size of 184 would permit the detection of moderate

effects (i.e., with an effects size of .30) for the linear regression analyses but only stronger effects (i.e., with an odds ratio of 1.7 or above) for the logistic regression analyses. Similarly, only moderate-to-large between-immigration-status-group differences would be detected with this sample size and corresponding quota assignment across analyses (i.e., with effect sizes between .3 and .5 and odds ratios of 1.7 or higher). The rationale for choosing the target sample size of 184 (and corresponding quota for residency status groups) was that detecting moderate-to-large effects (rather than small effects) across analyses would increase the chance that strong and therefore meaningful associations would be found.

Table 1. Overview of sample sizes required for planned statistical analyses, at different significance levels (alpha = .05 or =.10), effect sizes (=.10, .30, or .50), and odds ratios (1.3, 1.5, or 1, 7), calculated using G*Software

	Alpha (a)	**.05**			.10		
	Effect size (ES)	.10	.30	.50	.10	.30	.50
	Odds Ratio (OR)	1.3	1.5	1.7	1.3	1.5	1.7
	Linear Regression *Total N*	190	72	49	158	60	41
	Logistic regression *Total N*	721	308	184	568	242	144
ANOVA	*Per group*	274	32	12	221	26	10
	Total N	1096	128	48	884	104	40
Chi2	*Per group*	273	31	11	220	25	9
	Total N	1091	122	44	880	98	36

Table 2. Sample and quota sizes for citizens and non-citizen status groups across planned statistical analyses with corresponding alpha values, effect sizes (ES), and odds ratios (OR)

Sample size	**U.S. citizens**	**LPR, TPR, Undocumented**	**Power**			
			Linear regression	**Logistic regression**	**ANOVA**	**Chi2**
184	139	15	a=.05, .3 < ES < .5	a=.05, OR=1.7	a=.05, .3 < ES < .5	a=.05, .3 < ES < .5
242	182	20	a=.05, ES <.1	a=.10, OR=1.5	a=.05, .3 < ES < .5	a=.05, .3 < ES < .5
308	233	25	a=.05, ES <.1	a=.05, OR=1.5	a=.05, .3 < ES < .5	a=.10, ES =.3
400	304	32	a=.05, ES <.1	a=.05, OR≤ 1.5	a=.05 ES=.3	a=.05 ES=.3

Sampling strategy

The sampling strategy for this study involved a combined and parallel convenience and web-based respondent-driven sampling approach.

Convenience sampling. The convenience sampling strategy was based on two main approaches. The first entailed outreach to community organizations and service providers for Hispanics and/or immigrants in particular, such as the Mexican Consulate in El Paso, legal assistance providers, and immigrant advocacy organizations, to seek permission to recruit participants at the organizations' premises and/or public events they hosted. The second approach involved recruitment of participants at community gatherings, health fairs, and public events where it was likely for researchers to encounter a high number of potential participants for the study. There was some overlap between these approaches, since members of community organizations commonly shared information about relevant community events, gatherings, or health fairs. For an overview of all study recruitment sites, see table 3.

Table 3. List of locations and events for participant recruitment

Location/event	State	Period
Tornillo High School Health Fair	TX	April
Unitarian Universalist Church	TX	April
El Paso Community College class (Doña Ana Campus)	NM	May
El Paso Pediatric Spring Fair	TX	May
New Life Church of El Paso Spring Fair	TX	May
Health Fair, Socorro	TX	May
Rojas Middle School Health Fair, Socorro	TX	May
Rally against family separation, San Jacinto Plaza	TX	May
Zavala Elementary School Health Fair	TX	May
Community Center, Chaparral	NM	May
5k run by Centro de Salud Familiar La Fe	TX	June
Cristo Ray Church health fair	TX	June
UTEP Students in Summer Seminar	TX	June
Tamales Lupita, Canutillo	TX	June
EPCC Language classes, Rio Grande Campus	TX	June
Diocesan Migrant & Refugee Services, Inc.	TX	June
Mexican Consulate in El Paso	TX	May – July
Public Library, Sunland Park*	NM	July
Public Library, Armijo Branch*	TX	July

**=passive recruitment only (i.e., left bilingual flyers at front desk and/or displayed flyers on notice boards)*

Respondent-driven sampling. The modified respondent-driven sampling (RDS) component for this study was a web-based, complementary strategy to the convenience sampling, with the purpose to reach more hidden and geographically dispersed members of the target population. Both strategies were conducted simultaneously. RDS is a network sampling approach similar to snowball sampling, but provides mechanisms to account for sampling biases of non-probability approaches (Heckathorn, 1997). Unlike snowball sampling, once the researcher identified initial participants for the study (i.e. "seeds"), participants themselves recruit additional study subjects rather than the researcher. Furthermore, participants may only recruit a limited number of their peers, typically up to three, to account for variations in participants' personal network size. Further, RDS involves a dual-incentive mechanism, rewarding individuals for their study participation and for

successfully recruiting peers for the study, which lowers the likelihood of masking (i.e., participants' protection of their peers from study participation due to their perceived vulnerability) and increases motivation for individuals to identify members of their social networks as participants. The establishment of participant recruitment chains (i.e., participants recruit peers who in turn recruit their peers and so forth), minimizes biases with the initial selection of participants by researchers. In addition, RDS involves capturing information about participants' personal network size (i.e., number of individuals the person knows who would be eligible for the study) and personal characteristics (i.e., ethnicity) to determine the tendency to which participants recruit members of their in-group (i.e., homophily) versus out-group (i.e., heterophily) for study participation. This information is required for weighting of analyses with RDS data to approximate statistical estimates of probability-based samples (Heckathorn, 1997, 2002). In addition to the lowering of biases associated with non-probability sampling, studies have successfully utilized RDS to reach hidden and stigmatized members of the populations with relatively few resources in a timely manner (Frost et. al, 2006).

The RDS approach for this study was web-based to avoid direct interaction between the researcher and participants and thereby minimize risks of masking or breaches of anonymity. Another intention behind this approach was to facilitate effortless and timely survey sharing. Initially, the investigator and research assistants recruited ten participants (i.e., seeds) from their personal networks from diverse backgrounds with respect to their age, immigration status, geographic location, and LGBTQ identity. These participants were selected based on their perceived reach of different networks in the community and their expressed willingness to recruit peers for the study. In line with common RDS methodology, seeds were able to recruit up to three peers for participation in the study. The RDS method for this study did not capture information about respondents' personal network size given the

broad eligibility criteria for this study nor information that would have revealed who was recruited by whom out of concern for participants' anonymity. Thus, weights could not be applied to the analyses given the absence of information about in-group versus out-group recruitment of peers. However, numeric labeling of the web-based surveys permitted tracking of the number of peers recruited by a participant to be able to determine the length and number of participants per recruitment wave. For an overview of differences between traditional RDS approaches and the method for this study, see table 4. Participants who were recruited via convenience sampling and completed the survey online were also able to participate in RDS and recruit members of their peers into the study for an additional incentive.

Participant incentives. Participants who completed the survey were able to enter a raffle for a chance to win a gift card out of two sets of gift cards in the value of $300 (first prize), $150 (second prize), and $50 (third prize). Participants could choose between electronic VISA, Target, or Walmart gift cards. Respondents who successfully recruited members of their social network for the study (recruits were considered 'successful' when they completed the survey) received a raffle entry for each additional participant they recruited, up to a maximum of three additional entries. Participants entered the survey raffle by providing an Email address, which was kept separate from their survey responses and deleted upon determination of the raffle winners. In two exceptional cases, participants provided phone numbers instead to enter the survey raffle because they did not have an Email address. The winners of the survey raffle were determined by listing all participants in one excel sheet (with multiple entries for participants who successfully recruited peers for the study) and using a random online number generator to identify two winners for each of the three gift card types.

Table 4. Overview of study's RDS method compared to traditional RDS

Aspects of sampling method	RDS method for this study	Traditional RDS
Referral process	Participants recruit peers without researcher involvement	Participants recruit peers without researcher involvement
Recruitment quotas	Limited to 3 recruits per participant	Generally limited to 3 recruits per participant
Participant incentives	Entry into survey raffle with 1st, 2nd, and 3rd prize ($300, $150 and $50 gift cards); additional entries into raffle for each referral	Small monetary compensation for survey completion and additional compensation for each referral
Tracking of seed characteristics	Not included to avoid linking of personal identifiers with participant responses	Included to adjust analyses for degree of homophily
Weighting of analysis by peer network size	No measure of peer network size included given broad eligibility criteria	Included to adjust analyses for peer network size
Tracking of recruitment waves	Recruitment waves per seed tracked and visualized	Recruitment waves per seed tracked and visualized

3.4 Study instruments

This section provides an overview of the survey development, administration, and included survey items corresponding to the dependent, independent, and control variables of the proposed analyses.

Survey development, administration, and items

An original survey with primarily closed- and limited open-ended questions was used for the data collection. The survey was newly designed for the purpose of this study, and primarily consisted of existing survey items or slight modifications thereof from established surveys that had been administered to Hispanic populations. Additional measures were added to this survey based on advice from academic, legal, and policy experts. The initial survey was developed in English and translated into Spanish with help from a professional translator and research assistant based at the Department of Psychology at the University of Texas at El Paso. Prior to finalization of the survey, it was pilot tested among twelve individuals across different sexes, occupations, and ages who would have been eligible for this study. Based on

recommendations from individuals who took the pilot test, slight amendments to survey items were adopted. The final survey consisted of 29 questions (see appendix). Survey completion was estimated to take between 10 and 15 minutes. The survey and informed consent form were made available in both English and Spanish.

Survey administration. The web-based survey was developed and made available online with the software QuestionPro (QuestionPro, 2019), accessed via UTEPs license through the Technology Support web portal. Hardcopies were distributed by the investigator and research assistants at study recruitment sites. Participants were given the option to complete the survey in hardcopy format at the recruitment location or the web-based version at a time of their choice. The survey was designed to be self-administered, however the investigator and research assistants were available for assistance with survey completion at the recruitment sites. Participants who filled in the web-based version of the survey were provided with the contact information of the investigator and research assistants in case they had questions about the survey.

Research team for data collection. The researchers who engaged in participant recruitment and data collection were bicultural and/or bilingual and held different immigration statuses. The team included a U.S.-born citizen, a legal temporary resident from Mexico, and a legal permanent resident from Germany (who was a temporary resident at the beginning of the data collection). Two of the investigators were fluent in both English and Spanish; the third investigator had sufficient knowledge of Spanish to initiate participant recruitment, but referred Spanish-speaking individuals for further information or questions to the more fluent researchers. The researchers predominantly conducted the participant recruitment in pairs and on a few occasions individually.

Overview of survey measures

The following section outlines the survey items corresponding to the dependent, independent, and control variables for bivariate and multiple regression analyses.

Dependent variables

Physical health. Self-rated physical health was assessed with the question "How would you rate your overall physical health?" Response options included "excellent", "very good", "good", "fair" or "poor". This item has been derived from the Latino National Health Survey (LNHS). The LNHS was created at the Robert Wood Johnson Foundation (RWJF) Center for Health Policy at the University of New Mexico in 2015 with the purpose to assess Hispanics' health and experiences with healthcare, immigration, and racial issues (Sanchez, 2015).

Psychological distress. Participants' level of non-specific psychological distress was assessed with the K6 scale developed by Kessler and colleagues (2002). This scale has six sub-items with questions about the frequency of the following symptoms in the past 30 days: feeling "nervous", "hopeless", "restless or fidgety", "so depressed that nothing could cheer you up", "that everything was an effort", and "that you are worthless". The response options for these items were "all of the time", "most of the time", "some of the time", "a little of the time" and "none of the time" with scores ranging from 5 to 1 and higher scores reflecting greater symptom frequency.

Receipt of medical check-ups. In order to determine whether respondents had three essential medical checks in the past three years, participants were asked the following: "Have you had your blood pressure checked in last 3 years?" The same question was asked for "blood sugar" and "cholesterol" checks. These variables were selected from the Hispanic Health Disparities Research Center Survey which was conducted in El Paso in 2009 and 2010 (Lapeyrouse et al., 2012).

Delay or avoidance of medical care. Lastly, health care service utilization was measured with an item stating: "In the last 12 months, I delayed or did not get medical care I needed" and response options "yes" and "no". This item was included in the Human Impact Partners and LUPE report (2018), which examined immigration enforcement policy effects on mental health and well-being among families in the Rio Grande Valley. The question was followed by an item developed by the investigator with guidance from the expert panel to inquire about reasons for the delay or avoidance of services: "Please tell us what prevented you from seeking care (select all that apply)" and response options: "I did not have money for the expense", "I was afraid of drawing attention to myself", "My work does not give me time off to go to the doctor", "Lack of transportation", "I cannot/do not want to go to Mexico for care" or "Other, please explain". The last response option included an open-ended response field.

Independent variables

Residency status. Participants' residency status was assessed with the question: "What is your current immigration status?" and response options: "I am a U.S. citizen"; "I am a legal permanent resident"; "I am a legal temporary resident" (such as, DACA recipient, on a student visa, work visa, fiancé visa, etc.)", "I am not a citizen and not eligible for DACA", "Prefer not to answer" or "Other, specify" (followed by an open response field). This variable was selected from the LNHS and subsequently modified (e.g., the LNHS included DAPA in the response options and did not define a "temporary resident" category) (RWJF Center for Health Policy at UNM, 2015).

Perceptions of and experiences with immigration enforcement policies. Two separate items were used to assess perceptions and experiences with immigration enforcement policies under the current federal administration. The first item inquired about participants' fear of deportation as follows: "Regardless of your own immigration status, how

much do you worry that you, a family member, or a close friend will be deported?" with response options "not at all", "not much", "some" and "a lot". This item was derived from the Pew Hispanic Center 2007 National Survey of Latinos (Pew Research Center, 2007).

The next measure asked about the extent to which participants experienced "issues with immigration enforcement", comprised of the following questions: "As a result of increased public attention [on] enforcement of immigration policies… 1) Have you had more trouble getting or keeping a job or has it been about the same?; 2) Have you been asked for documents to prove your immigration status more than in the past, or has it been the about same?; [and,] 3) Have you had more difficulty finding or keeping housing or has it been about the same?'' The response options for each item included "more", "the same", "prefer not to answer" and "not applicable". These items were also derived from the Pew Hispanic Center 2007 survey.

Engaged and disengaged coping strategies. In order to assess the extent to which participants use engaged versus disengaged coping strategies related to immigration enforcement, they were asked the following: "To what degree do the following describe your response to current immigration enforcement policies:". Subsequently the following nine responses were presented: 1) "I realize I have to accept how things are", 2) "I try not to think about this topic", 3) "I talk to family and friends about this topic", 4) "I try to learn as much as I can about this topic", 5) "I focus on positive things", 6) "I pray or meditate to calm myself", 7) "I participate in social activism, such as the following activities: petitions, marches, rallies, etc. with people who share similar views", 8) "I don't know what I feel about this topic", and 9) "I feel stressed". Response options for each of these nine items were based on the following Likert-scale: "strongly agree", "agree", "neither agree nor disagree", "disagree", "strongly disagree", "don't know", and "prefer not to answer". This variable was selected and slightly amended from a survey conducted by O'Leary and Romero (2011).

Collective efficacy. Lastly, collective efficacy was measured with a slightly modified version of an item from a survey by Romero and colleagues (2017). This concept was measured with the question "Do you believe that your community can make things better for immigrants?" and response options "not at all", "maybe", "definitely", and "don't know".

Additional variables for descriptive statistics and bivariate analyses

Mental health care utilization was assessed with the question: "During the past 12 months, have you seen or talked to a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or social worker about your health?" and response options "yes", "no", and "don't know". This item was taken from the Pew Hispanic Health Survey (Pew Research Center, n.d.).

Interference of fear of deportation with health care utilization was measured with the following question derived from the Hispanic Health Disparities Research Center survey (2008): "In the past *two* years, has the fear of deportation kept you from seeking the services of health care providers within the United States?" and response options "yes" and "no". The original survey item refers to the past three years, which was changed to two years to capture deportation fears under the current federal administration.

Immigration enforcement stress was measured based on a scale with three sub-items which specifically ask about experiences related to a person's legal status. These items include the following statements: 1) "My legal status has limited my contact with family and friends", 2) "I will be reported to immigration if I go to a social service agency", and 3) "I fear the consequences of being deported". The 5-point response scale corresponding to these items ranged from "strongly disagree"=1 to "strongly agree"=5, with higher scores indicating greater stress. In addition, a "prefer not to answer" response option was provided. This scale was selected from a survey conducted by Lopez and colleagues (2017) among Latino residents of Washtenaw County, MI.

Participants' *perceptions of anti-immigrant sentiments in their state of residence* were assessed as follows: "Think about the immigration laws and policies of the state where you live. Are they favorable or unfavorable towards immigrants?" Response options for this item included "favorable," "unfavorable," or "don't know." This item was included in the LNHS.

Finally, participants were asked *whether they had heard about the proposed changes to the public charge rule* and in a subsequent question, for those who had heard about it, *whether they had reduced or stopped using medical or social services* for themselves or their family members because of these proposed changes. The first question was formulated as follows: "Have you heard about the proposed changes to the "public charge" rule (These changes would affect how the government decides if an applicant for a green card or visa is likely to become dependent on the government for support)?" and response options "yes", "no", and "prefer not to answer". Subsequently, participants were asked the following: "Have you reduced or stopped using medical or social services for yourself or your family members because of the proposed changes to the "public charge" rule? (These services include: Medicaid, prenatal care, food stamps/SNAP, WIC, school meals, housing benefits, etc.)" and response options "yes", "no", and "prefer not to answer". These items were added based on recommendations by the expert panel and expressed interest in these items by community leaders.

The last survey item provided an opportunity for participants to share their thoughts on the survey with the question: *"Did this survey make you think of anything else that you would like to tell us?"* The qualitative data based on responses provided for this item were reviewed, but not included in the analysis for this dissertation.

Socio-demographic variables

The survey inquired about participants' *gender,* re-labeled as *'sex'* in the results, with the question "what gender do you identify with?" and response options "female", "male", or

"other."[18] Participants were asked about their *age* with the question "how old are you?" and an open response field. Respondents' *country of birth* was assessed with the question: "where were you born?" and response options "Mexico", "US", or "I was born in another country. I was born in", with an open response field for the last category. Participants' *length of U.S. residency* was determined with the question: "How many years have you been living in the US?" and an open response field. Participants' *highest level of education* was assessed with the question: "What is the highest level of education you completed?" and response options "elementary/middle school", "some high school", "high school diploma/GED", "technical school certificate/degree", "some college (including Associate's degree)", "undergraduate degree (bachelors)", "Masters or PhD", and "other, specify" (with an open response field). Further, participants were asked about their yearly *household income* as follows: "What is your annual household income (including yearly earnings of everyone you live with?)" and response options: "$0-$5000", "$5001-$10,000", "$10,001-$15,000", "$15,001-"$20,000", "$20,001-$30,000", "$30,001-$40,000", "$40,001-$50,000", "$50,001-$100,000", "$100,001 or above", "don't know", and "prefer not to answer". Finally, *health insurance coverage* was assessed with the question "Do you currently have medical insurance?" and response options "yes", "no" and "don't know".

Procedures for study enrollment, data collection, and data entry

Data collection for this study began in April and ended in mid-July of 2019. Prior to enrollment in the study, individuals were presented with an informed consent form, including information about the study, risks and benefits of their participation, and the researchers' contact information. Based on the IRB's approval of this request, participants were not required to sign the consent form, which avoided the potential for signature names to be

[18] The response categories for this item align with the measure of sex, not gender. The corresponding item in Spanish referred to participants' 'sexo o género'. This question should be reworded to align the question with the corresponding response categories in future applications.

linked to a participants' immigration status. Instead, respondents indicated that they have read and understood the consent form by a check mark. As part of the convenience sampling strategy, participants were presented with the option to fill in a hardcopy version of the survey at the recruitment site or fill in the web-based version online. If individuals expressed interest in the latter format, they received a bilingual flyer with a link to the online survey. Data collected via hardcopy surveys was subsequently entered into the statistical analysis software SPSS Version 23 (IBM Corp, 2015). All survey entries were checked twice to reduce the chance of entry errors. Data collected via electronic surveys was downloaded from the web-based platform QuestionPro in Excel and subsequently merged with the data file from the hard copy versions in SPSS. The data collection was stopped once a sample size of 211 was reached. This number exceeded the target sample size of 184 to allow for the possibility of missing values for 15 percent (i.e., 27 participants) in the sample.

3.5 Statistical analysis

This section outlines the statistical analyses, including univariate, bivariate, and multiple regression analyses in line with the aims and hypotheses of this study. All statistical analyses were conducted using SPSS, with the exception of one of the bivariate analyses, which was performed in STATA Version 15 (StataCorp, 2017), as outline below. Where applicable, this section also describes changes to survey items for the creation of variables for statistical analyses.

Data management

Following completion of the data collection phase, the data was cleaned prior to analyses by checking for erroneous entries, specification of missing values, as well as assignment of proper variable and value labels.

Missing values. For a number of survey items, participants either did not provide a response or chose the response option "don't know" or "prefer not to answer", which were subsequently categorized as 'missing'. For instance, ten participants did not report their age and thirty-four participants responded "don't know" or "prefer not answer" to the question about household income. The highest number of missing values (N=38) was observed for the question about whether respondents participate in social activism in response to current immigration enforcement policies.

Recoding of variables. For bivariate analyses, the categories for *physical health* were collapsed into "excellent/very good/good" versus "fair/poor". In subsequent regression analyses, this measure was treated as a continuous outcome, ranging from 1="excellent" to 5="poor" health. Responses to all items to measure *psychological distress* were summarized to compute the K6 scale sum score (Kessler et al., 2002). In addition, a separate categorical variable was created where responses were grouped into "low", "medium", and "high" psychological distress corresponding to scores of <9, 10-12, and >= 13, in line with proposed categorizations by Tanji and colleagues (2017) and Prochaska et al. (2012). Responses from the three questions assessing *receipts of medical check-ups* in the past three years were combined into one variable for bivariate and multiple regression analyses. If participants responded "yes" to all three of these questions, they were considered to have had medical checks in the past three years versus those who reported having none or less than all three of these medical checks.

Residency status was combined with the variable for *country of birth* to create separate categories for "U.S.-born citizens", "foreign-born citizens", "legal permanent residents", "legal temporary residents", and "undocumented" for bivariate analyses. The rationale for distinguishing between U.S.-born and foreign-born citizens was based on policy changes under the current federal administration that affect naturalized citizens (e.g.,

establishment of a task force by USCIS to identify grounds for revoking citizenship). For multiple regression analyses, residency status groups were collapsed into "U.S.-born citizens", "foreign-born U.S. citizens", "legal permanent residents" and "non-citizens/non-legal permanent residents" in order to increase numbers of participants per residency status group for the analyses. The variable *fear of deportation* was collapsed into "not at all/not much" versus "some/a lot". The three questions assessing experiences of *issues with immigration enforcement* were combined into one categorical variable to reveal whether participants "experienced any of these issues" versus "none".). In line with O'Leary and Romero's (2011) approach, the *engaged coping* scale was created by adding coping behavior related questions 3, 4, 5, 6, and 7. The *disengaged coping* scale was based on the summation of coping behavior items 1, 2, and 8 (item 9 was excluded from either of these scales in line with the approach by O'Leary and Romero, 2011). Response scales were coded as "strongly disagree"=1, "disagree"=2, "neither agree nor disagree"=3, "agree"=4 and "strongly agree"=5 as scores for the individual items that were then summarized to create these scales, in line with the scale composition put forward by O'Leary and Romero (2011)[19]. For the purpose of bivariate and multivariate analyses with individual coping behavior items, response categories were collapsed into "agree/strongly agree" versus "neither agree nor disagree/disagree/strongly disagree".

The categories for *collective efficacy* were collapsed into "definitely" versus "maybe/not at all". The three items from the *immigration enforcement stress* scale were added to reflect the total immigration enforcement stress scale score. To create a combined item for the indicators about the *proposed public charge rule change* for bivariate analyses, responses for the items were grouped into the categories "did not hear about proposed

19 The response scales in this study were slightly modified from the scale by O'Leary and Romero (2011). Specifically, a neutral category was added ("neither agree nor disagree") for consistency with response scales of previous items in the survey.

changes", "heard about proposed changes and reported no service use change" and "heard about proposed changes and reported service use change".

For bivariate and multivariate analyses, the sex category "other" was merged with the "female" category due to small frequencies. Participants' country of birth were grouped as "U.S." versus "Mexico/other" due to small frequencies for countries of birth other than Mexico (N=8). Categories for participants' highest level of education were collapsed into "High school diploma/GED or below", "Technical school certificate/Associate degree/some college" and "Undergraduate degree, Master, MD, or PhD". Categories for the variable annual household income were collapsed into "$20,000 or less", "$20,001-50,000", and '$50,001 or more".

Imputations for missing values. For multiple regression analyses, missing values of certain variables were imputed in order to maintain a minimum sample size of 184 across analyses. With respect to confounder variables, respondents with missing values for income (N=34) were grouped into the middle income category (i.e., $20,001-$50,000). Missing values for age were imputed with the average age (=40 years of age) of the sample for ten participants. Missing values for length of U.S. residency were substituted with participants' age for those who were born in the U.S. (N=3). Participants with missing values for health insurance were coded as "insured" (N=5).

With respect to independent and dependent variables, missing values were substituted for less or equal to ten participants per variable, for the following: Participants with missing values for fear of deportation were categorized as "not much/not at all". Missing values for the K6 scale were substituted with the average K6 score for the sample. Lastly, missing values for the receipt of three medical check-ups were considered as "having received all three medical checkups".

The number of participants for regression models including engaged coping strategies was below the intended sample size for this study due to missing values (N=151 and N=175, respectively). Missing values for engaged coping strategies (ranging from N=17 to N=38 for variables in the model) were not substituted to avoid the introduction of error. The limitations of producing models with these reduced sample sizes are outlined in the discussion.

Univariate analysis

Descriptive statistics were produced to summarize the distribution of data for each of the dependent, independent, and control variables (i.e., frequencies and percentages for categorical variables and means and standard deviations for continuous variables). Further, continuous variables were checked for outliers and whether they were normally distributed to inform the choice of parametric versus non-parametric tests for subsequent analyses (Sullivan, 2012).

Assessment of internal consistency. Cronbach's alpha values were determined for the three scales that were included in the univariate and bivariate analyses: The immigration enforcement stress scale, the engaged coping scale, and the disengaged coping scale.

Bivariate analysis corresponding to study aim I

All bivariate analyses were subset to include only participants with available residency status data (N=198). Bivariate analyses were conducted to examine study aim I: *Assess perceptions of and experiences with current U.S. immigration enforcement policies, self-rated physical health, psychological distress, and health care utilization among Hispanics adults living in the U.S. Paso del Norte region and differences by residency status.*

For categorical variables, the chi-square test was used to determine whether the distribution of data significantly differed across residency status groups. For continuous variables, analysis of variance (ANOVA) was be used to investigate differences by residency status for normally distributed variables. The Kruskal Wallis test was used to examine

differences across legal status groups for non-normally distributed variables. Post Hoc analyses were conducted for significant bivariate associations to determine which of the five legal status categories differed significantly from one another (see table 2). In addition, trend tests were performed to assess whether differences across residency status groups followed an upward or downward trend, corresponding to hypotheses 1.a to 1.d. The Jonckheere-Terpstra test was performed to assess whether differences in medians across groups follow a systematic order. This trend test thus applies to differences in scores of a continuous variable by groups from a categorical variable (Field, 2013). Additional trend tests were performed with STATA Version 15.0, as it allowed performance of a trend test for categorical variables using the command 'nptrend'. This analysis entailed a non-parametric test for trend of ranks of ordered groups as developed by Cuzick (1985). The test assesses whether responses to one variable systematically decrease or increase over the levels of another ordered variable (in this case, immigration status groups) (Cuzick, 1985; Stata, n.d.; UCLA, 2019). To aid interpretation of significant trend test results, bivariate associations between the corresponding variables were visualized as bar charts or box plots, depending on the nature of the variables (see appendix).

Multiple regression analyses corresponding to study aims II and III

All multivariate analyses were subset to include only participants with available residency status data (N=198). Multiple linear regression for self-rated health and psychological distress and multiple logistic regression for receipt of medical checkups and delay/avoidance of medical care were performed to examine study aim II: *Investigate associations between perceptions of and experiences with immigration enforcement policies and self-rated physical health, psychological distress, and health care utilization among Hispanic adults, adjusting for residency status and socio-demographic control variables.*

Models were created with SPSS by entering predictor variables in sets of blocks (or steps) using the Method = Enter. The first step of each model for the four dependent variables solely included independent variables to examine crude associations between explanatory factors and each outcome (crude model). Control variables were added at the second step of each model for each of the four dependent variables to investigate the adjusted associations between the explanatory and outcome variables (adjusted model). Dummy variables were created for categorical variables with more than two levels in multiple linear regression models.

Additional multiple regression models were created for dependent variables that were significantly associated with the independent variables of interest (i.e., those measuring perceptions of and experiences with immigration enforcement) to address study aim III: *Examine whether collective efficacy and engaged coping strategies moderate associations between perceptions of and experiences with immigration enforcement policies and self-rated physical health, psychological distress, and/or health care utilization among Hispanic adults, adjusting for residency status and socio-demographic controls.*

There were three steps taken to create the regression models corresponding to the third study aim. First, the variable collective efficacy was included in the model without additional independent variables or control variables to examine crude associations between this factor and the outcome (crude model). In the next step, independent variables were added to assess the effect of adding these variables on the association between collective efficacy and the outcome (partially adjusted model). In a final step, the control variables were added to the model to reveal the relationship between collective efficacy and the outcome with adjustment for independent variables and confounders (fully adjusted model). Items from the engaged and disengaged coping strategy scales were added to a separate model series to assess their relationship to the outcome, first without other variables (crude model), second,

with inclusion of the independent variables (partially adjusted model), and third, in a fully adjusted model.

Subsequent to these models, an interaction term was created for protective factors with independent variables that were both significantly associated with the outcome under study. These interaction terms were added to examine whether associations between perceptions of and experiences with immigration enforcement and the dependent variable differed between participants who engaged in a particular protective behavior or belief versus those who did not, following the same three-step model sequence as outlined above. To facilitate the interpretation of interaction terms, the relationship between the independent and dependent variable for each level of the moderating variable were visualized subsequently.

Checks for multicollinearity. Given the potential for multicollinearity among the engaged/disengaged individual items, the Variance Inflation Factor (VIF) was assessed prior to inclusion of these variables in regression models. Multicollinearity distorts the true association between independent and dependent variables because highly correlated variables compete to explain the same variance in an outcome. As a consequence, a model would falsely indicate that an independent variable which is affected by this issue is not significantly related to the outcome, when in fact, it is. Hence, multicollinearity increases the chances of committing a type II error. VIF values for independent variables above 10 are a clear indication of multicollinearity and values which are considerably above 1 are also considered problematic (Gujarati & Porter, 2009).

Sensitivity analysis. All multiple regression analyses were performed without imputations for missing values as outlined above to assess whether the results were similar with respect to the significance and directionality of associations (see appendix). In addition, all multiple regression analyses were conducted with exclusion of participants who filled in the web-based survey and shared the same IP address as another participant (N=14) to

account for the possibility that these participants filled in the survey more than once. Findings from the models were compared to the regression models that included these participants and included imputations for missing values for consistency.

3.6 Protection of study participants

This study included individuals with undocumented status, in addition to temporary and permanent residents and citizens. Undocumented immigrants are prone to additional risks in research participation, given the severe consequences if they were to be identified by immigration authorities. Therefore, this study obtained a waiver of signed consent from the IRB at UTEP and a Certificate of Confidentiality from the NIH. This certificate enables researchers to deny requests for disclosure of potentially identifiable sensitive information about participants from authorities not involved with the research project based on legal requests (e.g., a subpoena) (National Institute of Health, 2017).

Risks to participants were further minimized by not asking directly whether individuals are currently undocumented. Rather, respondents were classified as such if they selected the "I am not a citizen and not eligible for DACA" category in response to the question about their immigration status, a common indirect manner of assessing legal status in research (Young & Madrigal, 2017). Moreover, this study avoided the collection of sensitive information that might permit identification of a person, such as names or addresses. In addition, participation in the raffle was voluntary in case participants were concerned to share an email address with investigators. Further, this study did not collect data about organizations that facilitated participant recruitment beyond information that is publicly available given legal risks for organizations that provide sanctuary to undocumented immigrants, such as through shelter, and/or provision of nutrition assistance, health care, education, and legal services (American Civil Liberties Union, 2017).

Overall, the anticipated benefits of this study – an awareness of how different members of the Hispanic population with respect to their immigration status are affected by current immigration policies and enforcement – were considered to outweigh the risks of loss of anonymity or breach of confidentiality, which were minimized by the study protocol. In addition, this project was guided by researchers' responsibility to provide opportunities for individuals across social groups to be represented in studies that concern them, corresponding to the principle of justice in research (Beauchamp & Childress, 2013).

CHAPTER IV

RESULTS

Overall, 211 participants completed the survey for this study and 198 participants provided information about their residency status. The sample fulfilled the quota targets for each residency status group (i.e., at minimum 8% or N=15 participants per group). Approximately two-thirds of participants completed hardcopy versions and the remaining third the electronic version of the survey. Based on the web-based survey completion, the survey took on average 10-15 minutes to complete and the response rate was 54.7 (calculated by dividing the completed surveys by the total number of surveys that were viewed, partially completed, and fully completed). The majority of participants were recruited via convenience sampling methods (N=184) and the remaining respondents were recruited via RDS (N=27)[20]. Five of the ten participants recruited as seeds for this method successfully recruited ten participants for the study[21]. One of these participants in turn recruited two participants for the study, out of whom one recruited another participant. Additionally, five participants who were recruited via convenience sampling recruited six participants for the study. For an overview of the RDS recruitment chains, see figure 4.

Univariate statistics for continuous variables to inform choice of subsequent bivariate and multiple regression analyses.

Age. Based on the histogram, age was symmetric and bell-shaped. The value for skewness was .578. Since this value is between -1 and +1, age was treated as normally

[20] N=27 includes 8 respondents who were recruited as seeds and not part of the pilot test for this study, 13 participants who were recruited by these seeds, and 6 participants who were recruited by participants who were identified via convenience sampling who chose to share the survey with their peers.
[21] Two seeds previously took place in the pilot test and therefore their data was excluded from this study (however not the data from peers they recruited).

distributed (see appendix). Thus, ANOVA was chosen for subsequent bivariate analyses with the categorical variable for residency status.

Length of U.S. residency. The histogram for length of US residency was symmetric and bell-shaped and the value for skewness was .451. Thus, the variable was treated as normally distributed and ANOVA was chosen for subsequent bivariate analyses.

Self-rated physical health. The histogram for self-rated physical health was symmetric and bell-shaped and the value for skewness was .012. Thus, the variable was treated as normally distributed and ANOVA was chosen for subsequent bivariate analyses.

K6 scale. The histogram for the K6 scale was slightly skewed. The curve was bell-shaped. The value for skewness was .829. The variable was treated as normally distributed and ANOVA was chosen for subsequent bivariate analyses.

Immigration enforcement stress scale. The histogram for the immigration enforcement stress scale was symmetric and the curve was bell-shaped, although somewhat flat. The value for skewness was .575. The variable was treated as normally distributed and ANOVA was chosen for subsequent bivariate analyses.

Engaged coping scale. The histogram for the engaged coping scale was skewed and bell-shaped. The value for skewness was -1.448. Therefore, this variable was treated as not normally distributed and the Kruskal-Wallis test (the non-parametric equivalent test to ANOVA) was chosen for bivariate analyses.

Disengaged coping scale. The histogram for the disengaged coping scale was symmetric and bell-shaped. The value for skewness was -.098. Thus, this variable was treated as normally distributed and ANOVA was chosen for bivariate analyses.

4.1 Descriptive statistics

Socio-demographic characteristics. Overall, 211 Hispanic adults who reside on the U.S. side of the Paso del Norte region participated in this study (see table 5). The mean age of

respondents was 40 years of age. A little less than two-thirds of respondents identified their sex as female, a little over one-third as male, and two participants identified as “other”. Almost half of respondents had attained an undergraduate or higher degree and about a quarter of participants reported a High School Diploma, GED, or below as their highest level of education. The sample was almost evenly split between participants who were born in the U.S. and Mexico and an additional four percent were born elsewhere. Participants reported an average U.S. residency length of twenty-six years. Notably, nineteen U.S.-born participants reported a length of U.S. residency that was lower than their age, indicating that foreign residence among U.S.-born citizens was not uncommon. The vast majority of respondents in this survey – eighty-six percent – resided in Texas and fourteen percent in New Mexico. There was an almost even split between participants who completed the Spanish and English versions of the survey. About two-thirds chose the paper version and the remaining third the electronic survey. Lastly, one third reported a lack of health insurance.

Scale validation. The K6 scale had a coefficient alpha of .858. The coefficient alpha for the Immigration Enforcement Stress scale was .889. For the Disengaged Coping and the Engaged Coping scales, the coefficient alpha values were .808. and .621, respectively. Researchers consider alpha coefficients of equal to or higher than .70 adequate for an instrument in its development stages and for more developed instruments, coefficient alphas of a minimum of .80, based on guidelines put forward by Nunnally (1978). Therefore, the alpha values of these scales indicated adequate internal consistency, except for the engaged coping behavior scale. Hence, individual items of this scale were included in multivariate analyses.

Overall self-rated health, psychological distress, and health care utilization

Most participants reported good (44.1%), very good (28.4%), or excellent (9.0%) health, while remaining respondents considered their health fair (15.6%) or poor (2.4%). The

average score of the K6 scale was 5.7. A little over eighty percent of participants fell in the low psychological distress category, while 10 and 7 percent of participants displayed moderate and high psychological distress, respectively.

A little over one third of participants reported they had avoided or delayed medical care in the past twelve months. Among participants who reported reasons for their avoidance or delay of care-seeking (N=125), the most commonly selected reason was the lack of money for the expense (45.6%), followed by "other" reasons (i.e., a range of individual responses such as, "lack of time", "good health", or "I don't like to go to the doctor"), and that their work does not provide time off for medical visits (14.4%). With respect to medical check-ups, participants received in the past three years, respondents most commonly did not have a cholesterol check (31.9%), followed by a blood sugar check (26.9%), and blood pressure check (17.3%). Overall, 34 percent of participants had not received at least one out of all three medical checkups in the past three years. Finally, about one third of respondents reported they had seen a mental health provider in the past twelve months.

Perceptions of and experiences with current immigration enforcement policies

Overall, 198 participants (94%) reported their residency status. The majority of participants were citizens (67.6%), followed by legal permanent (17.2%), legal temporary (7.6%), and undocumented residents (7.6%). When asked about their perception of whether the immigration policies of their state of residence treat immigrants favorably or unfavorably, over half of participants (52.9%) reported an "unfavorable" treatment, whereas 22.5% considered their states' immigration policies as "favorable" toward immigrants. Notably, fifty-nine percent of participants reported "some" or "a lot" of fear of deportation for themselves, a family member, or close friend. When asked about their experiences due to increased attention on enforcement of immigration policies under the current federal administration, fourteen percent reported more trouble getting or keeping a job, twelve

percent stated they had been asked for documents to prove their immigration status more than in the past, and four percent expressed greater difficulty finding or keeping a place to live. Overall, one in five participants reported at least one of these adverse experiences.

According to responses to immigration enforcement stress scale items, one quarter of participants agreed or strongly agreed with the statement that their legal status has limited their contact with family and friends. A little over ten percent agreed with the statement that they will be reported to immigration if they go to a social service agency. Finally, about one in five respondents agreed with the statement that they fear the consequences of being deported. Notably, only 7.6 percent of participants in this sample were undocumented, indicating that this concern was also held by legal immigration status holders.

When asked whether fear of deportation prevented participants from seeking medical care in the U.S. in the past two years, twelve percent affirmed the statement. Finally, about one third of participants who responded to this question reported they had heard about the proposed changes to the public charge rule. Eleven percent of respondents reported they had reduced or stopped using medical or social services for themselves or their family members due to these proposed changes.

Collective efficacy and engaged and disengaged coping strategies

Over half of participants (53.8%) "definitely" believed that this community can make things better for immigrants. While 34 percent stated they "maybe" belief in the community's ability to create positive change for immigrants, only 2 percent responded they do "not at all" hold this belief. When asked about their responses to current immigration enforcement policies, participants most commonly reported focusing on positive things (82.0%), followed by talking to family or friends about this topic (76.6%), trying to learn as much as they can about this topic (75.7%), and praying or meditating (69.7%). Over forty percent of participants reported they feel stressed, and a little over one third agreed with both the

statement that they have to accept how things are and the statement that they try not to think about this topic. Lastly, a little over one-third of participants reported they engage in social activism (e.g., petitions, marches, or rallies) and 45% disagreed or strongly disagreed with this statement, the greatest proportion of disagreement with any of the abovementioned behavioral, cognitive, or emotional responses to current immigration enforcement policies.

Table 5. Descriptive statistics of study participants (N=211)

Demographics	**N Freq**	**Mean (SD) Percent**
Age (years)	**201**	**39.96 (14.53)**
Sex	**211**	
Female	134	63.5%
Male	75	35.5%
Other	2	0.9%
Highest level of education	**210**	
Elementary/middle school	19	9.0%
Some high school	15	7.1%
High school diploma/GED	22	10.5%
Technical school certificate/degree	19	9.0%
Some college (including Associate's degree)	34	16.2%
Undergraduate degree (Bachelors)	66	31.4%
Masters or Ph.D.	35	16.7%
Annual household income	**177**	
$20,000 or less	46	26.0%
$20,000-$50,000	74	41.8%
$50,001 or more	57	32.2%
Country of birth	**211**	
Mexico	103	48.8%
U.S.	100	47.4%
Other	8	3.8%
Length of U.S. residency (years)	**201**	**25.82 (16.83)**
State of residence	**209**	
Texas	179	85.6%
New Mexico	30	14.4%
Survey language	**211**	
Spanish	107	50.7%
English	104	49.3%
Survey format	**211**	
Paper	135	64.0%
Web-based	76	36.0%
Health insurance status	**206**	
Insured	131	63.6%
Uninsured	75	36.4%
Health & health care use		
Self-rated physical health	**210**	
Excellent	19	9.0%
Very good	60	28.4%
Good	93	44.1%
Fair	33	15.6%
Poor	5	2.4%

	N Freq	Mean (SD) Percent
K6 scale	**201**	**5.73 (4.45)**
Low psychological distress (0-9)	166	82.6%
Moderate psychological distress (10-12)	21	10.4%
High psychological distress (≥13)	14	7.0%
Avoided/delayed medical care in past 12 months	**208**	
Yes	72	34.6%
No	136	65.4%
Reasons for avoidance of/delay of medical care in past 12 months	**125**	
Did not have money for the expense	57	45.6%
I was afraid of drawing attention to myself	7	5.6%
My work does not give me time off to go to the doctor	18	14.4%
Lack of transportation	7	5.6%
I cannot/do not want to go to Mexico for care	11	5.3%
Other	25	20.0%
Whether participant had their blood pressure checked in past 3 years	**208**	
Yes	172	82.7%
No	36	17.3%
Whether participant had their blood sugar checked in past 3 years	**208**	
Yes	152	73.1%
No	56	26.9%
Whether participant had their cholesterol checked in past 3 years	**204**	
Yes	139	68.1%
No	65	31.9%
Whether participant had all three medical check-ups in past 3 years	**202**	
Had all three medical check-ups	134	66.3%
Did not have at least 1 out of 3 medical check-ups	68	33.7%
Whether participant has seen a mental health provider in past 12 months	**209**	
Yes	67	32.1%
No	142	67.9%
Residency status, perceptions of & experiences with immigration enforcement policies		
Current residency status	**198**	
US citizen	134	67.6%
Legal permanent resident/green card holder	34	17.2%
Legal temporary resident (e.g., DACA recipient, on a student visa, work visa, fiancé visa, etc.)	15	7.6%
Not a citizen and not eligible for DACA	15	7.6%
Perception of state immigration policies towards immigrants	**187**	
Favorable	42	22.5%
Unfavorable	99	52.9%
Neutral	46	24.6%
Fear of deportation for oneself, a family member, or a close friend	**199**	
Not at all	55	27.6%
Not much	26	13.1%
Some	49	24.6%
A lot	69	34.7%
Whether participant had more trouble getting or keeping a job due to increased attention on enforcement of immigration policies under current federal administration	**202**	
More	28	13.9%
The same	80	39.6%
Not applicable	94	46.5%
Whether participant has been asked for documents to prove their immigration status more than in the past due to increased attention on enforcement of immigration policies under current federal administration	**197**	
More	24	12.2%

	N Freq	Mean (SD) Percent
The same	85	43.1%
Not applicable	88	44.7%
Whether participant had more difficulty finding or keeping a place to live due to increased attention on enforcement of immigration policies under current federal administration	**201**	
More	7	3.5%
The same	93	46.3%
Not applicable	101	50.2%
Whether participant experiences at least one of these issues with immigration enforcement	**207**	
Does not experience any of these issues	166	80.2%
Experiences at least one of these issues	41	19.8%
Legal status has limited contact with family and friends	**187**	
Agree/strongly agree	47	25.1%
Neither agree nor disagree	32	17.1%
Disagree/strongly disagree	108	57.8%
Will be reported to immigration if I go to a social service agency	**178**	
Agree/strongly agree	21	11.8%
Neither agree nor disagree	29	16.3%
Disagree/strongly disagree	128	71.9%
Fear the consequences of being deported	**177**	
Agree/strongly agree	38	21.5%
Neither agree nor disagree	27	15.3%
Disagree/strongly disagree	112	63.3%
Immigration enforcement stress scale	**211**	**5.7 (3.9)**
Whether fear of deportation prevented participant from seeking medical care in the US in past two years	**191**	
Yes	23	12.0%
No	168	88%
Whether participant has heard about proposed changes to public charge rule	**186**	
Yes	60	32.3%
No	126	67.7%
Whether participant has reduced or stopped using medical or social services for themselves or their family members because of proposed changes to public charge rule	**178**	
Yes	20	11.2%
No	101	56.7%
Not applicable	57	32.0%
Responses to current immigration enforcement policies		
Have to accept how things are	**185**	
Agree/strongly agree	64	34.6%
Neither agree nor disagree	41	22.2%
Disagree/strongly disagree	80	43.2%
Try not to think about this topic	**186**	
Agree/strongly agree	63	33.9%
Neither agree nor disagree	37	19.9%
Disagree/strongly disagree	86	46.2%
Talk to friends and family about this topic	**184**	
Agree/strongly agree	141	76.6%
Neither agree nor disagree	25	13.6%
Disagree/strongly disagree	18	9.8%
Try to learn as much as I can about this topic	**189**	
Agree/strongly agree	143	75.7%
Neither agree nor disagree	30	15.9%
Disagree/strongly disagree	16	8.5%

	N Freq	Mean (SD) Percent
Focus on positive things	**194**	
Agree/strongly agree	159	82.0%
Neither agree nor disagree	25	12.9%
Disagree/strongly disagree	10	5.1%
Pray or meditate to calm myself	**188**	
Agree/strongly agree	131	69.7%
Neither agree nor disagree	31	16.5%
Disagree/strongly disagree	26	13.8%
Participate in social activism, such as: petitions, marches, rallies, etc. with people who share similar views	**173**	
Agree/strongly agree	61	35.3%
Neither agree nor disagree	34	19.7%
Disagree/strongly disagree	78	45.1%
Don't know what I feel about this topic	**176**	
Agree/strongly agree	43	24.4%
Neither agree nor disagree	37	21.0%
Disagree/strongly disagree	96	54.5%
I feel stressed	**188**	
Agree/strongly agree	77	41.0%
Neither agree nor disagree	38	20.2%
Disagree/strongly disagree	73	38.8%
Engaged coping scale *(talk+ learn+ focus on positive+ pray/meditate+ activism)*	**211**	**16.18 (5.96)**
Disengaged coping scale *(accept+ don't think+ don't know)*	**211**	**6.97 (3.61)**
Believe that community can make things better for immigrants	**210**	
Not at all	6	2.0%
Maybe	71	33.8%
Definitely	113	53.8%
Don't know	20	9.5%

4.2. Bivariate analysis findings

Bivariate associations between perceptions of and experiences with immigration enforcement policies and health outcomes by residency status were examined among 198 participants who reported their residency status to address study aim I and corresponding hypotheses 1.a.-1.d.

Immigration enforcement policy perceptions/experiences by immigration status

The association between *fear of deportation* and immigration status was statistically significant (p=.007). The proportion of participants who reported "some" or "a lot" of fear was highest among the undocumented (86.7%), followed by legal permanent residents (75.8%), legal temporary residents (64.3%), foreign-born (54.3%) and U.S.-born participants (47.3%) (p=.007). Notably, more than half of members of all residency statuses, except for U.S.-born citizens, reported some or a lot of fear of deportation for themselves, a close friend, or family member. The corresponding trend test was statistically significant, indicating that fear of deportation increased proportionally with declining permanence of residency status (p<.001).

Experiences of *issues with immigration enforcement* also significantly differed by immigration status (p=.003). The greatest proportion of participants who reported such experiences were undocumented (46.7%), followed by temporary legal residents (40.0%), foreign-born citizens (19.4%), U.S.-born citizens (12.6%), and legal permanent residents (11.8%) (p=.003). The trend test for this association was statistically significant, reflecting an increasing trend of issues with immigration enforcement with less protected forms of residency overall (despite legal permanent residents reporting these issues least frequently) (p=.001).

Similarly, participants expressed that *fear of deportation prevented them from seeking medical services* more commonly among vulnerable legal status groups, particularly

temporary and undocumented statuses. Notably, these differences were based on very few participants per immigration status group (between one and four). Lastly, greater proportions of legal permanent residents and undocumented residents heard about the proposed public charge rule change and reported corresponding avoidance of services compared to other residency groups (p=.011). However, this finding was also based on small frequencies ranging between 1 and 5. Perceptions of state immigration policies toward immigrants was the only variable in this domain that did not differ significantly by residency status, with between 46.9% (legal permanent residents) and 62.5% (foreign-born citizens) considering policies in their state as unfavorable toward immigrants (see table 6).

Overall, these research findings confirm *hypothesis 1.a:* Respondents with a more protected residency status demonstrate fewer negative perceptions or experiences with immigration enforcement policies compared to less protected respondents.

Self-rated physical health and psychological distress by immigration status

The proportion of participants who reported fair or poor versus excellent, very good, or good self-rated physical health did not differ significantly by residency status (p=.785). However, when treating this variable as a scale, there were significant differences in mean scores (p=.049) with undocumented residents and U.S.-born citizens reporting greater mean scores indicating poorer health (3.13 and 2.84, respectively). However, there was no significant trend in differences by residency status (p=.429). With respect to psychological distress, there were no significant differences in this outcome by residency status (p=.222).

Overall, the findings do not provide strong support for *hypothesis 1.b:* Respondents with a more protected legal status demonstrate better self-rated health compared to less legally protected respondents. Similarly, these results provide no support for *hypothesis 1.c:* Respondents with a more protected legal status demonstrate lower psychological distress compared to less legally protected respondents.

Health care utilization by immigration status

The avoidance or delay of medical care in the past 12 months did not significantly differ by residency status (p=.174). There was a significant association between the receipt of three medical checkups (for blood pressure, blood sugar, and cholesterol) in the past three years and residency status (p=.003). The proportion of undocumented participants who had not received at least one of these checks was the highest among all the legal status groups (71.4%), followed by temporary legal residents (42.9%), U.S.-born citizens (31.2%), legal permanent residents (30.3%), and foreign-born citizens (13.9%) (p=.015). These differences followed a significant trend of higher proportions of individuals having missed at least one of these checkups with less protected residency status.

There was no statistically significant association between mental health care utilization and residency status. However, U.S.-born citizens utilized mental health services most commonly with a significant decreasing trend of less protected residency groups utilizing these services (although temporary residents more commonly accessed these services than legal permanent residents) (p=.026).

Thus, there is partial support for the *hypothesis 1.d.:* Respondents with a more protected legal status demonstrate greater health care utilization compared to less legally protected respondents.

Variation in coping responses to immigration enforcement by residency status were also examined but were beyond the scope of the hypotheses for this dissertation and are therefore not discussed in this results section.

Table 6. Demographics, health, health care use, and perceptions of and experiences with immigration enforcement by residency status among Hispanic adults in the US Paso del Norte region (N=198)

		US citizen US-born (N=97)	**US citizen Foreign-born (N=37)**	**LPR (N=34)**	**LTR (N=15)**	**Undocumented (N=15)**	**p-value**	**p-value trend test**
		Mean (SD) |Freq (%)	Mean (SD) Freq (%)	Mean (SD) Freq (%)	Mean (SD) |Freq (%)	Mean (SD)| Freq (%)		
Demographics								
Age (in years)		38.14 (13.81)	47.42 (15.89)	46.12 (11.73)	28.47 (6.13)	33.57 (15.28)	***<.001******	.980
Sex	Female & other	63 (64.9%)	27 (73.0%)	22 (64.7%)	9 (60.0%)	8 (53.3%)		
	male	34 (35.1%)	10 (27.0%)	12 (35.3%)	6 (40.0%)	7 (46.7%)	.717	.429
Highest level of education	High school diploma/GED or below	13 (13.4%)	6 (16.7%)	14 (41.2%)	4 (26.7%)	11 (73.3%)		
	Technical school certificate/Associate degree/ some college	27 (27.8%)	12 (33.3%)	7 (20.6%)	2 (13.3%)	2 (13.3%)		
	Undergraduate degree, Master, MD or PhD	57 (58.5%)	18 (50.0%)	13 (38.2%)	9 (60.0%)	2 (13.3%)	***<.001******	***<.001******
Annual household income	$20,000 or less	13 (14.9%)	8 (22.2%)	9 (31.0%)	5 (45.5%)	6 (85.7%)		
	$20,001-$50,000	37 (42.5%)	14 (38.9%)	16 (55.2%)	4 (36.4%)	1 (14.3%)		
	$50,001 or more	37 (42.5%)	14 (38.9%)	4 (13.8%)	2 (18.2%)	0 (0.0%)	***<.001******	***<.001******
Length of US residency (in years)		33.74 (16.32)	29.94 (13.45)	22.26 (11.20)	9.20 (7.52)	5.73 (7.04)	***<.001******	***<.001******
Survey language	Spanish	28 (28.9%)	23 (62.2%)	25 (73.5%)	8 (53.3%)	13 (86.7%)		
	English	69 (71.1%)	14 (37.8%	9 (26.5%)	7 (46.7%)	2 (13.3%)	***<.001******	***<.001******
Insurance status	Insured	76 (80.0%)	26 (70.3%)	16 (47.1%)	9 (69.2%)	1 (6.7%)		
	Uninsured	19 (20.0%)	11 (29.7%)	18 (52.9%)	4 (30.8%)	14 (93.3%)	***<.001******	***<.001******
Health & health care use								
Self-rated health	Excellent/very good/good	79 (81.4%)	32 (86.5%)	29 (85.3%)	13 (86.7%)	11 (73.3%)		
	Fair/poor	18 (18.6%)	5 (13.5%)	5 (14.7%)	2 (13.3%)	4 (26.7%)	.785	.364
SRH Scale		2.84 (.90)	2.57 (.84)	2.47 (.96)	2.47 (1.1)	3.13 (.64)	***.049*****	.426
K6 scale		5.56 (4.56)	4.38 (3.83)	5.67 (4.78)	6.29 (4.05)	7.53 (3.64)	.222	.194

		US citizen US-born (N=97)	US citizen Foreign-born (N=37)	LPR (N=34)	LTR (N=15)	Undocumented (N=15)	p-value	p-value trend test
		Mean (SD) |Freq (%)	Mean (SD) Freq (%)	Mean (SD) Freq (%)	Mean (SD) |Freq (%)	Mean (SD)| Freq (%)		
Avoided/ delayed medical care in past 12 months	Yes	34 (35.1%)	9 (24.3%)	10 (31.3%)	9 (60.0%)	6 (40.0%)		
	No	63 (64.9%)	28 (75.7%)	22 (68.8%)	6 (40.0%)	9 (60.0%)	.174	.320
Received medical checkups for blood pressure, sugar, and cholesterol in past 3 yrs.	Received all 3	64 (68.8%)	31 (86.1%)	23 (69.7%)	8 (57.1%)	4 (28.6%)		
	Did not receive at least 1 out of 3	29 (31.2%)	5 (13.9%)	10 (30.3%)	6 (42.9%)	10 (71.4%)	***.003*****	***.015****
Has seen mental health provider in past 12 months	Yes	38 (39.2%)	14 (37.8%)	7 (20.6%)	5 (33.3%)	2 (13.3%)		
	No	59 (60.8%)	23 (62.2%)	27 (79.4%)	10 (66.7%)	13 (86.7%)	.135	***.026****
Immigration enforcement policy perceptions & experiences								
State immigration policies towards immigrants	Favorable/ neutral	41 (48.2%)	12 (37.5%)	17 (53.1%)	6 (40.0%)	7 (50.0%)		
	Unfavorable	44 (51.8%)	20 (62.5%)	15 (46.9%)	9 (60.0%)	7 (50.0%)	.730	.987
Fear of deportation	Not at all/ not much	48 (52.7%)	16 (45.7%)	8 (24.2%)	5 (35.7%)	2 (13.3%)		
	Some/a lot	43 (47.3%)	19 (54.3%)	25 (75.8%)	9 (64.3%)	13 (86.7%)	***.007****	***<.001******
Issues with immigration enforcement	None	83 (87.4%)	29 (80.6%)	30 (88.2%)	9 (60.0%)	8 (53.3%)		
	At least 1 out of 3	12 (12.6%)	7 (19.4%)	4 (11.8%)	6 (40.0%)	7 (46.7%)	***.003*****	***.001******
Immigration enforcement stress scale		4.55 (3.30)	4.81 (2.61)	6.35 (3.91)	7.53 (3.00)	11.07 (3.92)	***<.001*****	***<.001*****
Fear of care seeking	No/not applicable	85 (98.8%)	33 (97.1%)	30 (88.2%)	11 (73.3%)	8 (72.7%)		
	Yes	1 (1.2%)	1 (2.9%)	4 (11.8%)	4 (26.7%)	3 (27.3%)	***<.001*****	***<.001*****

		US citizen US-born (N=97)	**US citizen Foreign-born (N=37)**	**LPR (N=34)**	**LTR (N=15)**	**Undocumented (N=15)**	**p-value**	**p-value trend test**
		Mean (SD Freq (%)	Mean (SD) Freq (%)	Mean (SD) Freq (%)	Mean (SD) |Freq (%)	Mean (SD)| Freq (%)		
Proposed change to public charge rule	Did not hear about proposed changes	60 (75.9%)	20 (64.5%)	15 (51.7%)	10 (71.4%)	5 (62.5%)		
	Heard about it & no service use change	18 (22.8%)	10 (32.3%)	9 (31.0%)	4 (28.6%)	1 (12.5%)		
	Heard about it & service use change	1 (1.3%)	1 (3.2%)	5 (17.2%)	0 (0.0%)	2 (25.0%)	***.011*****	**.056***
Response to current immigration enforcement policies								
Need to accept things	Agrees/ strongly agrees	23 (28.8%)	5 (15.6%)	16 (50.0%)	7 (46.7%)	7 (46.7%)		
	Neither/disagrees/strongly disagrees	57 (71.3%)	27 (84.4%)	16 (50.0%)	8 (53.3%)	8 (53.3%)	***.020*****	***<.001*****
Try not to think about it	Agrees/ strongly agrees	22 (26.2%)	7 (21.9%)	13 (44.8%)	6 (40.0%)	9 (60.0%)		
	Neither/disagrees/strongly disagrees	62 (73.8%)	25 (78.1%)	16 (55.2%)	9 (60.0%)	6 (40.0%)	***.030*****	***<.002*****
Talk	Agrees/ strongly agrees	63 (75.9%)	21 (70.0%)	23 (74.2%)	12 (85.7%)	13 (86.7%)		
	Neither/disagrees/strongly disagrees	20 (24.1%)	9 (30.0%)	8 (25.8%)	2 (14.3%)	2 (13.3%)	.677	.124
Learn	Agrees/ strongly agrees	64 (75.3%)	23 (71.9%)	24 (77.4%)	12 (80.0%)	12 (80.0%)		
	Neither/disagrees/strongly disagrees	21 (24.7%)	9 (28.1%)	7 (22.6%)	3 (20.0%)	3 (20.0%)	.961	.189
Focus on positive	Agrees/ strongly agrees	71 (80.7%)	24 (72.7%)	25 (80.6%)	14 (93.3%)	15 (100%)		
	Neither/disagrees/strongly disagrees	17 (19.3%)	9 (27.3%)	6 (19.4%)	1 (6.7%)	0 (0%)	.157	***.033*****

		US citizen US-born (N=97)	US citizen Foreign-born (N=37)	LPR (N=34)	LTR (N=15)	Undocumented (N=15)	p-value	p-value trend test
		Mean (SD) Freq (%)	Mean (SD) Freq (%)	Mean (SD) Freq (%)	Mean (SD) |Freq (%)	Mean (SD)| Freq (%)		
Pray/ meditate	Agrees/ strongly agrees	59 (67.8%)	17 (56.7%)	25 (83.3%)	10 (71.4%)	12 (80.0%)		
	Neither/disagrees/strongly disagrees	28 (32.2%)	13 (43.3%)	5 (16.7%)	4 (28.6%)	3 (20.0%)	.200	.147
Social activism	Agrees/ strongly agrees	29 (35.8%)	14 (46.7%)	8 (29.6%)	9 (69.2%)	1 (7.7%)		
	Neither/disagrees/strongly disagrees	52 (64.2%)	16 (53.3%)	19 (70.4%)	4 (30.8%)	12 (92.3%)	***.014***	.628
Don't know how to feel	Agrees/ strongly agrees	19 (24.1%)	5 (17.9%)	9 (32.1%)	3 (21.4%)	4 (26.7%)		
	Neither/disagrees/strongly disagrees	60 (75.9%)	23 (82.1%)	19 (67.9%)	11 (78.6%)	11 (73.3%)	.795	.195
Feels stressed	Agrees/ strongly agrees	32 (38.6%)	11 (32.4%)	9 (29.0%)	8 (57.1%)	11 (73.3%)		
	Neither/disagrees/strongly disagrees	51 (61.4%)	23 (67.6%)	22 (71.0%)	6 (42.9%)	4 (26.7%)	***.025***	***.016***
Engaged coping scale		16.10 (6.12)	15.43 (7.00)	15.97 (6.01)	18.27 (4.30)	17.93 (2.46)	.647	.426
Disengaged coping scale		6.48 (3.52)	5.78 (3.76)	7.56 (4.00)	7.93 (2.87)	9.60 (1.64)	***.003****	***.007***
Beliefs in community to improve situation for immigrants	Neutral/ maybe/ not at all	51 (52.6%)	15 (40.5%)	16 (47.1%)	4 (28.6%)	5 (33.3%)		
	Definitely	46 (47.4%)	22 (59.5%)	18 (52.9%)	10 (71.4%)	10 (66.7%)	.306	**.064***

p<.10, ****p<.05, *****p<.005

4.3 Multiple regression analysis findings

As outlined in the methods, multiple regression analyses entailed the assessment of crude associations (step 1) followed by fully adjusted associations (step 2) between policy-related perceptions or experiences and self-rated physical health, psychological distress, and health care utilization, in line with study aim II.

Immigration enforcement policy perceptions, physical health, and psychological distress

Physical health. The first linear regression model examined the association between immigration enforcement policy perceptions and self-rated health. In this model, neither fear of deportation nor the experience of issues with immigration enforcement was significantly associated with self-rated physical health. Compared to US-born citizens, LPRs were less likely to report poor health, including in the model with adjustment for confounders. However, the finding was only marginally significant (b=-.444, p=.051). Having an annual household income of $20,000 or below was significantly associated with reporting poorer physical health (b=.490, p=.030). Similarly, participants without health insurance relative to insured respondents were more likely to report poorer self-rated health (b=.320, p=.040). Lastly, participants who took the survey in Spanish reported better physical health than participants who took the survey in English (b=-.312, p=.042) (see table 7).

Psychological distress. The second linear regression model examined associations between policy perceptions and psychological distress. Participants who reported some or a lot of fear of deportation were significantly more likely to report greater psychological distress compared to participants who did not experience this fear (p<.001). The beta-value for this association declined in the regression model with adjustment for confounders but remained significant at the p<.05 level (b=1.803, p=.007). Similarly, respondents who experienced issues with immigration enforcement were more likely to report greater psychological distress compared to participants who did not report these issues in the crude

and fully adjusted model (p<.001 and p<.001, respectively). Having an annual household income of $20,000 was marginally associated with greater psychological distress (b=1.645, p=.098) (see table 7).

Immigration enforcement policy perceptions and health care utilization

Delay/avoidance of medical care. The next logistic regression model assessed the relationship between policy perceptions and delay or avoidance of medical care in the past 12 months. According to the crude model, participants who experienced issues with immigration enforcement were significantly more likely to report that they delayed or avoided medical care in the past twelve months (OR=3.066, p=.007). However, the association became only marginally significant after adjustment for confounders (OR=2.382, p=.059). Respondents with a technical school degree or some college were more likely to have delayed or avoided medical care in the past 12 months (OR=3.635, p=.017) (see table 8).

Receipt of medical checkups. The subsequent logistic regression model examined associations between policy perceptions and not having received at least one out of three medical checkups in the past three years. In the model without adjustment for confounders, fear of deportation was associated with the outcome, however with only marginal significance (OR=1.812, p=.098). This association was no longer significant in the fully adjusted model. Age was significantly associated with lower odds of not having received three medical checkups (OR=.942, p=.005). Being uninsured was marginally significantly associated with greater odds of not having received these medical check-ups (OR=2.014, p=.079) (see table 8).

Based on these regression models, there is partial support for *hypothesis 2.a.: Hispanic adults who experience greater fear of deportation for themselves, a close friend, or a family member report poorer self-rated physical health, greater psychological distress, and*

lower health care utilization. While these results do not indicate significant associations between fear of deportation and self-rated health, they reveal statistically significant links between fear of deportation and greater psychological distress. Fear of deportation was not associated with delay or avoidance of medical care and only marginally significantly associated with a greater likelihood to lack three medical checkups in the crude regression model.

These results also partially support *hypothesis 2.b.: Hispanic adults who experience greater issues with immigration enforcement report poorer self-rated physical health, greater psychological distress, and lower health care utilization.* Experience of issues with immigration enforcement was significantly associated with greater psychological distress but not poorer self-rated health. Participants who experienced these issues were also marginally more likely to have delayed or avoided medical care in the past 12 months based on the fully adjusted regression model.

Table 7. Associations between residency status, immigration enforcement policy perceptions/experiences and self-rated physical health and psychological distress

	Self-rated physical health		Psychological distress (K6)	
Explanatory variables	**Model 1 (N=188)**	**Model 2 (N=188)**	**Model 1 (N=188)**	**Model 2 (N=188)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**	**B (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	-.301 (-.668, .066)	-.298 (-.688, .092)	-1.232 (-2.829, .365)	-.378 (-2.468, 1.254)
LPR (Ref: US-born citizen)	**-.358 (-.728, .012)***	**-.444 (-.890, .002)***	-.491 (-2.103, 1.121)	.594 (-.878, 3.406)
Non-citizen/Non-LPR(Ref: US-born citizen)	-.105 (-.503, .293)	-.199 (-.703, .306)	-.366 (-2.099, 1.367)	.104 (-2.366, 2.760)
Some/a lot of fear of deportation (Ref: not much/not at all)	-.052 (-.330, .227)	-.090 (-.385, .206)	***2.198 (.984, 3.412)****	***1.803 (-0.50, 2.784)****
Experience of issues with immigration enforcement (Ref: none)	.241 (-.122, .604)	.182 (-.197, .561)	***3.493 (1.913, 5.037)****	***3.050 (.734, 4.438)****
Age		.003 (-.011, .016)		-.068 (-.128, -.009)
Female/other (Ref: Male)		.067 (-.219, .353)		.433 (-.830, 1.696)
High school diploma /GED or below		.088 (-.311, .488)		-.123 (-1.887, 1.641)
Technical school/Associate degree/some college		.203 (-.143, .549)		-.685 (-2.212, .842)
Household income $20,000 or below (Ref: $50,001 or above)		***.490 (.048, .932)****		**1.645* (-.306, 3.597)***
Household income $20,001 - $50,000 (Ref: $50,001 or above)		.191 (-.160, .542)		.983 (-.565, 2.532)
Uninsured (Ref: Insured)		***.320 (.015, .624)****		-.603 (-1.947, .741)
Length of U.S. residency		.000 (-.013, .012)		.024 (-.033, .081)
Survey language Spanish (Ref: English)		***-.312 (-.613, -.011)****		-.638 (-1.968, .692)

p < .10, ****p < .05, *****p < .005

Table 8. Associations between residency status, immigration enforcement policy perceptions/experiences and delay/avoidance of medical care and receipt of medical checkups

	Delayed/avoided medical care in past 12 months		**Did not receive all 3 medical checkups in past 3 years**	
Explanatory variables	**Model 1 (N=186)**	**Model 2 (N=186)**	**Model 1 (N=188)**	**Model 2 (N=188)**
	OR (95% CI)	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	.538 (.214, 1.356)	.649 (.233, 1.812)	.418 (.144, 1.214)	.484 (.146, 1.606)
LPR (Ref: US-born citizen)	.810 (.332, 1.979)	.961 (.299, 3.095)	.891 (.365, 2.176)	1.022 (.317, 3.293)
Non-citizen/Non-LPR (Ref: US-born citizen)	1.290 (.525, 3.170)	1.368 (.393, 4.758)	**2.361 (.963, 5.789)***	1.426 (.398, 5.108)
Some/a lot of fear of deportation (Ref: not much/not at all)	.949 (.490, 1.836)	.862 (.407, 1.825)	**1.812 (.897, 3.660)***	1.201 (.532, 2.711)
Experiences issues with immigration enforcement (Ref: none)	***3.066 (1.354, 6.947)****	**2.382 (.968, 5.858)***	1.182 (.502, 2.785)	1.128 (.414, 3.072)
Age		.978 (.961, 1.049)		***.942 (.903, .982)****
Female/other (Ref: Male)		.809 (.417, 2.329)		.637 (.295, 1.375)
High school diploma /GED (Ref: Undergraduate/Master/PhD)		2.148 (.512, 9.140)		1.322 (.447, 3.910)
Technical school/some college (Ref: Undergraduate/Master/PhD)		**3.635 (.943, 14.392)****		.732 (.259, 2.067)
Income $20,000 or below (Ref: $50,000 or above)		1.398 (.685, 5.443)		1.237 (.493, 3.100)
Income $20,000 - $50,000 (Ref: $50,000 or above)		.591 (.216, 2.721)		.694 (.202, 2.386)
Uninsured (Ref: Insured)		1.814 (.840, 3.918)		**2.014 (.921, 4.405)***
Length of U.S. residency		1.000 (.967, 1.034)		1.013 (.975, 1.052)
Survey language Spanish (Ref: English)		-.188 (.389, 1.767)		1.699 (.760, 3.797)

p < .10, ****p < .05, *****p < .005

Moderating effects of collective efficacy and engaged coping strategies

Collective efficacy. Subsequent regression models examined whether collective efficacy or engaged coping behaviors moderated the association between policy perceptions and psychological distress.[22] The first model in this series assessed the relationship between collective efficacy and psychological distress. At the second step, the independent variables were added to the model, and the third and final model additionally included all confounder variables. Findings from these regression models showed no association between collective efficacy and psychological distress in any of the three models. In subsequent models, an interaction term was added between experience of issues with immigration enforcement (since this variable demonstrated the strongest association with psychological distress) and collective efficacy. Similar to the previous model series, crude associations were examined first, followed by models including the remaining independent variables at a second step, and confounder variables in the final model. The interaction term was not statistically significant (see appendix, table 12). Therefore, there was no support for *hypothesis 3.a.:* Associations between perceptions of and experiences with immigration enforcement policies and psychological distress are moderated by collective efficacy.

Engaged coping strategies. To assess whether engaged coping strategies relative to disengaged coping strategies moderate the relationship between experiences of issues with immigration enforcement and psychological distress, the same series of regression models were created as for collective efficacy. However, instead of collective efficacy, items from the engaged coping scales and the disengaged coping scale variable were added to the model[23]. These models revealed the following findings: All three regression models (crude,

[22] Given the lack of significant associations between policy perceptions and other dependent variables at the $p<.05$ level with adjustment for confounders, there was no basis for examining moderating effects on these relationships.

[23] Given the low internal consistency of items from the engaged coping scale, these items were separately included in the regression models.

partially, and fully adjusted) demonstrated a statistically significant association between focusing on positive things and lower psychological distress ($p<.05$). No other association between engaged coping strategies and psychological distress was statistically significant (see table 9).

Based on the significant association between a focus on positive things and lower psychological distress, an interaction term between issues with immigration enforcement and focus on positive things was added to the subsequent regression model series. The rationale for choosing experiences of issues with immigration enforcement for the interaction term was the finding that this factor was most significantly associated with psychological distress. The interaction term was statistically significant in the crude, partially, and fully adjusted regression models ($p<.005$) (see table 10). Specifically, participants who experienced issues with immigration enforcement and engaged in positive thinking experienced significantly lower psychological distress compared to participants who did not engage in positive thinking (see figure 3). Thus, these findings support *hypothesis 3.b:* Associations between perceptions of and experiences with immigration enforcement policies and psychological distress are moderated by engaged coping strategies, specifically, a focus on positive things.

Checks for multicollinearity. The VIF values for the individual engaged coping strategy items were between 1.1 and 1.4 (see appendix). Thus, the model was not considered to be severely impacted by multicollinearity, as VIF values considerably above 1 and especially those greater than 10 would have indicated. As a general rule, VIF values above 2.50 suggest potentially problematic levels of multicollinearity between variables (Gujarati & Porter, 2009; Adeboye, Fagoyinbo, & Olatayo, 2014).

Sensitivity analysis findings

Sensitivity analyses yielded slightly different values, but aligned with the main findings of this study. In the models without substitution for missing values, the most

noticeable difference was that a focus on positive things was only marginally significantly associated with lower psychological distress which was likely due to a decline in sample size and corresponding statistical power (see appendix, table 18). However, the models with the interaction term for focus on positive things by issues with immigration enforcement yielded statistically significant associations at the $p<.05$ level, thus confirming the conclusion drawn for the hypothesis under study aim III. Additionally, participating in social activism was associated with greater psychological distress in the fully adjusted model ($p<.05$). However, given the lower sample size and lack of significance of this association in the models with substitutions for missing values, this finding warrants further investigation.

Table 9. Associations between engaged coping strategies and psychological distress

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=151)**	**Model 2 (N=151)**	**Model 3 (N=151)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Disengaged coping scale	.071 (-.180, .321)	.137 (-.096, .371)	.102 (-.142, .347)
Talking to family or friends about this topic	.223 (-1.769, 2.215)	.109 (-1.708, 1.927)	.148 (-1.760, 2.057)
Trying to learn as much as possible about topic	-.734 (-2.671, 1.203)	-1.351 (-3.139, .437)	-1.244 (-3.090, .601)
Focusing on positive things	***-2.580 (-4.580, -.579)*****	***-2.113 (-3.960, -.267)*****	***-2.246 (-4.109, -.382)*****
Praying or meditating	1.340 (-.303, 2.983)	.418 (-1.120, 1.955)	.292 (-1.273, 1.856)
Participating in social activism	.589 (-.952, 2.131)	.621 (-.806, 2.049)	.589 (-.898, 2.075)
Foreign-born citizen (Ref: US-born citizen)		.168 (-1.665, 2.001)	-.629 (-2.949, 1.690)
LPR (Ref: US-born citizen)		-1.006 (-3.339, 1.327)	-.995 (-3.532, 1.543)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.714 (-3.055, 1.626)	-.938 (-3.399, 1.524)
Some/a lot of fear of deportation (Ref: not much/not at all)		***2.414 (1.029, 3.799)******	***1.935 (.440, 3.430)*****
Experience of issues with immigration enforcement (Ref: none)		***3.607 (1.808, 5.407)******	***3.077 (1.190, 4.964)******
Age			-.051 (-.122, .019)
Female/other (Ref: Male)			.635 (-.781, 2.051)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			.747 (-1.530, 3.023)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.546 (-2.271, 1.178)
Household income $20,000 or below (Ref: $50,001 or above)			2.052 (-.263, 4.366)
Household income $20,001 - $50,000 (Ref: $50,001 or above)			1.395 (-.330, 3.120)
Uninsured (Ref: Insured)			-.854 (-2.408, .700)
Length of U.S. residency			.029 (-.040, .097)
Survey language Spanish (Ref: English)			-.691 (-2.192, .810)

p < .10, **p < .05, ***p < .005

Table 10. Moderating effect of focus on positive things on association between issues with immigration enforcement and psychological distress

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=175)**	**Model 2 (N=175)**	**Model 3 (N=175)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Focusing on positive things	-.180 (-1.948, 1.588)	-.282 (-2.024, 1.460)	-.314 (-2.092, 1.464)
Experience of issues with immigration enforcement (Ref: none)	***8.402 (5.216, 11.589)******	***7.896 (4.743, 11.048)******	***7.718 (4.480, 10.956)******
Focus on positive*experience of issues	***-5.730 (-9.345, -2.115)******	***-5.869 (-9.984, -2.290)******	***-6.015 (-9.653, -2.377)******
Foreign-born citizen (Ref: US-born citizen)		**-1.559 (-3.152, .033)***	-.759 (-2.477, .958)
LPR (Ref: US-born citizen)		-.715 (-2.350, .919)	.144 (-1.841, 2.129)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.159 (-1.872, 1.553)	.159 (-2.029, 2.346)
Some/a lot of fear of deportation (Ref: not much/not at all)		***1.937 (.724, 3.151)******	***1.479 (.179, 2.779)****
Age			**-.060 (-.119, -.001)***
Female/other (Ref: Male)			.484 (-.775, 1.744)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			.669 (-1.123, 2.460)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.646 (-2.206, .914)
Household income $20,000 or below (Ref: $50,001 or above)			1.297 (-.649, 3.244)
Household income $20,001 - $50,000 (Ref: $50,001 or above)			.912 (-.650, 2.474)
Uninsured (Ref: Insured)			-.506 (-1.834, .821)
Length of U.S. residency			.026 (-.030, .082)
Survey language Spanish (Ref: English)			-.476 (-1.804, .852)

p < .10, ****p < .05, *****p < .005

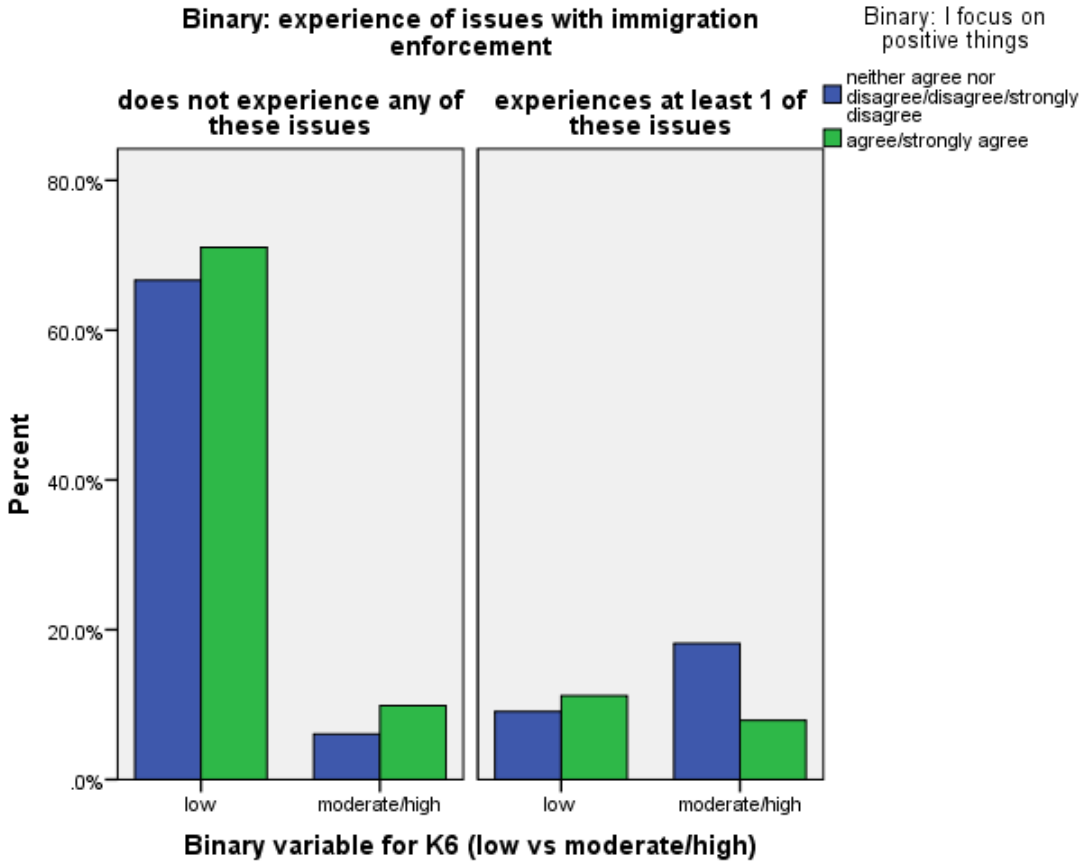

Figure 3. Experience of moderate/high vs. low psychological distress by experience of immigration enforcement issues at different levels of focus on positive things

CHAPTER V

DISCUSSION

5.1 Summary of research findings

The purpose of this study was to examine associations between perceptions of and experiences with current U.S. immigration enforcement policies and self-rated physical health, psychological distress, and health care utilization among Hispanic adults with different residency statuses in the U.S. Paso del Norte region. An additional purpose of this study was to assess whether collective efficacy and/or engaged coping strategies moderate associations between policy perceptions or experiences and the health outcomes under study.

A first notable finding of this study was that fear of deportation for respondents themselves, a close friend, or family member was expressed by almost 60% of study participants. More than half of participants expressed this fear across all residency status groups, except for U.S.-born citizens, of whom 47 percent shared this concern. In addition, approximately one in five participants reported they experienced issues with immigration enforcement, such as, having been asked more frequently for documents to prove their immigration status. Close to one in five participants reported fair or poor self-rated physical health and seventeen percent of the sample experienced either moderate or high psychological distress. About one third of the sample did not have a medical check-up for blood pressure, blood glucose, or cholesterol in the past three years. Similarly, approximately one third of participants reported they avoided or delayed medical care in the past twelve months.

As hypothesized, respondents with a more protected legal status demonstrated fewer negative perceptions or experiences with immigration enforcement policies compared to those with a less protected residency status. However, respondents with a more protected legal status did not report significantly better physical health or lower psychological distress.

There was no variation in avoidance or delay of seeking care by residency status, however the lack of medical checkups for blood pressure, blood glucose, and cholesterol in the past three years was greater among undocumented and temporary residents compared to more permanent residency status holders. Furthermore, participants with a more protected residency status were more likely to have utilized mental health services relative to respondents with a less protected residency status.

Key findings from the multiple regression analyses showed a positive association between experiences of issues with immigration enforcement and psychological distress and between fear of deportation and greater psychological distress. There were no significant associations between policy perceptions or experiences and self-rated physical health or health care utilization in fully-adjusted models, with one exception. Participants who experienced issues with immigration enforcement were marginally more likely to have avoided or delayed medical care in the past year.

There was no significant association between collective efficacy and psychological distress. Among engaged coping strategies, positive thinking was significantly associated with lower psychological distress. Furthermore, positive thinking moderated the association between experiences of issues with immigration enforcement and psychological distress. Specifically, those who engaged in positive thinking reported lower psychological distress despite experiences of issues with immigration enforcement compared to respondents who did not engage in positive thinking.

5.2 Research findings in comparison with other studies

The experience of fear of deportation among 60 percent of the study sample was slightly greater than in a recent national assessment by the Pew Research Center which revealed that 55 percent of Hispanics experienced this fear in 2018, an increase of 8

percentage points from 47 percent in 2017 (Lopez, Gonzalez-Barrera, & Krogstad, 2018). The fact that greater fear of deportation was experienced in this study population may be due to a higher percentage of individuals with a less protected legal status or who are members of mixed-status families and social networks compared to the national level. It may also be an indication of increased fears among individuals living in an environment of enhanced immigration enforcement and border militarization and/or related to cumulative effects of continuous negative political rhetoric about immigrants and increasingly restrictive and exclusionary policies.

Seventeen percent in this study experienced moderate or high psychological distress. The proportion of participants reporting high psychological distress in this study (7 percent) was higher than population-based estimates from the National Health Interview Survey (NHIS) for the years 2009-2013. The NHIS survey also used the K6 and found that 3.4 percent of adults aged 18 and above demonstrated high psychological distress (Weissman, Pratt, Miller, & Parker, 2015). An average of 13 percent in El Paso County experienced frequent mental distress (i.e., poor mental health in the past 14 out of 30 days) according to County Health Rankings in 2016 (Healthy Paso del Norte, 2019c). While this dissertation study showed no difference in the experience of psychological distress by residency status, U.S. citizens reported greater utilization of mental health services compared to non-citizen status holders. The fact that higher proportions of citizens had health insurance and higher household incomes relative to non-citizen groups may partially explain this disparity. In line with this finding, a study by Chen and Vargas-Bustamante (2011) demonstrated lower health insurance coverage and lower utilization of mental health services among non-citizens relative to citizens based on national-level data.

In accordance with findings in this dissertation, several studies have quantitatively revealed associations between negative immigration policy perceptions or experiences and

greater psychological distress or other mental health problems (e.g., Brabeck et al., 2016; Lopez et al., 2017; Vargas et al., 2017a), including a recent study with focus on immigration policies under the current federal administration by Roche and colleagues (2018). Additional studies have revealed links between immigration enforcement policy changes (e.g., adoption of SB 1070 in Arizona) or perceptions (e.g. whether state-based immigration policies are favorable or unfavorable toward immigrants) and poorer self-rated health (Anderson & Finch, 2014; Vargas et al., 2017b). The fact that this finding was not replicated in this study may have been due to a smaller sample size compared to the research which revealed this relationship. Nonetheless, the seriousness of the effects of stress itself should not be underrated. In fact, research has demonstrated the potential for harmful physiological effects due to prolonged experiences of stress, including cardiovascular diseases, the metabolic syndrome, and premature death (Kessler, Rosenfield, & Anderson, 2008).

Similarly, this study only found some support for relationships between experiences with immigration enforcement policies and lower health care utilization. Several other studies reported significant associations between adoptions of new immigration laws and decreased health care utilization (e.g., White et al., 2014a; Beniflah et al., 2013; Fuentes-Afflick et al., 2007; Rhodes et al., 2015; Toomey et al., 2014). This discrepancy may be due to the fact that unlike the majority of research which revealed this association, this study did not compare utilization rates before and after a particular legal or policy change. Moreover, almost two thirds of the sample reported they did not delay or avoid medical care in the past year and a similar proportion reported they received medical checkups for blood pressure, blood glucose, and cholesterol in the past three years. Thus, this sample may have been less representative of individuals who struggle most with access to health care services, including individuals living in severe poverty or remote locations of the region which were difficult to

reach with this study design (for a more nuanced discussion of this issue, see 'study limitations' section).

In contrast to Romero and colleagues (2017), this study did not detect a moderating effect of collective efficacy on the association between experiences of issues with immigration enforcement and psychological distress. Notably, very few participants in this dissertation study (2 percent) did "not at all'" believe in the community's ability to create positive change for immigrants whereas over half of participants stated they "definitely" hold this belief and an additional third of the sample thought the community "maybe" had this ability. Thus, the group who possessed a "low" degree of collective efficacy by this measure was very small and the comparison was thus mainly between participants with "moderate" versus "high" levels of collective efficacy. The lack of a meaningful distinction between these groups may therefore explain these different results. Another possible explanation is the difference in items measuring collective efficacy in this and Romero and colleagues' study ("do you believe that your community can make things better for immigrants?" in this study and "people in your neighborhood can make it a better and safer place" and "do you believe that you can make this a better place?" in the latter study).

The moderating influence of positive thinking on the association between negative experiences with immigration enforcement and psychological distress was a novel finding of this study. While the beneficial influence of positive thinking on health and coping abilities has been well documented in the literature (Scheier & Carver, 1993; Fredrickson, 2001, 2003; Tugade, Fredrickson, & Feldman Barrett, 2004), little research to date has examined the role of this strategy in the context of immigration enforcement policy associations with mental health.

Possible explanations for this result can be found in Fredrickson (2003) and Tugade and colleagues' (2004) work. Their research has shown associations between positive

emotions and better abilities to cope with negative life events. In addition, their work found positive emotions to be linked to lower physiological stress responses due to negative emotions. Importantly, these studies have demonstrated beneficial long-term effects of positive emotions, including lower likelihoods of feeling depressed during challenging times and a greater ability to think positively in the future. Fredrickson (2003) further discussed how positive emotions increase individuals' helpfulness and expression of positive thoughts toward other people which in turn raises the likelihood of experiencing positive emotions in others. Thus "by creating chains of evens that carry positive meaning for others, positive emotions can trigger upward spirals that transform communities into more cohesive, moral and harmonious social organizations" (Fredrickson, 2003, p. 335). Finally, Fredrickson adds that regardless of the severity of life challenges, finding positive meaning in one's experiences appears to be a key mechanism for one's ability to think positively. Thus, this research points to possible explanations for the association between positive thinking and decreased psychological distress among participants who have experienced issues with immigration enforcement in this study.

5.3 Study limitations

The cross-sectional nature of this study did not allow for assessments of causality. Therefore, this study could not offer insights into the direction of significant associations that were found. Due to the convenience sampling strategy of this study and limited success with the respondent-driven sampling component, findings cannot be extrapolated to the general Hispanic adult U.S. Paso del Norte population. However, efforts were made to approximate the distribution of residency statuses in the population under study by reaching predefined sampling quota for different residency status groups. Moreover, threats to the study's internal

validity were minimized by including known confounder variables that influence health and health care utilization in regression models.

In addition, a reduction in sample sizes due to missing values for multiple regression analyses involving protective factors increased the risk of committing a Type II error, i.e., failing to reveal a significant association between variables that in reality exists. However, imputations of missing values for regression models and sensitivity analyses without such imputations were conducted to partially address this concern. Nonetheless, for these reasons, the findings from this study need to be interpreted with caution.

Some of the socio-demographic characteristics of this sample were not representative of the U.S. Paso del Norte population. For instance, 64 percent of the sample were female and 36 percent were male, whereas the distribution of sex in El Paso County is 51 percent female and 49 percent male (Healthy Paso del Norte, 2019a). The trend for women to more commonly participate in survey research compared to males has been well-documented in the literature (Curtin, Presser, & Singer, 2000; Moore & Tarnai, 2002; Singer, van Hoewyk, & Maher, 2000). In addition, 84 percent of study participants had a High school diploma/GED or higher level of education compared to 77 percent of El Pasoans aged 25 and older. Similarly, 64 percent of study participants reported health insurance possession compared to 77 percent of El Paso County residents (Healthy Paso del Norte, 2019a).

The respondent-driven sampling strategy was of limited success since only 27 participants were successfully recruited via this method. In addition, only one of the participant chains led to a third wave, whereas all other recruitment chains ceased after the first wave (see appendix, figure 4). As documented in the literature, direct dual incentive strategies (i.e., a direct reward for study participation and an additional reward for recruitment of another participant) seem to be critical to yielding longer recruitment chains (Heckathorn, 1997, 2002). Thus, the incentive of obtaining additional entries for a survey

raffle and/or the nature of the prizes in this study may have been too low. Another limitation was the web-based nature of this sampling component which may have prevented participation for individuals without email addresses and/or electronic devices with internet access. Furthermore, due to the eligibility criteria of this study, we were unable to enroll some individuals who would have been interested in participating because they reside in Ciudad Juárez, Mexico.

The imputation of missing values for multiple regression analyses may have introduced error to the findings. However, sensitivity analyses were conducted without the substitution of missing values and revealed that overall findings of this study were consistent. In substituting missing values, the researcher substituted missing values with sample averages for continuous variables and in favor of the reference categories for categorical variables (i.e., 'no fear of deportation', 'insured', 'received three medical checkups'). Thus, the effect on associations would be a greater risk of committing a type II error (i.e., failing to detect a relationship when in reality it exists) than a type I error (i.e., identifying a relationship when in reality there is none).

Comparing findings from this study to existing research was challenged by differences in measurements of immigration policy perceptions and experiences. Recent studies by Eskenazi and colleagues (2019) and Roche and colleagues (2018) for instance, have used the Perceived Immigration Policy Effects Scale (PIPES) and 15-item Political Climate Scale, whereas this dissertation study used shorter measures from existing surveys (e.g., the Latino National Health Survey and from the Pew Research Center) which focused on immigration policy perceptions or experiences and health. The PIPES includes 31 items measuring immigration policy impacts with respect to discrimination, social isolation, perceived threats to family, and perceptions of children's vulnerability (Ayón, 2017). The 15-

item Political Climate Scale assesses participants' perceived impacts of immigration actions and news with respect to themselves and their family members (Rochet et al., 2018).

A related limitation was the lack of comparability of this study's assessment of 'chilling effects' due to the proposed public charge rule and measures used in research projects which have emerged since the conduct of this study. For instance, the question used by the Urban Institute asked about avoidance of non-cash government benefits for the respondent or a family member (Bernstein et al., 2019)[24]. Although qualitative data was not part of the analyses for this dissertation, a review of the responses to the final open-ended survey question showed a relevant participant response for this discussion. Specifically, the respondent mentioned that their parents had stopped using services due to the proposed public charge rule change but the respondent did not think that consequence was captured in the survey item asking about changes in service utilization. Thus, this comment suggests that a rewording of this question may have yielded information about how family members are affected by the proposed public charge rule change, not solely respondents themselves.

The research team experienced some difficulty in enrolling study participants. In part, this may have been attributable to general survey fatigue. However, it may also have been for practical reasons that participant enrollment for the web-based survey was challenging. For instance, the research team recruited individuals via survey flyers with a link to the survey so participation involved typing in the URL from the flyer (unless individuals were able to scan QR codes on the flyer with their phones, which led them directly to the survey). The lack of a direct monetary incentive may have also limited individuals' interest in study participation.

Furthermore, given the survey's focus on immigration policies, some individuals may

[24] The corresponding survey question developed by the University of California, Los Angeles was as follows: "*Was there a time in the past 12 months when you or someone in your family **decided not to apply** for one or more non-cash government benefits, such as Medicaid or CHIP, SNAP (formerly known as food stamps), or housing subsidies, because you were worried it would disqualify you or a family member or relative from obtaining a green card*?" (Bernstein et al., 2019)

have felt uncomfortable to share their views on this topic. While these reasons are speculative, they are largely aligned with comments made by seeds we recruited as part of the respondent-driven sampling component and who we asked for feedback about the participant enrollment process. Lastly, a handful of participants (less than ten) stopped their web-based survey completion when they were asked about their immigration status. This suggests that a concern about sharing their residency status impacted some people's decision to participate in the study.

As anticipated, the researchers experienced particular difficulty in enrolling individuals with a temporary legal status or who were undocumented. The president's announcement of nation-wide ICE raids during the data collection augmented this challenge, as fewer individuals were present at participant recruitment sites during the weeks following these news (e.g., the Mexican Consulate). The current political climate may also have increased caution among legal immigrants from disclosing their immigration status for fear of harassment or legal consequences.

In order to fulfill the quota requirement for undocumented and temporary legal status holders, the research team drew on their knowledge of the community and engaged in more targeted convenience sampling for a few (less than five) participants per group. This approach relied on research team members' knowledge of community settings for members of varying residency statuses and events that were likely to attract international students. The drawback of such targeted efforts is their introduction of bias to a sample (e.g., overrepresentation of individuals from a certain geographic location or with a particular education status). However, the exceptional approaches in these cases were considered acceptable for the purposes of quota fulfillment for this research.

Lastly, the quantitative nature of this study precluded an in-depth examination of underlying reasons for the observed association between immigration enforcement-related

experiences and psychological distress or the moderating influence of positive thinking as opposed to other engaged coping strategies. However, findings from this study seek to inform future qualitative and larger-scale quantitative research on this topic.

Despite the limitations of this study, its combined recruitment strategy led to an enrollment of 211 participants in an approximately three-month period with relatively low financial-, time-, and resource- investments. Additionally, the enrollment of legal permanent residents exceeded the quota requirement for this residency status group. This success was largely attributable to permission by the Mexican Consulate and immigrant community organizations to recruit participants at their premises and events. In this regard, prior personal ties and extensive outreach to community organizations facilitated opportunities for participant recruitment throughout the Paso del Norte region. The research team's attendance at several public events and consistent presence in the community prior to and during the conduct of the study further helped establish connections with key organizations.

Another positive aspect of the study's sampling strategy was its novelty. To our knowledge, no study to date has attempted to recruit members from Hispanic communities across immigration statuses with a combined sampling strategy, including respondent-driven sampling. While the respondent-driven sampling component of this study was of limited success, the lessons learned from this experience may offer guidance for the conduct of similar recruitment strategies in the future.

Ethical considerations

This section discusses particular ethical considerations that guided the conduct of this study. First, this project was informed by the awareness that foreign-born individuals and non-citizens in particular, may constitute a vulnerable population in research. This vulnerability is related to risks associated with participants' disclosure of their legal status but also characteristics which increase susceptibility to coercion, including a disproportionally

lower socio-economic status, access to health care, and levels of English proficiency among foreign-born individuals (Beauchamp & Childress, 2013; Hernández, Nguyen, Casanova, Suárez-Orozco, & Saetermoe, 2013). The risks associated with disclosure of participant data underscored the importance of protecting their anonymity and confidentiality. For instance, the investigators had to keep possible personal identifiers (in this case, email addresses) strictly separate from survey responses to avoid linkages between sensitive and personal information. The research team was conscious of the possibility of coercion, such as, by pressuring participants to recruit peers as part of the respondent-driven sampling. To minimize this risk, the research team sent weekly, followed by biweekly reminder Emails to participants who agreed to share the survey with peers and where no responses from peers had been received, but otherwise refrained from interfering in the peer recruitment process. The recruitment process was guided by the ethical principle of justice, thus, researchers' responsibility to provide equitable chances for community members across social groups to be represented in studies that concern them (one of the three underlying principles for the conduct of ethical research outlined in the Belmont report) (Beauchamp & Childress, 2013; Office of the Secretary, 1979).

In addition, the research team took steps to avoid cultural insensitivity, such as, by ensuring the Spanish translation of the survey was aligned with common terminologies in this region (e.g., by involving local experts whose native language is Spanish in the survey translation process and by conducting a pilot test for the survey among community members). The survey design was similarly guided by considerations for cultural sensitivity and intersections of different minority groups (Lewis, Tamparo, Tatro, 2012). For instance, the survey question about sex was categorized in a non-binary way, allowing individuals who do not identify with these binary choices to select an alternative response. Also, the survey included an open question about country of birth to allow room for exploration of variation

among respondents born in different countries (the vast majority of foreign-born participants in this study were born in Mexico). The survey also included a question about length of US residency to be able to adjust for this indicator of acculturation. Further, the research team reached out to seed participants from the respondent-driven sampling to learn about their perspectives on how to improve the study and enrollment process. In conversations with community leaders, the research team sought their opinion on their perceived value of this project and recommendations for future investigations as well. Prior to the conduct of this study, research team members were already engaged in the community, through their work for a legal aid organization, by serving on the board of an immigrant advocacy organization, and by frequently attending public events and community gatherings. Thus, prior dialogue with stakeholders in the community had already been established which is beneficial to the conduct of culturally sensitive research (Baumann, Domenech Rodriguez, & Parra-Cardona, 2011; Ferketich, 1993).

While this type of research evidently involves a number of ethical considerations and corresponding methodological challenges, the benefits of conducting research with vulnerable populations highlight the worth of such efforts. First, carefully designed research of this nature can give a voice to marginalized groups and allow individuals to tell their stories which can promote a sense of agency and empowerment (Gates, 2017; Núñez & Heyman, 2007). Second, findings from such research can provide critical counter-narratives to dominant public discourses that misrepresent communities. Third, research of this nature can uncover complexities in peoples' experiences and thereby reveal more nuanced aspects of an issue. For instance, while individuals may suffer from consequences related to enhanced immigration enforcement, affected communities may simultaneously demonstrate resilience during challenging times (Núñez & Heyman, 2007; Garcia, 2007). In fact, it seems crucial to not victimize individuals by solely examining negative aspects (e.g., adverse

mental health effects of policies and interferences with access to care, etc.), as this focus misses another important side of the story – individuals' capacity for strength in the face of adversity. For instance, research by Lusk and colleagues (2019) among migrants who have endured highly traumatic experiences prior to and during their journeys to the U.S. revealed high levels of resilience and a strong capacity to derive meaning, especially from their faith, family, and strength/endurance (la FE, fa familia y la fuerza) (Lusk, Terrazas, Caro, Chaparro, & Puga Antúnez, 2019).

Finally, these types of studies seem crucial to inform providers, policymakers, and researchers about the perspective of marginalized groups who are typically underrepresented in research. Such findings can thus address misperceptions, raise awareness about previously unrecognized problems, and provide evidence-based recommendations to leaders and decision-makers to enhance community well-being. Given the particular risks and benefits involved in research with vulnerable and hidden populations, it is critical to consider ethical designs of future research in this field.

5.4 Recommendations for future research

A number of findings from this study warrant further investigation. Larger-scale studies are needed to assess effects of changes to immigration policies and enforcement under the current administration (including changes to the public charge rule) on health care, mental health, and government assistance service utilization within and beyond border communities. Similarly, further studies are needed to assess effects of policy changes on health and mental health, including among particularly vulnerable populations, such as current and former detainees, immigrants whose legal status has become unstable under the current administration (such as, temporary protected status holders), and individuals who have been prevented from entering the U.S. due to recent policy changes (e.g. the "Muslim ban"). There is an urgent need for researchers' attention on effects of the 'Remain in Mexico' policy on

migrants' health, psychological health, and access to medical care, given anecdotal evidence of countless health and safety threats for individuals affected by this policy (Phippen, 2019). In this regard, it would be critical for research to be conducted in Mexico and/or binationally.

We learned from this study that research with focus on immigration policies in a border community setting requires particular consideration for recruitment strategies, ethical obligations, and practical realities in order to be successful. For instance, strategies to reach members of hidden populations may involve recruitment by community health workers and other trusted community members as well as forms of respondent-driven sampling in which participants themselves recruit their peers for study participation. Community-based research approaches would also be conducive to investigate these topics, so that residents themselves can shape the focus and conduct of research, and thereby enhance its local relevance.

Additional studies are necessary to further examine protective effects of cognitive, behavioral, and social coping strategies on the experience of immigration enforcement-related stress. While this study observed a moderating effect of the association between experiences of issues with immigration enforcement and psychological distress, further research is necessary to support and explain the mechanisms behind this finding.

Future research should also consider the intersectionality of health effects due to current immigration policies and political rhetoric. For instance, Krieger and colleagues (2018) demonstrated increased preterm birth rates following the 2016 presidential election not only among Latinas but also women of Muslim faith. Thus, studies are needed that are inclusive of several community groups who have been targeted with exclusionary policies and/or discriminatory rhetoric under the current federal administration, including people of color, people of minority faiths, sexual and gender minorities, native Americans, persons with disabilities, and others.

As highlighted by De Trinidad Young and Wallace (2019), further research is also necessary to examine health effects of mixed policy environments, including the presence of both, criminalizing policies (i.e., those strengthening mechanisms for immigration enforcement) and integrating state policies (i.e., those providing access to resources regardless of citizenship) for immigrants. As demonstrated by the authors, most states have adopted a combination of integrating and criminalizing policies across sectors, including health and social benefits, education, and employment. Accordingly, a focus on the combined effects of exclusionary and inclusionary policies would allow researchers to better understand the complex nature of health disparities affecting immigrants. The authors emphasized the additional need for assessments of differential access to resources under integration policies and variation in experiences of criminalizing policies based on race/ethnicity, gender, age, and social class which shape health inequities among non-citizens (De Trinidad Young & Wallace, 2019).

Lastly, there seems to be a need for international comparisons of immigration policy and enforcement approaches and corresponding health, economic, and social outcomes in societies. Such research would critically inform the development of comprehensive immigration reform in the U.S. based on insights into consequences for population well-being of policy choices in other UN member states.

5.5 Study implications

This section discusses the implications of this study for policymakers, health and social service providers, immigrant and social justice advocates and border community members.

Study implications for policymakers

Experiences of issues with immigration enforcement were associated with greater psychological distress among Hispanic residents in this study. Notably, these experiences were reported by members of all residency status groups (including almost one-in-five foreign-born U.S. citizens). Additionally, fear of deportation for participants themselves, a close friend or family member – which was reported by close to 60 percent of participants – was linked to greater psychological distress. These results not only provide further proof for the established link between immigration enforcement and mental health impacts but also indicate harmful spillover effects of immigration enforcement on the larger community (i.e., beyond undocumented immigrants). As the federal government continues to expand policies that exclude and criminalize immigrants, it is critical for state- and local leaders to consider the collective toll of increasingly brutal, inhumane, and absurd policy decisions on health, social, and economic outcomes in their communities. These include short-term effects, such as the forgoing of medical care and consequently placing oneself and the general public at risk for undiagnosed or untreated conditions, as well as long-term effects, such as irreparable brain damage, higher risks for PTSD, and other mental health disorders in children who have been separated from their caregivers (Wan, 2018).

While deterrence appears to be the main intent behind current policies for asylum seekers – i.e., discouraging individuals from migration by creating daunting conditions upon their arrivals – the strategies do not address the root causes of – and thus fails to prevent – migration (Chang-Muy & Garnick, 2019). This approach also disregards the U.S.' historic leadership and affirmation of a moral obligation to accept refugees and asylum seekers (Blizzard & Batalova, 2019). Another problem with current policies seems to be the lack of transparency and accountability in operations by DHS-affiliated agencies. Representative Escobar's proposed bill H.R. 2203 Homeland Security Improvement Act, which has passed

the House of Representatives, would help address this issue by providing for a commission that would investigate the treatment of migrant families and children at the Southern border, establish a committee that would examine policy effects on border communities, and provide for education of CBP officials about interactions with vulnerable groups, amongst other topics (Congress.gov, n.d.).

This dissertation further underscores the Society of Behavioral Medicine Position Statement, recommending that Congress adopts restrictions for ICE interventions in and near health care facilities (including, federally qualified health centers, community-based clinics, rehabilitation facilities, etc.) to minimize further declines in health care seeking by immigrants (Behrman et al., 2019). Reduced health care utilization and health insurance enrollment among non-citizens and citizens in mixed-status families creates several public health threats, including greater risks of communicable disease transmissions due to lower rates of immunizations, screenings, and timely treatments; delays in prenatal care seeking and corresponding maternal and fetal health risks; and higher prevalence of undiagnosed mental and behavioral health issues (Behrman et al., 2019). Other national medical organizations have expressed concerns with current immigration enforcement practices, demonstrating widespread opposition to these policies by the health care community (American Academy of Pediatrics, 2018; American Medical Association, 2017; American Psychological Association, 2019; American Public Health Association, 2018; National Association of Social Workers, 2018).

In comparison, the European Union has adopted a fundamental right to health, including ‘essential primary healthcare’, emergency care, and prenatal care to all migrants regardless of their residency status (O’Donnell, 2018). In practice however, there are variations in the types of services migrants are eligible to receive, required payments for services, language barriers, and gaps in providers’ knowledge of migrants’ entitlements to

care (O'Donnell, 2018; Winters, Rechel, de Jong, & Pavlova, 2018). For instance, asylum-seekers in Germany whose applications are pending have only limited access to services in the first 15 months (or until their applications have been decided), though these services include maternity care, emergency care, treatment for acute conditions, and pain management. Bauhoff & Göpffarth (2018) found these policies prevented adequate access to primary care services, including mental health services, and led to increased use of more expensive emergency and hospital care among asylum-seekers in this waiting period.

While European countries also make use of immigrant detention centers, individuals are overall less likely to be held in detention facilities for prolonged periods of time, to be exposed to inhumane and severely harmful conditions in detention, and to face traumatic separations of children and family members compared to the U.S. (Global Detention Project, 2019; Chotiner, 2019; Masri & Forde, 2018).

It is important to consider that protecting the safety and well-being of the American people and creating mechanisms that allow for the successful integration of immigrants in societies (e.g., by promoting access to services and resources and reducing deportation fears to increase community engagement) are not contradictory goals. In fact, greater participation in the social sphere benefits local businesses, less vulnerable workers have a greater ability to demand better conditions for themselves and by extension, other employees, and close cooperation between residents and local law enforcement enhance community safety (Chacón & Davis, 2006; De Trinidad Young & Wallace, 2019).

It seems that with a rise of extreme weather events and displacements of agricultural workers due to global warming in addition to the persistence of war-like conditions in Central American countries, migration to the U.S. is unlikely to abate. Therefore, the U.S. government is likely to continue to face the question of how it will treat migrants at its borders. In addition, there will likely be continued debates about the need for comprehensive

immigration reform that would include reasonable access to forms of legal status for the approximately eleven million undocumented immigrants in this country.

Study implications for health, mental health, and social service providers

This study highlights the importance of providers' awareness of possible mental health problems among Hispanic patients or clients regardless of their residency status, as fear of deportation of a close friend or family member or experience with immigration enforcement may be affecting their psychological well-being. Given the rise in restrictive immigration policies under the current administration, as outlined in the introduction (e.g., changes to the 'public charge' rule), it is also important for providers to be informed about how these changes may affect their patients or clients and how to discuss such sensitive topics. Organizations like the National Immigration Law Center provide toolkits with information about immigrants' rights and eligibility for services which can assist both service providers and users in navigating service utilization (National Immigration Law Center, n.d.). In addition, providers can draw on the rich network of immigrant advocacy and legal aid organizations in El Paso to learn from their expertise and familiarity with the community (Garcia, 2007). The intensification of immigration enforcement also underscores the importance for physicians to communicate privacy regulations to their patients with different immigration statuses to reassure the safety of their information (Behrman et al., 2019).

In addition, to the extent that is permissible by law, health care and social service providers should carefully consider the consequences of asking for individuals about their residency status, as the question itself may lead to disenrollment from public benefits and insurance programs and avoidance of health care services, even among eligible individuals (e.g., U.S. citizen members of mixed-status families). Finally, it is critical for health care and social service providers to speak out about harmful policy effects among their patient and

client populations, as their perspectives are crucial to inform policy approaches that promote community well-being and reduce health disparities (Behrman et al., 2019; Heymann & Sprague, 2017).

Study implications for immigrant and social justice advocates and border community members

For individuals whose lives have been adversely affected by immigration enforcement policies, this study shows that they are not alone. The majority of participants in this study shared a fear of deportation for themselves, a close friend, or family member, thus demonstrating that there are spillover effects of immigration policies on the whole community. However, this study also revealed signs of community resilience and strengths. For instance, participants were overwhelmingly involved in engaged coping strategies (e.g., talking to family and friends about immigration enforcement policies, trying to learn as much as they can about policies, and focusing on positive things) rather than disengaged coping strategies (e.g., trying not to think about the topic or not knowing how to feel about the topic). Further research is needed to understand the intention behind these coping behaviors, but the statistics by themselves indicate overall positive and engaged approaches to dealing with intensified immigration enforcement policy climates among study participants. In fact, over 80 percent of respondents engaged in positive thinking which has been linked to a lower risk of experiencing psychological distress in this study. Researchers like Fredrickson (2003) and Lusk and colleagues (2019) have shown that the capacity for positive thinking is related to finding meaning within one's life experiences, even in the face of traumatic events and severe hardships. In addition, the capacity to think more positively lowers stress responses to adverse events (Fredrickson, 2003).

It is also important to consider personal mental health needs, especially for those engaged in immigrant rights and social justice advocacy. This advocacy work seems crucial

to spread awareness of human rights abuses, demonstrate disagreement with new regulations to policymakers, and share stories from marginalized individuals whose voices have been silenced. It is also important however, to acknowledge the emotionally challenging nature of this important work and the corresponding need to engage in activities that promote mental well-being. As demonstrated by Lusk and Terrazas (2015), social workers, attorneys, volunteers, advocates, and other professionals who work with refugees and migrants commonly experience symptoms of secondary traumatic stress. However, the authors also observed the benefits of stress-neutralizing responses among workers, including compassion satisfaction, self-care strategies, and Hispanic cultural values (Lusk & Terrazas, 2015). Therefore, organizations with focus on advocacy may benefit from implementing mental health initiatives for their staff and volunteers, such as information sessions about common mental health problems (e.g., stress and burnout) and preventative strategies, such as yoga, meditation, and other forms of mental, spiritual, and/or physical exercise.

The psychologist Steven Stosny discovered the phenomenon of greater stress among his patients due to the news related to and following the presidential election in 2016. This so-called "Headline Stress disorder" is related to constant encounters with upsetting news, specifically, increasingly alarming headlines. Stosny recommends several techniques to lower this adverse stress response to the news, including, reading articles in full instead of only their alarming headlines, connecting with family and friends, and engaging in activities to help create positive change (Stosny, 2017; CBC Radio, 2019). While examining the effect of stress related to troubling news was beyond the scope of this dissertation study, recommendations by Stosny and other experts in this field can provide helpful guidance for individuals struggling with their stress responses to current immigration policies and related news. In sum, while this study has shown adverse impacts of current immigration

enforcement policies on community well-being, it has also revealed positive responses and the capacity for resilience among members of this border community.

5.6 Conclusion

In conclusion, this cross-sectional survey study demonstrated links between perceptions of and experiences with current immigration enforcement policies and measures of psychological distress and health care utilization among Hispanic residents with different residency statuses in a border community. The study also revealed protective influences of positive thinking on the experience of immigration enforcement-related stress. Further research is needed to examine effects of recent and ongoing changes to current immigration policies and enforcement approaches within and beyond border communities, including among residents with non-permanent residency statuses, refugees and asylum seekers, and other particularly affected groups. Policymakers should consider the harmful effects of restrictive and criminalizing immigration policies relative to inclusive policy approaches on the physical, social, and economic well-being of diverse border and immigrant communities.

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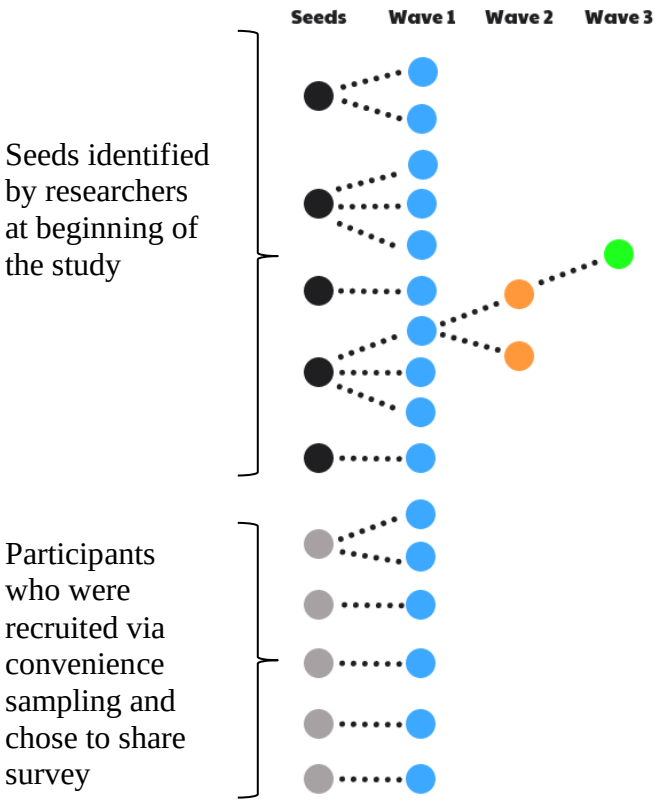
APPENDICES

i. Figures



**each bullet represents one participant (N=29)*
Note, 5 bullets under Wave 0 below represent participants recruited via convenience sampling;
Figure does not include 3 seeds identified by researcher who did not recruit peers for the study.

Figure 4. Participant recruitment chains from respondent-driven sampling*

Figures 5a.-m. Bar charts corresponding to bivariate analyses for categorical variables with significant trend tests

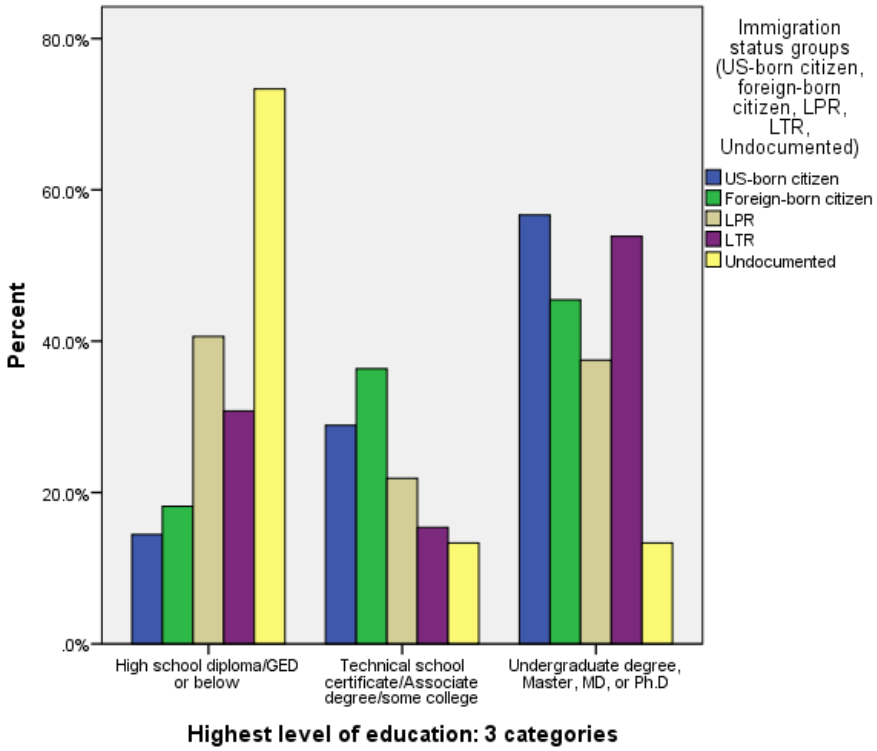


Figure 5a. Highest level of education by residency status

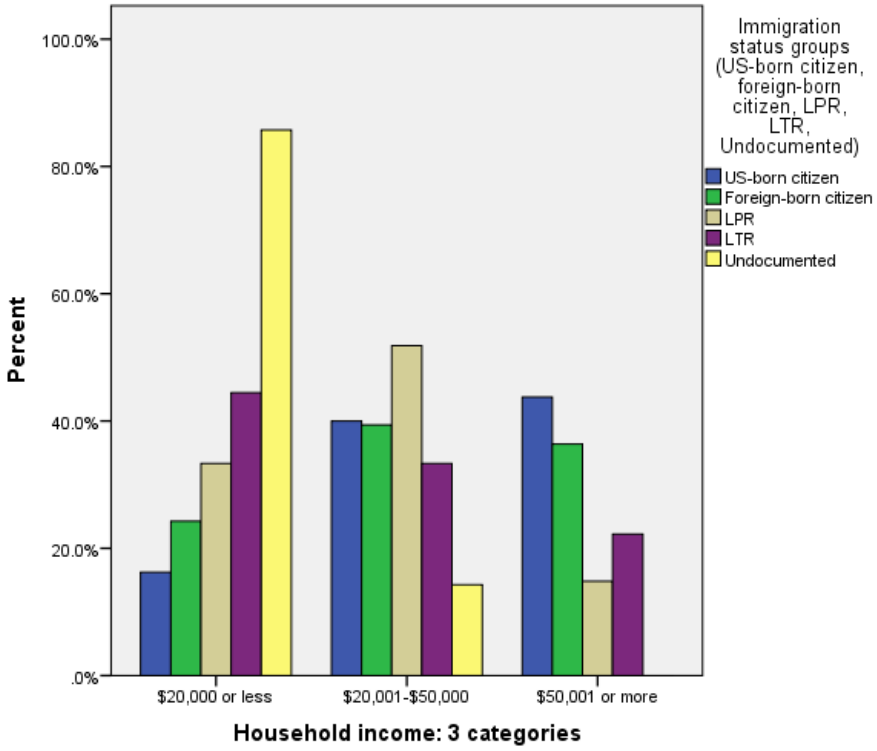


Figure 5b. Household income by residency status

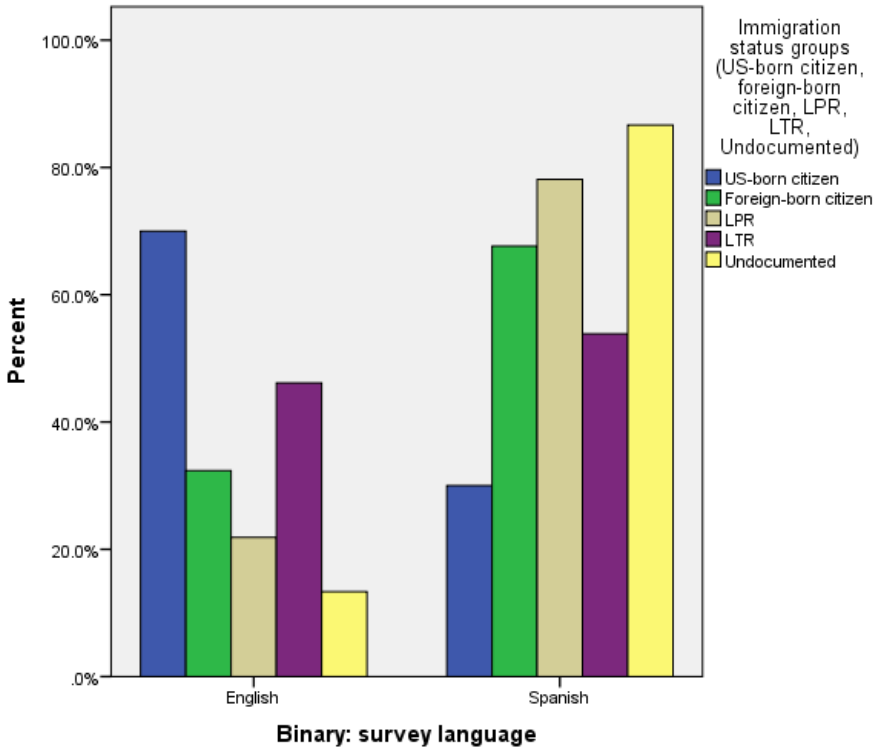


Figure 5c. Survey language by residency status

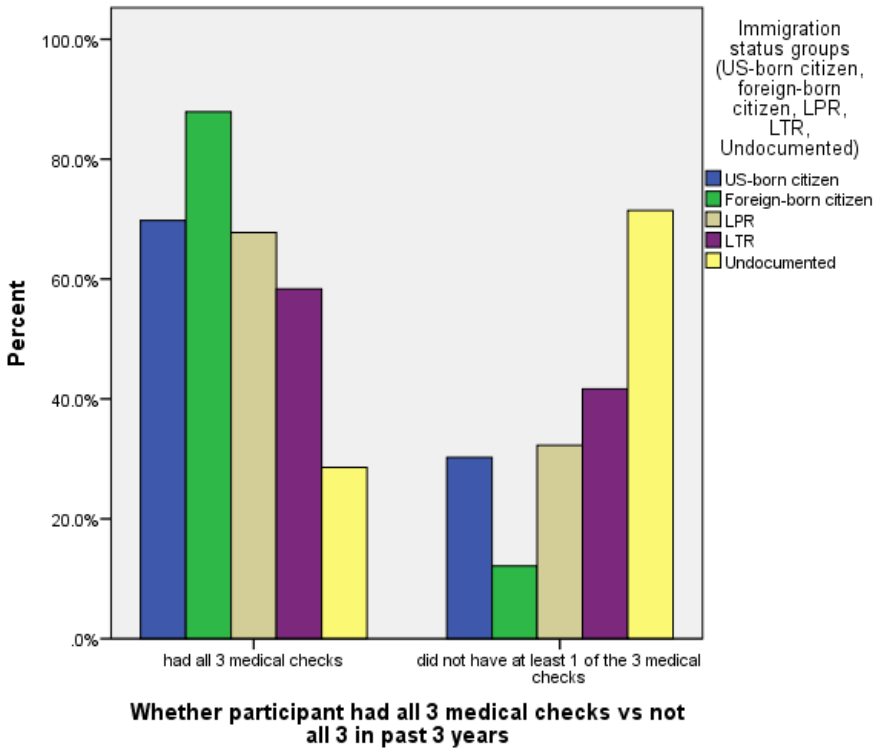


Figure 5d. Medical check-ups by residency status

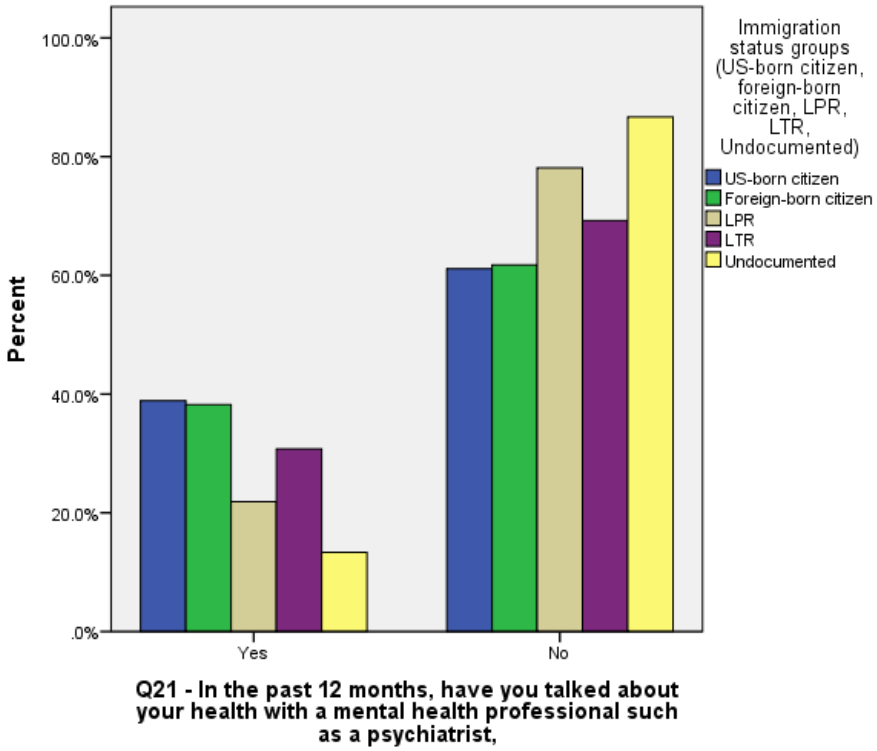


Figure 5e. Mental health care utilization by residency status

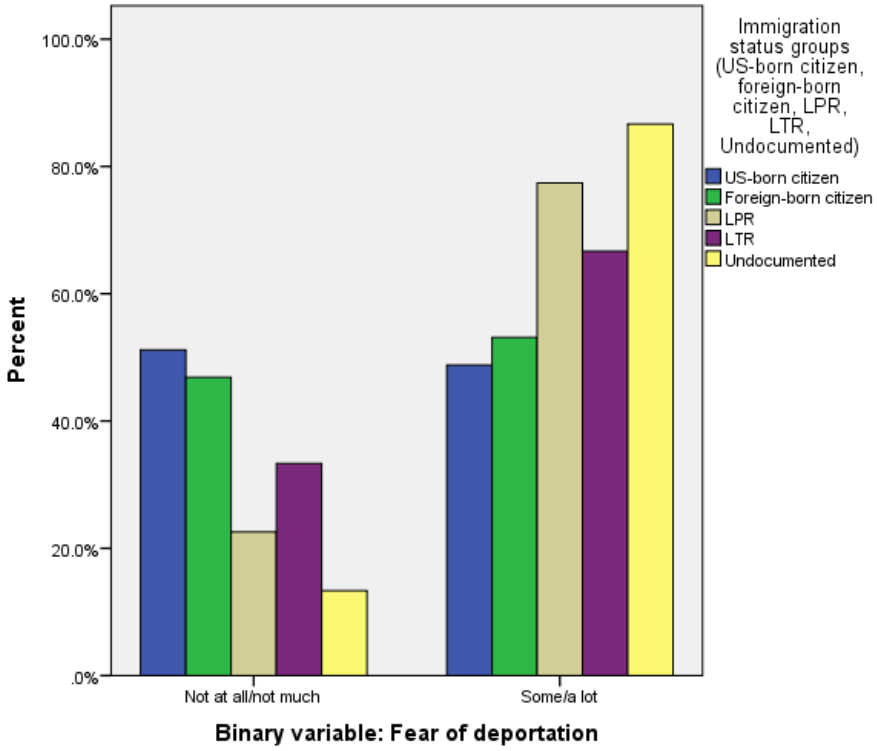


Figure 5f. Fear of deportation by residency status

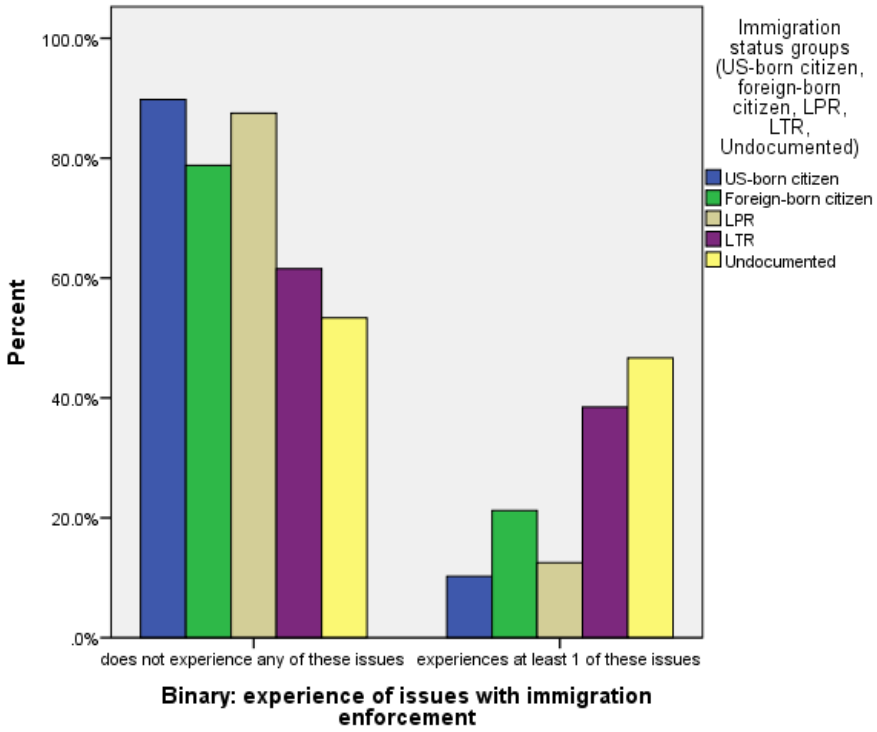


Figure 5g. Experiences of issues with immigration enforcement by residency status

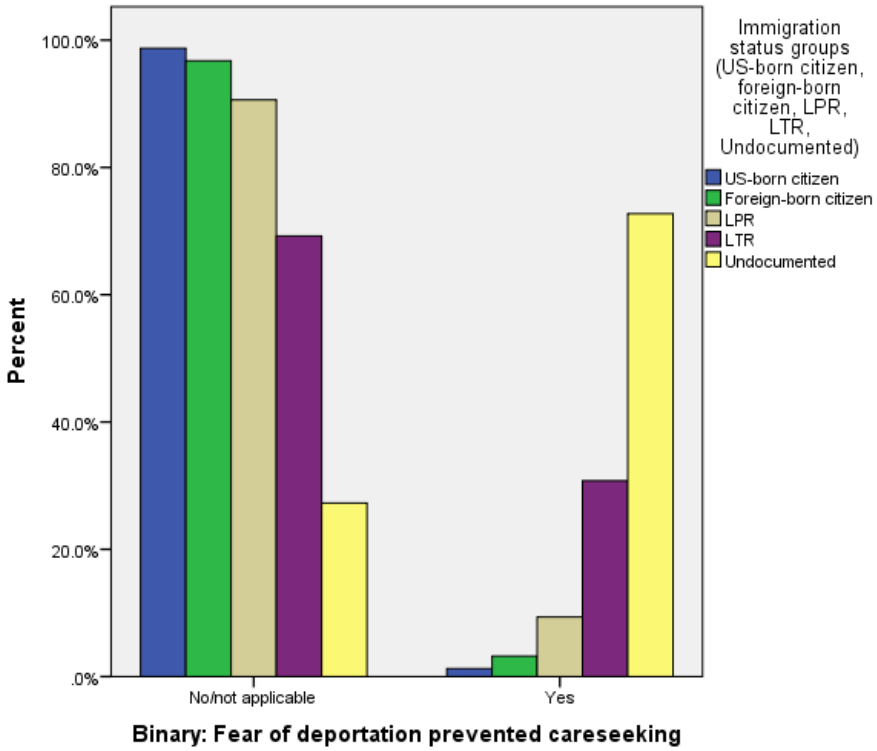


Figure 5h. Whether fear of deportation prevented medical care seeking by residency status

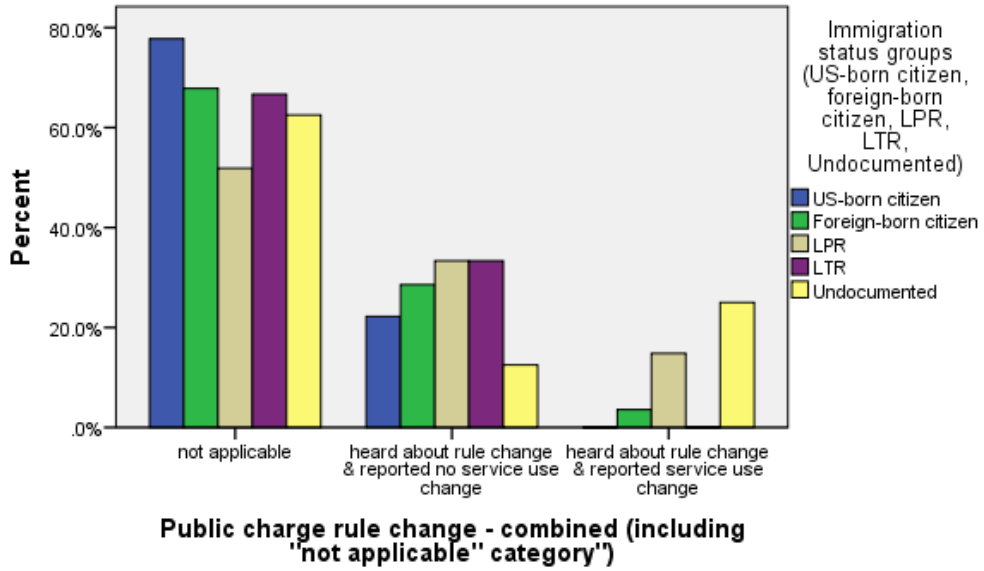


Figure 5i. Responses to proposed public charge rule change by residency status

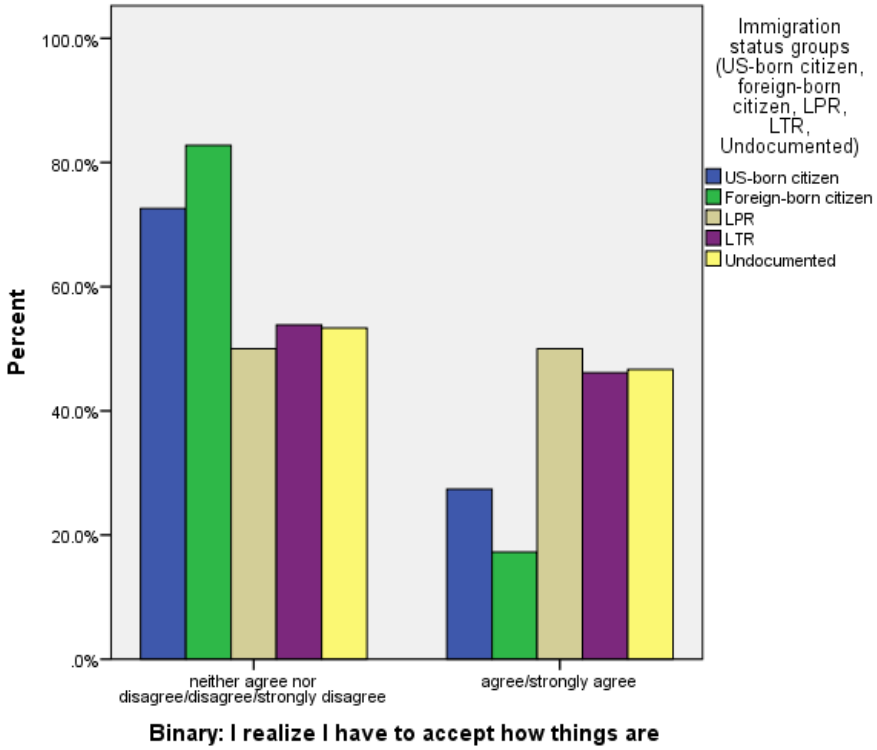


Figure 5j. Coping strategy: Acceptance by residency status

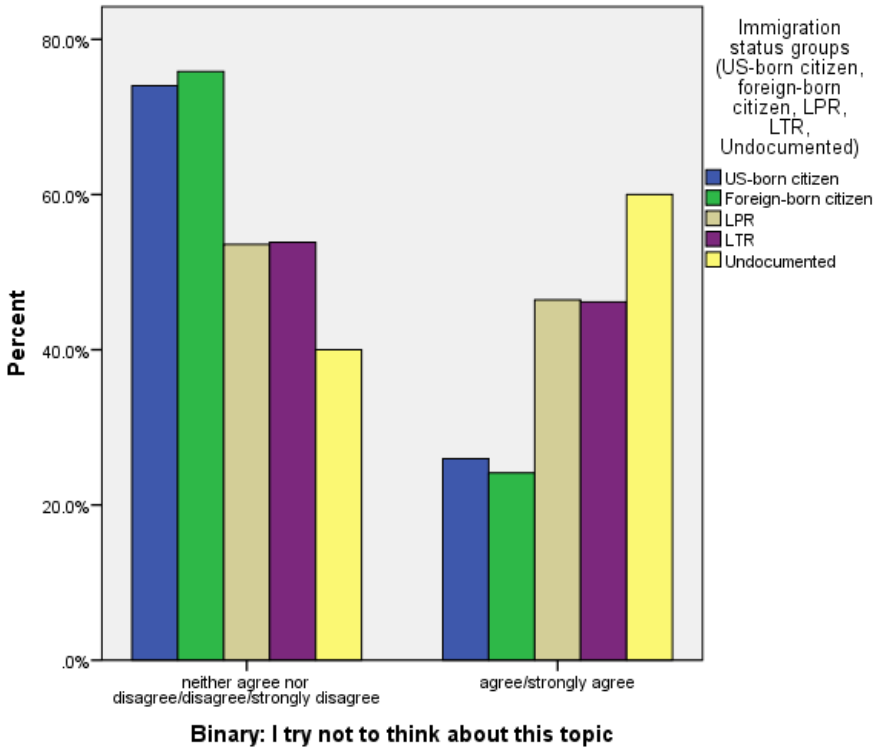


Figure 5k. Coping strategy: Trying not to think about it by residency status

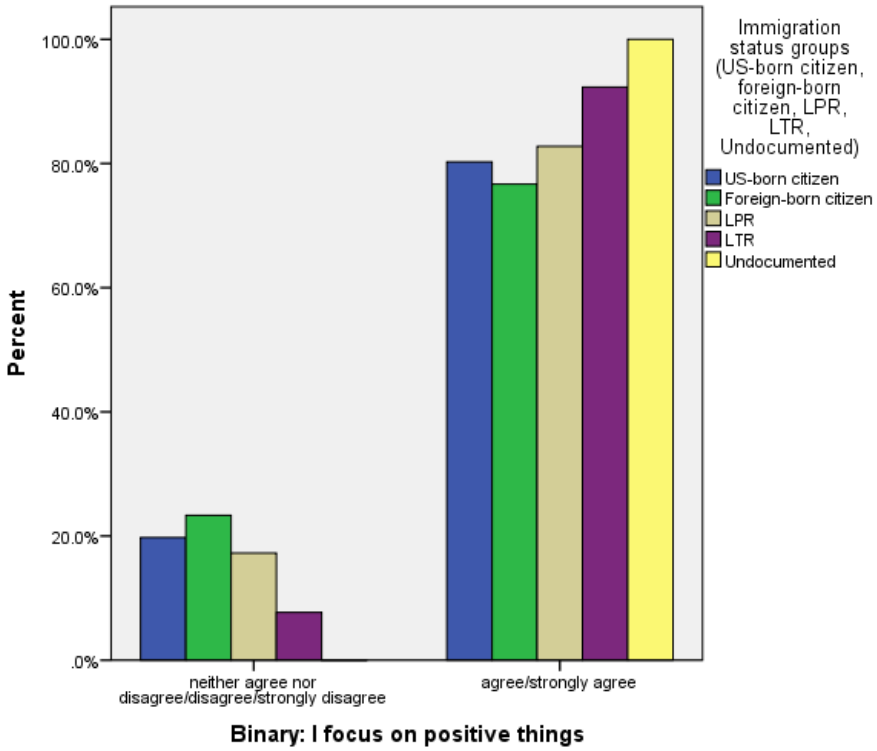


Figure 5l. Coping strategy: Focusing on positive things by residency status

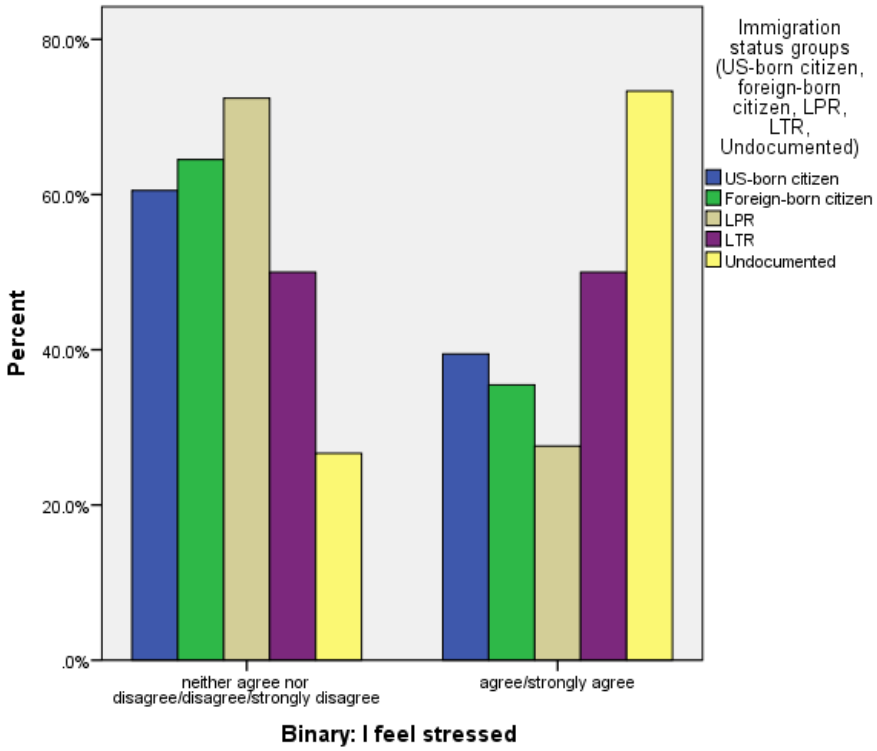


Figure 5m. Feeling stressed by residency status

Figures 6a.-d. Box plots corresponding to bivariate analyses for continuous and categorical variables with significant trend

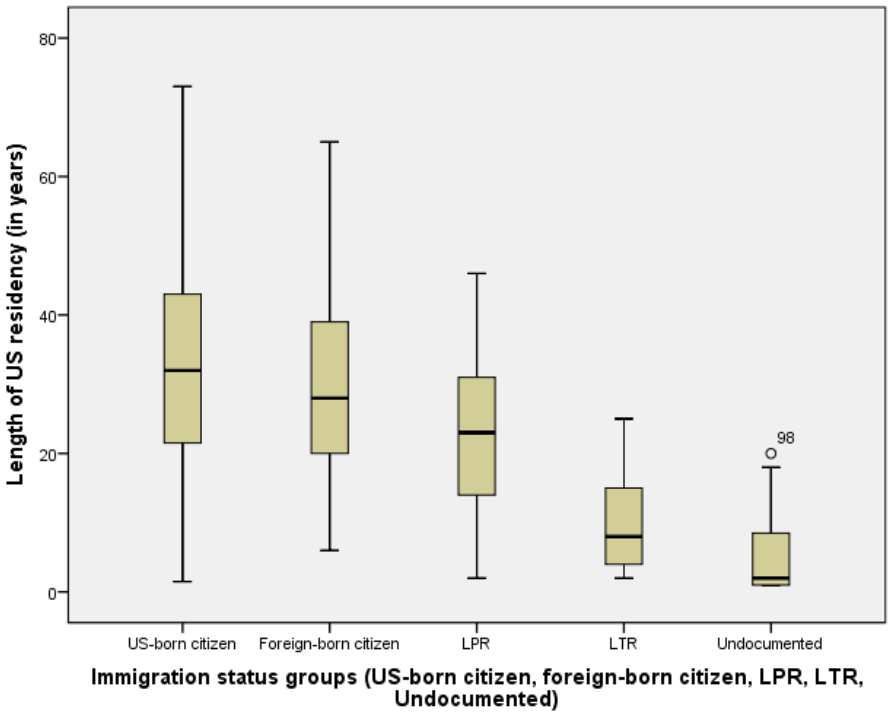


Figure 6a. Length of US residency by residency status

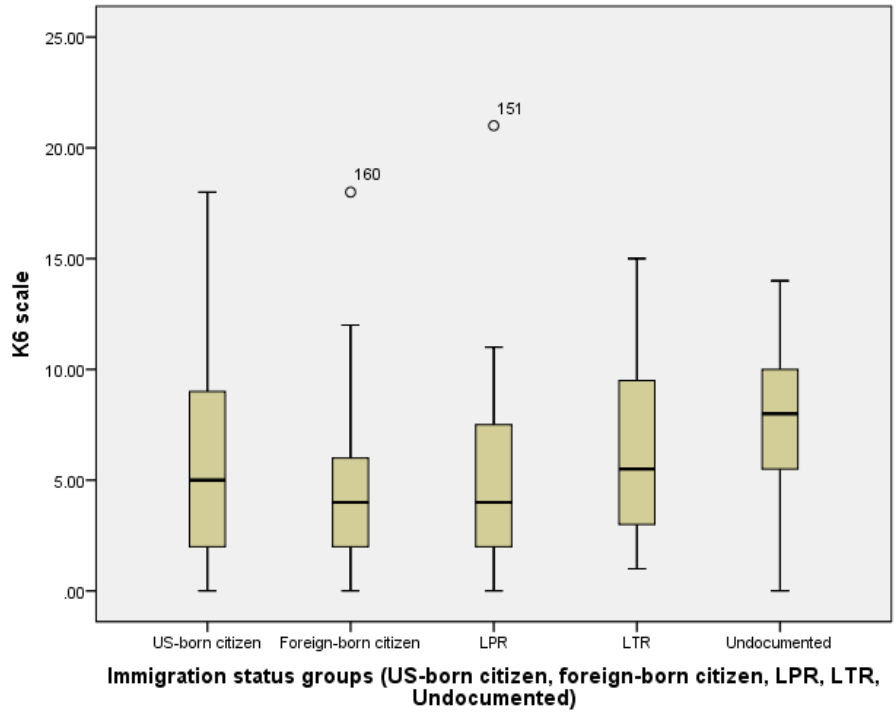


Figure 6b. K6 scale by residency status

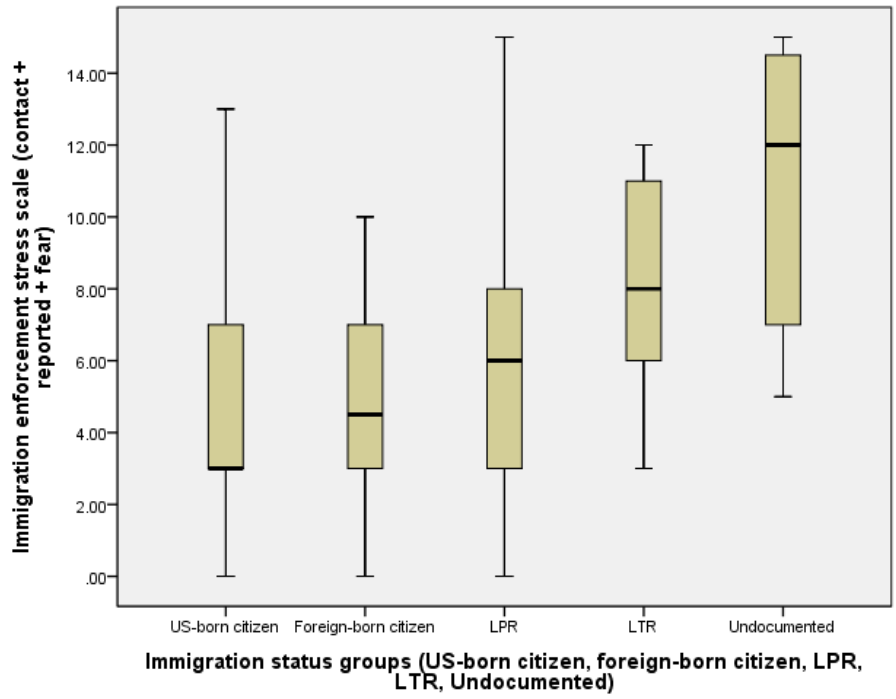


Figure 6c. Immigration enforcement stress scale by residency status

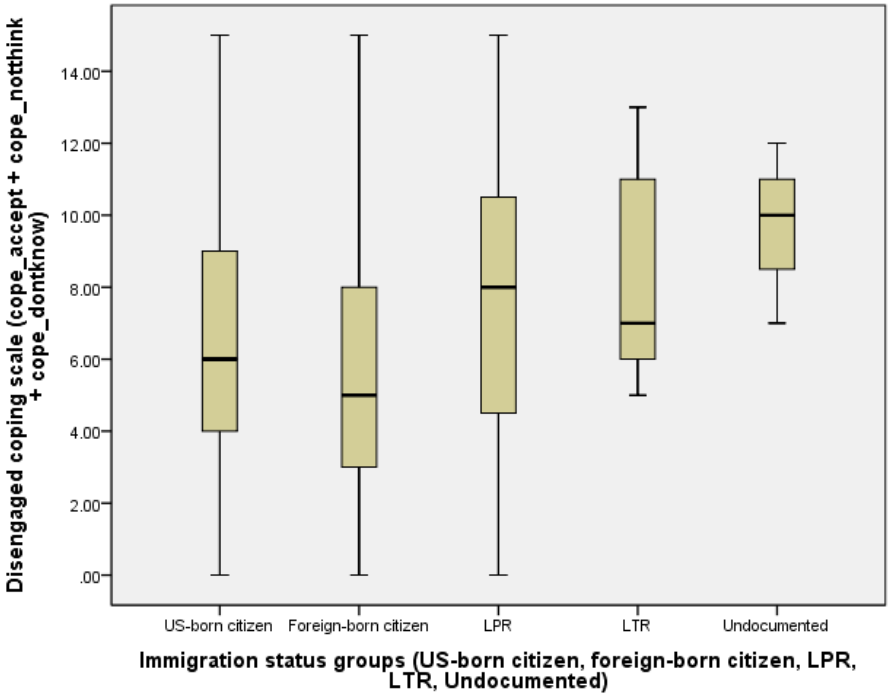


Figure 6d. Disengaged coping scale by residency status

ii. Multiple regression analyses and sensitivity analyses findings

Table 11. Associations between collective efficacy and psychological distress

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=187)**	**Model 2 (N=187)**	**Model 3 (N=187)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Beliefs that community can make things better for immigrants (vs. maybe/not at all)	.092 (-1.183, 1.367)	-.275 (-1.471, .920)	-.448 (-1.695, .800)
Foreign-born citizen (Ref: US-born citizen)		-1.198 (-2.810 .415)	-.311 (-2.053, 1.432)
LPR (Ref: US-born citizen)		-.503 (-2.122, 1.117)	.633 (-1.349, 2.614)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.414 (-2.199, 1.370)	.165 (-2.131, 2.460)
Some/a lot of fear of deportation (Ref: not much/not at all)		***2.287 (1.040, 3.534)******	***1.962 (.606, 3.319)****
Experience of issues with immigration enforcement (Ref: none)		***3.500 (1.907, 5.093)******	***3.010 (1.322, 4.698)******
Age			***-.068 (-.128, -.008)****
Female/other (Ref: Male)			.441 (-.835, 1.716)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			-.303 (-2.122, 1.516)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.779 (-2.347, .788)
Household income $20,000 or below (Ref: $50,001 or above)			**1.648 (-.315, 3.611)***
Household income $20,001 - $50,000 (Ref: $50,001 or above)			.944 (-.612, 2.501)
Uninsured (Ref: Insured)			-.607 (-1.963, .748)
Length of U.S. residency			.024 (-.033, .081)
Survey language Spanish (Ref: English)			-.676 (-2.014, .661)

***p < .10, **p < .05, ***p < .005**

Table 12. Interaction between collective efficacy and experiences of issues with immigration enforcement and psychological distress

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=175)**	**Model 2 (N=175)**	**Model 3 (N=175)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Collective efficacy	.400 (-.917, 1.716)	.016 (-1.299, 1.330)	-..073 (-1.431, 1.286)
Experience of issues with immigration enforcement (Ref: none)	***5.104 (2.796, 7.413)******	***4.384 (2.083, 6.684)******	***4.198 (1.787, 6.608)******
Collective efficacy*experience of issues	-1.831 (-4.924, 1.262)	-1.608 (-4.628, .1412)	-2.093 (-5.133, .948)
Foreign-born citizen (Ref: US-born citizen)		-1.199 (-2.811, .413)	-.301 (-2.040, 1.437)
LPR (Ref: US-born citizen)		-.488 (-2.107, 1.132)	.701 (-1.279, 2.680)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.333 (-2.124, 1.458)	.278 (-2.017, 2.574)
Some/a lot of fear of deportation (Ref: not much/not at all)		***2.252 (1.004, 3.501)******	***1.896 (.540, 3.253)****
Age			**-.071 (-.131, -.011)****
Female/other (Ref: Male)			.561 (-.724, 1.845)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			-.216 (-2.035, 1.603)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.741 (-2.306, .824)
Household income $20,000 or below (Ref: $50,001 or above)			1.572 (-.389, 3.533)
Household income $20,001 - $50,000 (Ref: $50,001 or above)			.825 (-.738, 2.387)
Uninsured (Ref: Insured)			-.587 (-1.939, .765)
Length of U.S. residency			.024 (-.033, .081)
Survey language Spanish (Ref: English)			-.706 (-2.041, .628)

***p < .10, **p < .05, ***p < .005**

Table 13. Sensitivity Analysis: Associations between residency status, immigration enforcement policy perceptions/experiences and self-rated physical health and psychological distress, excluding participants with duplicate IP addresses (N=14)

	Self-rated physical health		Psychological distress (K6)	
Explanatory variables	**Model 1 (N=174)**	**Model 2 (N=174)**	**Model 1 (N=174)**	**Model 2 (N=174)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**	**B (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	-.234 (-.624, .155)	-.233 (-.648, .181)	-1.098 (-2.745, .548)	-.459 (-2.251, 1.332)
LPR (Ref: US-born citizen)	***-.393 (-.781, -.005)****	***-.472 (-.942, -.001)****	-1.023 (-2.663, .617)	-.207 (-2.240, 1.827)
Non-citizen/Non-LPR(Ref: US-born citizen)	-.033 (-.455, .388)	-.135 (-.666, .397)	-.406 (-2.186, 1.375)	-.186 (-2.483, 2.111)
Some/a lot of fear of deportation (Ref: not much/not at all)	.021 (-.275, .318)	-.041 (-.353, .271)	***2.191 (.939, 3.443)****	***1.797 (.450, 3.145)*****
Experience of issues with immigration enforcement (Ref: none)	.197 (-.196, .590)	.161 (-.245, .567)	***3.951 (2.291, 5.612)****	***3.443 (1.687, 5.200)****
Age		.002 (-.011, .016)		-.059 (-.119, .001)
Female/other (Ref: Male)		.128 (-.173, .428)		.342 (-.957, 1.642)
High school diploma /GED or below		.073 (-.344, .490)		-.676 (-2.479, 1.126)
Technical school/Associate degree/some college		.188 (-.172, .548)		-.844 (-2.401, .713)
Household income $20,000 or below (Ref: $50,001 or above)		***.485 (.029, .941)*****		***2.018 (.047, 3.988)*****
Household income $20,001 - $50,000 (Ref: $50,001 or above)		.200 (-.171, .570)		1.203 (-.399, 2.805)
Uninsured (Ref: Insured)		***.370 (.047, .692)*****		-.444 (-1.837, .950)
Length of U.S. residency		.000 (-.014, .013)		.015 (-.042, .072)
Survey language Spanish (Ref: English)		**-.316 (-.634, .002)***		-.260 (-1.635, 1.115)

p < .10, **p < .05, ***p < .005

Table 14. Sensitivity analysis: Associations between residency status, immigration enforcement policy perceptions/experiences and delay/avoidance of medical care and receipt of medical checkups, excluding participants with duplicate IP addresses (N=14)

	Delayed/avoided medical care in past 12 months		**Did not receive all 3 medical checkups in past 3 years**	
Explanatory variables	**Model 1 (N=172)**	**Model 2 (N=172)**	**Model 1 (N=174)**	**Model 2 (N=174)**
	OR (95% CI)	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	.557 (.208, 1.489)	.674 (.225, 2.018)	.393 (.123, 1.260)	.424 (.113 1.596)
LPR (Ref: US-born citizen)	.846 (.332, 2.156)	1.047 (.295, 3.720)	1.038 (.417, 2.587)	1.361 (.392, 4.717)
Non-citizen/Non-LPR (Ref: US-born citizen)	1.465 (.573, 3.742)	1.809 (.474, 6.898)	***2.774 (1.080, 7.126)****	1.914 (.485, 7.547)
Some/a lot of fear of deportation (Ref: not much/not at all)	.911 (.452, 1.836)	.846 (.382, 1.873)	1.782 (.846, 3.755)	1.175 (.489, 2.825)
Experiences issues with immigration enforcement (Ref: none)	***2.996 (1.250, 7.179)****	**2.245 (.858, 5.873)***	.881 (.340, 2.281)	.804 (.255, 2.535)
Age		.977 (.941, 1.014)		***.937 (.897, .980)******
Female/other (Ref: Male)		.624 (.291, 1.336)		.534 (.238, 1.197)
High school diploma /GED (Ref: Undergraduate/Master/PhD)		2.896 (.879, 9.539)		1.294 (.447, 3.910)
Technical school/some college (Ref: Undergraduate/Master/PhD)		***4.553 (1.445, 14.341)****		.626 (.209, 1.873)
Income $20,000 or below (Ref: $50,000 or above)		1.052 (.420, 2.634)		1.160 (.440, 3.055)
Income $20,000 - $50,000 (Ref: $50,000 or above)		.469 (.149, 1.478)		.772 (.214, 2.786)
Uninsured (Ref: Insured)		2.004 (.875, 4.591)		**2.224 (.954, 5.184)***
Length of U.S. residency		1.005 (.970, 1.041)		1.022 (.980, 1.065)
Survey language Spanish (Ref: English)		.799 (.358, 1.782)		1.695 (.720, 3.993)

p < .10, **p < .05, ***p < .005

Table 15. Sensitivity Analysis: Associations between engaged coping strategies and psychological distress, excluding participants with duplicate IP addresses (N=14)

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=138)**	**Model 2 (N=138)**	**Model 3 (N=138)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Disengaged coping scale	.030 (-.229, .288)	.119 (-.121, .360)	.076 (-.180, .332)
Talking to family or friends about this topic	.425 (-1.664, 2.514)	.305 (-1.586, 2.196)	.430 (-1.602, 2.461)
Trying to learn as much as possible about topic	-1.238 (-3.353, .877)	**-1.707 (-3.636, .223)***	-1.513 (-3.565, .540)
Focusing on positive things	***-2.642 (-4.736, -.549)****	**-1.772 (-3.704, .160)***	***-1.994 (-3.979, -.009)****
Praying or meditating	1.522 (-.235, 3.278)	.257 (-1.389, 1.904)	.213 (-1.485, 1.912)
Participating in social activism	.487 (-1.169, 2.143)	.595 (-.921, 2.111)	.462 (-1.128, 2.052)
Foreign-born citizen (Ref: US-born citizen)		-1.139 (-3.101, .823)	-.545 (-2.651, 1.561)
LPR (Ref: US-born citizen)		-.722 (-2.608, 1.164)	-.088 (-2.544, 2.367)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.964 (-3.040, 1.111)	-.568 (-3.362, 2.227)
Some/a lot of fear of deportation (Ref: not much/not at all)		***2.278 (.825, 3.730)****	***1.905 (.339, 3.470)****
Experience of issues with immigration enforcement (Ref: none)		***4.215 (2.262, 6.169)****	***3.595 (1.529, 5.660)****
Age			-.039 (-.112, .033)
Female/other (Ref: Male)			.402 (-1.091, 1.894)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			-.107 (-2.489, 2.274)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.744 (-2.526, 1.038)
Household income $20,000 or below (Ref: $50,001 or above)			**2.414 (.025, 4.803)***
Household income $20,001 - $50,000 (Ref: $50,001 or above)			1.464 (-.337, 3265)
Uninsured (Ref: Insured)			-.746(-2.390, .897)
Length of U.S. residency			.020 (-.052, .091)
Survey language Spanish (Ref: English)			-.236 (-1.806, 1.335)

p < .10, ****p < .05, *****p < .005

Table 16. Sensitivity Analysis: Moderating effect of focus on positive things on association between issues with immigration enforcement and psychological distress, excluding participants with duplicate IP addresses (N=14)

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=175)**	**Model 2 (N=175)**	**Model 3 (N=175)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Focusing on positive things	-.236 (-2.129, 1.657)	-.190 (-2.057, 1678)	-.305 (-2.218, 1.608)
Experience of issues with immigration enforcement (Ref: none)	***8.434 (5.217, 11.652)****	***8.178 (4.979, 11.378)****	***7.767 (4.434, 11.100)****
Focus on positive*experience of issues	***-5.323 (-9.017, -1.630)****	***-5.832 (-9.502, -2.162)****	***-5.825 (-9.589, -2.060)****
Foreign-born citizen (Ref: US-born citizen)		-1.374 (-3.023, .274)	-.758 (-2.556, 1.041)
LPR (Ref: US-born citizen)		-1.267 (-2.937, .403)	-.639 (-2.705, 1.427)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.165 (-1.937, 1.606)	-.042 (-2.314, 2.229)
Some/a lot of fear of deportation (Ref: not much/not at all)		***1.929 (.668, 3.190)****	***1.540 (.190, 2.891)****
Age			**-.051 (-.111, .009)***
Female/other (Ref: Male)			.342 (-.962, 1.646)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			.078 (-1.766, 1.923)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-.768 (-2.362, .825)
Household income $20,000 or below (Ref: $50,001 or above)			**1.690 (-.289, 3.669)***
Household income $20,001 - $50,000 (Ref: $50,001 or above)			1.083 (-.546, 2.713)
Uninsured (Ref: Insured)			-.362 (-1.747, 1.022)
Length of U.S. residency			.019 (-.038, .076)
Survey language Spanish (Ref: English)			-.111 (-1.492, 1.271)

p < .10, **p < .05, ***p < .005

Table 17. Sensitivity Analysis: Associations between residency status, immigration enforcement policy perceptions/experiences and self-rated physical health and psychological distress, without substitution for missing values

	Self-rated physical health		Psychological distress (K6)	
Explanatory variables	**Model 1 (N=146)**	**Model 2 (N=146)**	**Model 1 (N=144)**	**Model 2 (N=144)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**	**B (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	**-.367 (-.763, .029)***	***-.499 (-.931, -.068)****	**-.1650 (-3.402, .103)***	-.607 (-2.468, 1.254)
LPR (Ref: US-born citizen)	**-.378 (-.780, .024)***	***-.637 (-1.128, -.145)****	-.143 (-1.920, 1.634)	1.264 (-.878, 3.406)
Non-citizen/Non-LPR(Ref: US-born citizen)	.096 (-.408, .600)	-.155 (-.750, .440)	-.312 (-2.513, 1.890)	.197 (-2.366, 2.760)
Some/a lot of fear of deportation (Ref: not much/not at all)	-.061 (-.370, .248)	-.044 (-.372, .283)	***2.018 (.661, 3.375)****	**1.367 (-0.50, 2.784)***
Experience of issues with immigration enforcement (Ref: none)	.305 (-.115, .726)	.277 (-.154, .708)	***3.111 (1.272, 4.950)****	***2.586 (.734, 4.438)****
Age		.013 (-.004, .029)		-.087 (-.156, -.017)
Female/other (Ref: Male)		.192 (-.124, .508)		1.024 (-.338, 2.385)
High school diploma /GED or below		.037 (-.448, .522)		-.247 (-2.341, 1.848)
Technical school/Associate degree/some college		.317 (-.080, .714)		**-1.617 (-3.345, .111)***
Household income $20,000 or below (Ref: $50,001 or above)		.310 (-.173, .793)		1.636 (-1.098, 2.114)
Household income $20,001 - $50,000 (Ref: $50,001 or above)		.125 (-.248, .498)		.508 (-1.098, 2.114)
Uninsured (Ref: Insured)		**.295* (-.050, .640)**		-.667 (-2.169, .835)
Length of U.S. residency		-.010 (-.025, .006)		.027 (-.040, .094)
Survey language Spanish (Ref: English)		***-.421** (-.763, -.080)***		-.937 (-2.407, .532)

p < .10, **p < .05, ***p < .005

Table 18. Sensitivity Analysis: Associations between residency status, immigration enforcement policy perceptions/experiences and delay/avoidance of medical care and receipt of medical checkups, without substitution for missing values

	Delayed/avoided medical care in past 12 months		**Did not receive all 3 medical checkups in past 3 years**	
Explanatory variables	**Model 1 (N=146)**	**Model 2 (N=146)**	**Model 1 (N=140)**	**Model 2 (N=140)**
	OR (95% CI)	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Foreign-born citizen (Ref: US-born citizen)	.428 (.143, 1.280)	.395 (.114, 1.368)	.570 (.188, 1.727)	.744 (.198, 2.795)
LPR (Ref: US-born citizen)	1.009 (.391, 2.604)	.878 (.241, 3.202)	1.192 (.449, 3.162)	2.303 (.562, 9.445)
Non-citizen/Non-LPR (Ref: US-born citizen)	1.359 (.428, 4.315)	1.097 (.241, 4.988)	1.162 (.336, 4.018)	1.069 (.199, 5.731)
Some/a lot of fear of deportation (Ref: not much/not at all)	1.096 (.514, 2.335)	1.062 (.441, 2.558)	1.239 (.564, 2.722)	.814 (.324, 2.050)
Experiences issues with immigration enforcement (Ref: none)	***2.944 (1.129, 7.680)***	2.341 (.809, 6.774)	1.902 (.697, 5.185)	1.887 (.626, 5.690)
Age		1.004 (.961, 1.049)		***.923 (.874, .974)****
Female/other (Ref: Male)		.985 (.417, 2.329)		.679 (.279, 1.653)
High school diploma /GED (Ref: Undergraduate/Master/PhD)		2.164 (.512, 9.140)		1.534 (.381, 6.169)
Technical school/some college (Ref: Undergraduate/Master/PhD)		**3.685 (.943, 14.392)***		1.391 (.355, 5.458)
Income $20,000 or below (Ref: $50,000 or above)		1.931 (.685, 5.443)		.751 (.262, 2.156)
Income $20,000 - $50,000 (Ref: $50,000 or above)		.766 (.216, 2.721)		.493 (.122, 1.995)
Uninsured (Ref: Insured)		**2.311 (.919, 5.812)***		1.905 (.727, 4.994)
Length of U.S. residency		.980 (.940, 1.021)		1.033 (.983, 1.086)
Survey language Spanish (Ref: English)		.532 (.208, 1.363)		**2.461 (.943, 6.427)***

p < .10, ****p < .05, *****p < .005

Table 19. Sensitivity Analysis: Associations between engaged and disengaged coping strategies and psychological distress, without substitution for missing values

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=123)**	**Model 2 (N=123)**	**Model 3 (N=123)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Disengaged coping scale	.096 (-.198, .398)	.100 (-.187, .386)	.072 (-.213, .356)
Talking to family or friends about this topic	-.758 (-2.854, 1.338)	-.772 (-2.721, 1.177)	-.773 (-2.721, 1.175)
Trying to learn as much as possible about topic	.524 (-1.680, 2.728)	-.093 (-2.157, 1.972)	.196 (-1.844, 2.237)
Focusing on positive things	***-2.339 (-4.394, -.283)****	**-1.866 (-3.801, .068)***	**-1.759 (-3.637, .118)***
Praying or meditating	.782 (-.978, 2.542)	.067 (-1.601, 1.734)	-.066 (-1.696, 1.563)
Participating in social activism	**1.482 (-.192, 3.157)***	**1.384 (-.190, 2.958)***	***1.582 (.016, 3.148)****
Foreign-born citizen (Ref: US-born citizen)		-.110 (-2.087, 1.866)	-1.162 (-3.682, 1.359)
LPR (Ref: US-born citizen)		-1.627 (-4.219, .965)	-1.918 (-4.694, .857)
Non-citizen/Non-LPR(Ref: US-born citizen)		-.760 (-3.456, 1.935)	-1.592 (-4.292, 1.109)
Some/a lot of fear of deportation (Ref: not much/not at all)		***1.858 (.343, 3.374)****	1.023 (-.558, 2.604)
Experience of issues with immigration enforcement (Ref: none)		***3.289 (1.232, 5.346)****	***2.623 (.569, 4.677)****
Age			**-.077 (-.159, .004)***
Female/other (Ref: Male)			.975 (-.512, 2.461)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			.483 (-2.225, 3.192)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			-1.480 (-3.400, .441)
Household income $20,000 or below (Ref: $50,001 or above)			***2.591 (.112, 5.070)****
Household income $20,001 - $50,000 (Ref: $50,001 or above)			.933 (-.813, 2.680)
Uninsured (Ref: Insured)			-.875 (-2.611, .862)
Length of U.S. residency			.028 (-.051, .106)
Survey language Spanish (Ref: English)			-.753 (-2.350, .844)

p < .10, **p < .05, ***p < .005

Table 20. Sensitivity Analysis: Moderating effect of focus on positive things on association between issues with immigration enforcement and psychological distress, without substitution for missing values

	Psychological distress (K6)		
Explanatory variables	**Model 1 (N=137)**	**Model 2 (N=137)**	**Model 3 (N=137)**
	B (95% CI)	**B (95% CI)**	**B (95% CI)**
Focusing on positive things	-.263 (-2.097, 1.572)	-.359 (-2.168, 1.450)	-.085 (-1.858, 1.688)
Experience of issues with immigration enforcement (Ref: none)	***8.095 (4.781, 11.410)******	***7.437 (4.134, 10.741)******	***7.132 (3.810, 10.455)******
Focus on positive*experience of issues	***-5.943 (-9.843, -2.043)******	***-6.112 (-9.984, -2.240)******	***-6.179 (-10.025, -2.332)******
Foreign-born citizen (Ref: US-born citizen)		.624 (-1.127, 2.375)	-.393 (-2.545, 1.759)
LPR (Ref: US-born citizen)		-1.325 (-3.434, .784)	-1.476 (-3.661, .708)
Non-citizen/Non-LPR(Ref: US-born citizen)		.462 (-1.996, 2.920)	-.392 (-2.839, 2.054)
Some/a lot of fear of deportation (Ref: not much/not at all)		***1.833 (.506, 3.159)****	1.163 (-.209, 2.535)
Age			***-.069 (-.137, -.001)****
Female/other (Ref: Male)			1.052 (-.272, 2.375)
High school diploma /GED or below (Ref: Undergraduate degree or higher)			.660 (-1.424, 2.743)
Technical school/Associate degree/some college (Ref: Undergraduate degree or higher)			**-1.473 (-3.206, .260)***
Household income $20,000 or below (Ref: $50,001 or above)			1.172 (-.883, 3.226)
Household income $20,001 - $50,000 (Ref: $50,001 or above)			.430 (-1.152, 2.011)
Uninsured (Ref: Insured)			-.611 (-2.073, .851)
Length of U.S. residency			.011 (-.055, .077)
Survey language Spanish (Ref: English)			-.979 (-2.407, .449)

p < .10, **p < .05, ***p < .005

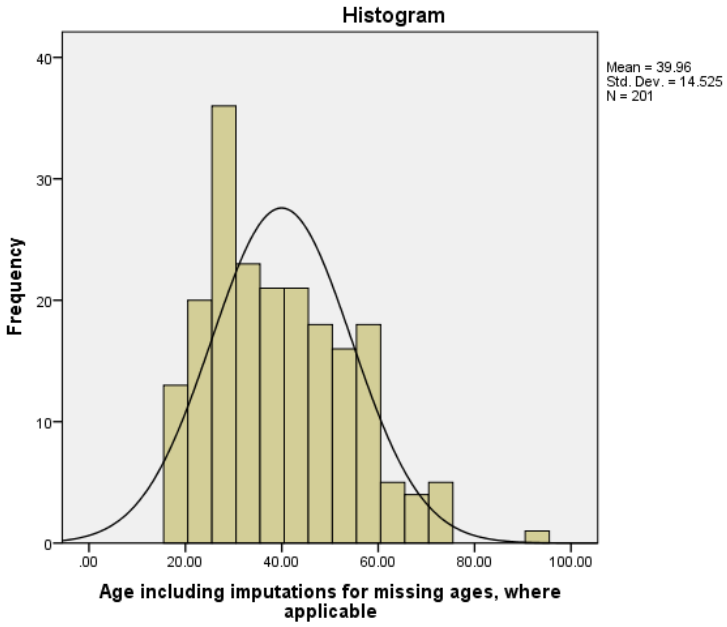
iii. Univariate analyses to determine normal distribution for continuous variables to inform choice of subsequent analyses

a. Age

Statistics

Age including imputations for missing ages, where applicable

N	Valid	201
	Missing	10
Mean		39.9602
Median		37.0000
Std. Deviation		14.52544
Skewness		.578
Std. Error of Skewness		.172
Minimum		18.00
Maximum		91.00
Percentiles	25	28.0000
	50	37.0000
	75	50.0000

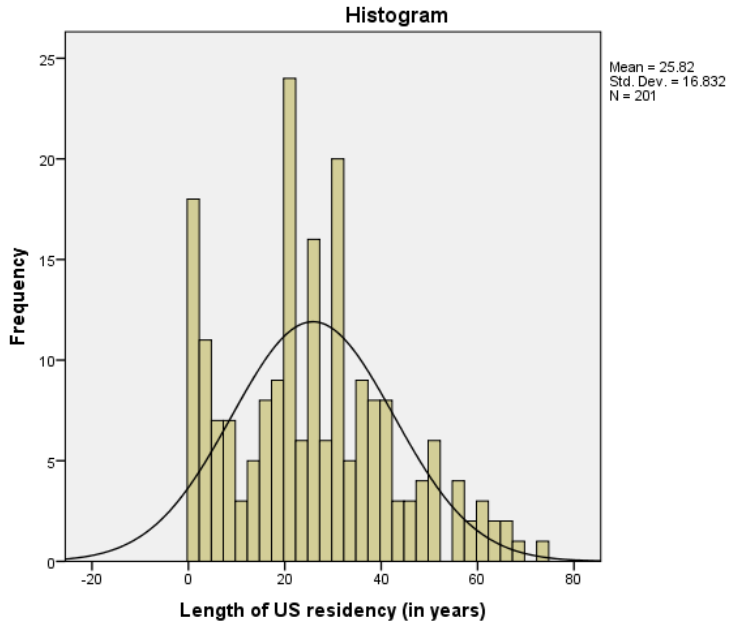


b. Length of US residency

Statistics

Length of US residency (in years)

N	Valid	201
	Missing	10
Mean		25.82
Median		25.00
Std. Deviation		16.832
Skewness		.451
Std. Error of Skewness		.172
Minimum		1
Maximum		73
Percentiles	25	14.00
	50	25.00
	75	36.50

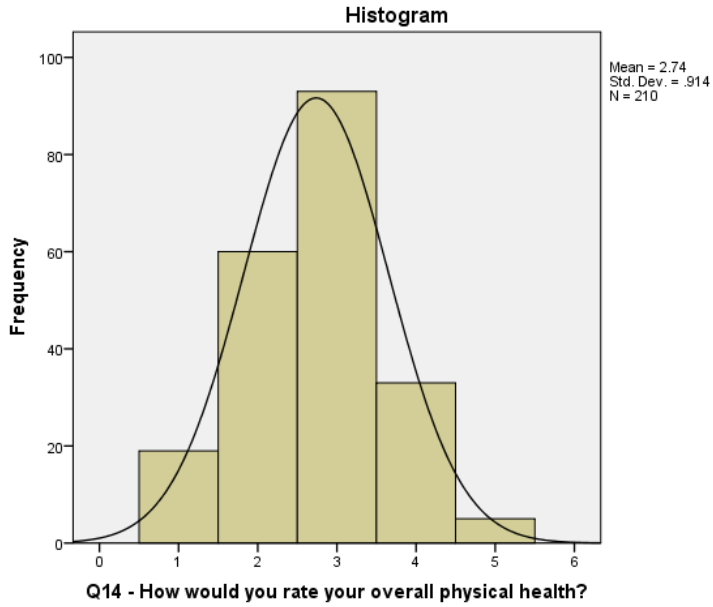


c. Self-rated physical health

Statistics

Q14 - How would you rate your overall physical health?

N	Valid	210
	Missing	1
Mean		2.74
Median		3.00
Std. Deviation		.914
Skewness		.012
Std. Error of Skewness		.168
Minimum		1
Maximum		5
Percentiles	25	2.00
	50	3.00
	75	3.00

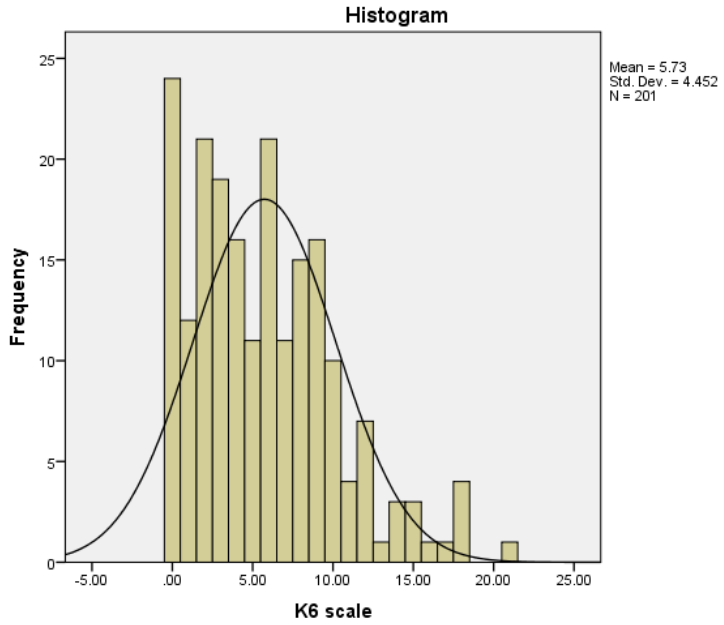


d. K6 scale

Statistics

K6 scale

N	Valid	201
	Missing	10
Mean		5.7264
Median		5.0000
Std. Deviation		4.45194
Skewness		.829
Std. Error of Skewness		.172
Minimum		.00
Maximum		21.00
Percentiles	25	2.0000
	50	5.0000
	75	9.0000

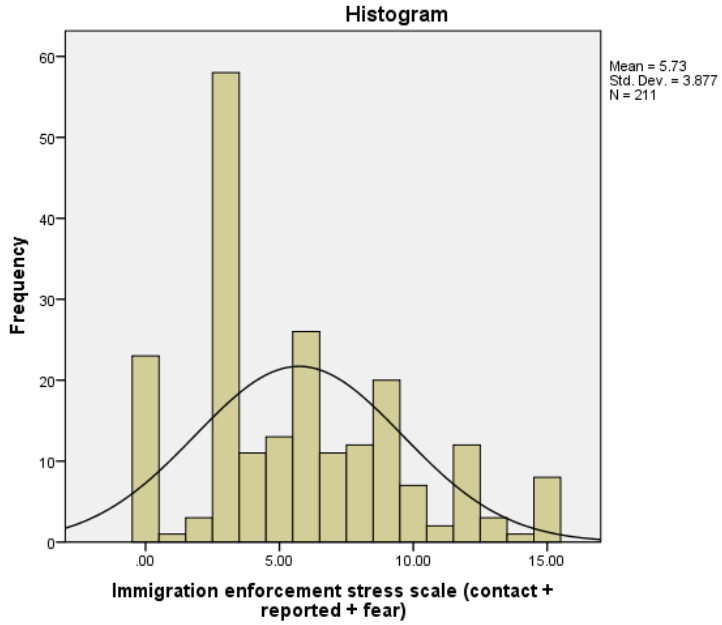


e. Immigration enforcement stress scale

Statistics

Immigration enforcement stress scale (contact + reported + fear)

N	Valid	211
	Missing	0
Mean		5.7251
Median		5.0000
Std. Deviation		3.87671
Skewness		.575
Std. Error of Skewness		.167
Minimum		.00
Maximum		15.00
Percentiles	25	3.0000
	50	5.0000
	75	9.0000

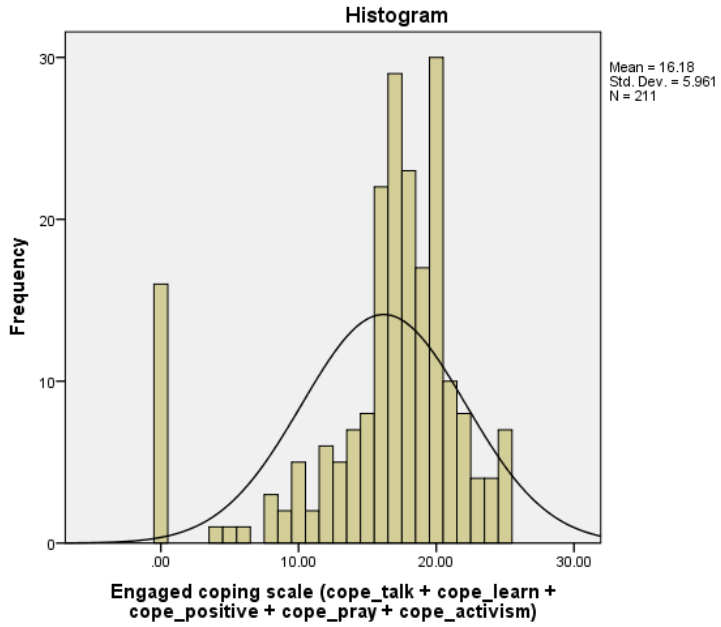


f. Engaged coping scale

Statistics

Engaged coping scale (cope_talk + cope_learn + cope_positive + cope_pray + cope_activism)

N	Valid	211
	Missing	0
Mean		16.1848
Median		17.0000
Std. Deviation		5.96090
Skewness		-1.448
Std. Error of Skewness		.167
Minimum		.00
Maximum		25.00
Percentiles	25	15.0000
	50	17.0000
	75	20.0000

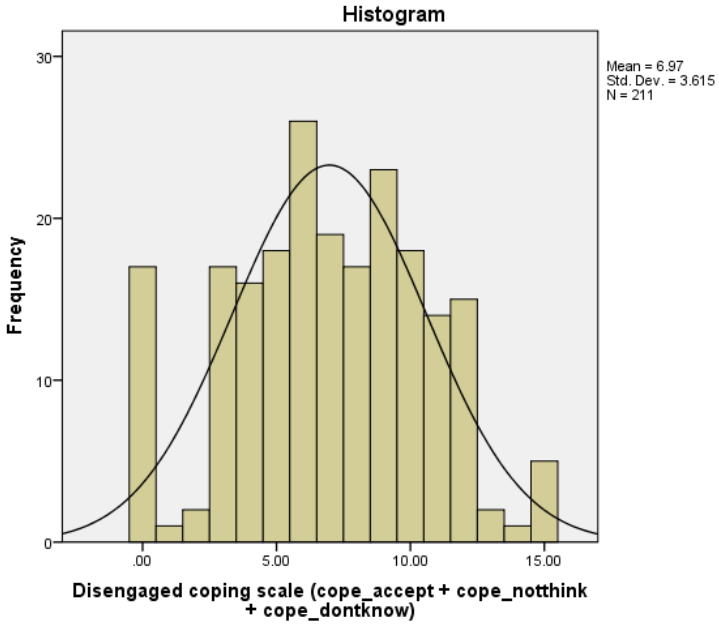


g. Disengaged coping scale

Statistics

Disengaged coping scale (cope_accept + cope_notthink + cope_dontknow)

N	Valid	211
	Missing	0
Mean		6.9716
Median		7.0000
Std. Deviation		3.61467
Skewness		-.098
Std. Error of Skewness		.167
Minimum		.00
Maximum		15.00
Percentiles	25	4.0000
	50	7.0000
	75	10.0000



iv. **Multicollinearity checks**: Variance Inflation Factor to assess multicollinearity in regression model including individual engaged and disengaged coping strategy items

Variable	**VIF**
I talk to friends and family about this topic [cope_talk]	1.410
I try to learn as much as I can about this topic [cope_learn]	1.360
I focus on positive things [cope_positive]	1.206
I pray or meditate to calm myself [cope_pray]	1.141
I participate in social activism [cope_activism]	1.122

v. **Survey Instrument: English**

Project Title: Border Community Well-being Survey
Principal Investigators: Ms. Isabel Latz, Professor Mark Lusk
Organization: College of Health Sciences, University of Texas at El Paso (UTEP)

INTRODUCTION
You are being invited to take part in a study about health and medical service use, and perceptions of U.S. immigration policies among Hispanic/Latino adults in the U.S. Paso del Norte region. This study has received ethical approval from the Institutional Review Board at the University of Texas at El Paso. Before agreeing to take part in this study, please carefully review the information below. Please ask the principal investigators to explain any words or information that you do not clearly understand.

WHY IS THIS STUDY BEING DONE?
The purpose of this study is to examine health, medical service use, and perceptions of immigration policies among Hispanic/Latino adults living in the U.S. Paso del Norte region.

WHAT IS INVOLVED IN THIS STUDY?
This study involves a survey in which we will ask about your emotional and physical health, health care service use, perceptions of immigration policies, and demographic information (such as your age, education, and household income). You are being invited to take part in this study because you are 18 years or older, identify as Hispanic/Latino, and you live in the U.S. Paso del Norte region (Hudspeth or El Paso County in Texas, or Doña Ana, Luna, or Otero County in New Mexico). About 184 participants will be enrolled in this study.

WHAT ARE RISKS OF THE STUDY?
The risks of participating in this study involve the potential loss of anonymity and confidentiality of your data. The investigators will minimize this risk by not collecting your name or any personal identifiers that could be linked to your survey responses. Instead, your data will be assigned a random numeric code to be used for analyses. If you provide your Email address to be entered into the survey raffle and/or to share the survey with your personal contacts, your Email address will be saved separately from your survey responses so they cannot be linked. Your email address will only be visible to the primary investigators and will be deleted at the end of data collection for this study.

ARE THERE BENEFITS TO TAKING PART IN THIS STUDY?
There will be no direct benefits to you for taking part in this study. However, findings from this study are expected to benefit the Hispanic/Latino community and border communities nationwide with improved knowledge about well-being, health care service access, and immigration policy perceptions. Study findings will be shared with community leaders, researchers, policymakers, and health care, social service, and legal service providers.

WILL THERE BE COSTS OR RENUMERATION FOR MY PARTICIPATION?
There are no costs associated with your participation in this study. If you choose to be entered into the survey raffle, you have a chance of winning a 300$ gift card (first prize), $150 gift card (second prize) or $50 gift card (third prize) for completing the survey. If you choose to share the survey with members of your social network via Email (you can recruit up to three participants), you will be entered into the survey raffle an additional time for each person you recruit who ends up completing the survey. You will receive an automatic message when data collection has been completed and we are no longer accepting participants for the study.

WHAT IF I WANT TO WITHDRAW, OR AM ASKED TO WITHDRAW FROM THIS STUDY? Your participation in this study is completely voluntary. If you do not take part in the study, there will be no penalty. If you choose to take part, you have the right to stop at any time. The investigator may decide to stop your participation without your permission, if he or she thinks that being in the study may cause you harm, or if any unforeseen risks to breaches of confidentiality occur.

WHAT ABOUT CONFIDENTIALITY AND MY PERSONAL INFORMATION?
This study is anonymous. The only information you may provide that could allow identification of your person is your Email address. However, the investigators will keep your Email address and survey responses separate. Your Email address will only be accessible to the investigator and will be deleted from our files at the end of data collection.
The investigator will obtain a Certificate of Confidentiality which protects your information from mandatory disclosure based on legal requests (such as a subpoena) by external parties (https://grants.nih.gov/policy/humansubjects/coc/what-is.htm). The researchers with this Certificate may not disclose or use information that may identity you in any federal, state, or local civil, criminal, administrative, legislative, or other action, suit, or proceeding, or be used as evidence, for example, if there is a court subpoena, unless you have consented for this use. Information or documents protected by this Certificate cannot be disclosed to anyone else who is not connected with the research except, if there is federal, state, or local law that requires disclosure.
Every effort will be made to keep your data confidential. The software QuestionPro will be used to collect the survey data. The software complies with General Data Protection Regulations (https://www.questionpro.com/security/). Your individual privacy will be maintained in all published and written data resulting from the study. The results of this research study may be presented at meetings or in publications; however, your identity will not be disclosed in those presentations. All hardcopy documents for this study will be stored in securely locked cabinet files at the UTEP Health Sciences School of Nursing building. Electronic data will be stored on encrypted password-protected devices that only the principal investigators of this study will have access to in the same location.

WHO DO I CALL IF I HAVE QUESTIONS OR PROBLEMS?

You may ask any questions prior to taking, during, or after completing the survey. You may contact Ms. Isabel Latz at 915-213-4351 (iklatz@miners.utep.edu) for assistance in English and Amelia Furrow at 915-224-0820 (alfurrow@miners.utep.edu) for assistance in Spanish. If you have questions or concerns about your participation as a research subject, please contact the UTEP Institutional Review Board (IRB) at (915-747-7693) or irb.orsp@utep.edu.

* AUTHORIZATION STATEMENT

I have read and understood each section of this page about the study. I know that being in this study is voluntary and I choose to be in this study. I know I can stop being in this study without penalty. I can ask for information on results of the study later if I wish.

- ◯ Yes
- ◯ No

Before you get started, please make sure you are in a safe environment and you can complete the survey in private. Please close the window upon survey completion. Thank you and let's get started!

The following questions are about yourself.

* Are you of Hispanic or Latino origin or descent?

- ◯ Yes
- ◯ No

* How old are you?

_____

* Do you currently live in any of the following counties: El Paso, Hudspeth, Doña Ana, Luna, or Otero?

- ◯ Yes
- ◯ No

* What gender do you identify with?

- ◯ Female
- ◯ Male
- ◯ Other

* Where were you born?

- ◯ Mexico
- ◯ US
- ◯ I was born in another country. I was born in:

* How many years have you been living in the US?

_____

* What is the highest level of education you completed?

- ◯ Elementary/middle school
- ◯ Some high school
- ◯ High school diploma/GED
- ◯ Technical school certificate/degree
- ◯ Some college (including Associate's degree)
- ◯ Undergraduate degree (bachelors)
- ◯ Masters or Ph.D.
- ◯ Other, specify:

* What is your annual household income (including yearly earnings of everyone you live with)?

- ◯ $0 - $5000
- ◯ $5001 - $10,000
- ◯ $10,001 - $15,000
- ◯ $15,001 - $20,000
- ◯ $20,001 - $30,000
- ◯ $30,001 - $40,000
- ◯ $40,001 - $50,000
- ◯ $50,001 - $100,000
- ◯ $100,001+
- ◯ Don't know
- ◯ Prefer not to answer

* Do you currently have medical insurance?

- ◯ Yes
- ◯ No
- ◯ Don't know

People get health insurance in different ways. Please select the type of insurance you have:

- ◯ Employer-based insurance through work or job
- ◯ Insurance through Obamacare/Affordable Care Act/Health Exchange Marketplace
- ◯ Medicare of any type
- ◯ Medicaid
- ◯ Health insurance through the military, called TRICARE
- ◯ Some other insurance I privately purchase
- ◯ Insurance through parents
- ◯ Insurance through spouse
- ◯ Don't know
- ◯ Other, specify:

The following questions are about your overall physical health and emotional well-being:

* How would you rate your overall physical health?

- ◯ Excellent
- ◯ Very good
- ◯ Good
- ◯ Fair
- ◯ Poor

* The following questions ask about how you have been feeling in the past 30 days. For each question, please select the option that best describes how often you had this feeling. In the past 30 days, how often did you feel...

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
...nervous?	◯	◯	◯	◯	◯
...hopeless?	◯	◯	◯	◯	◯
...restless or fidgety?	◯	◯	◯	◯	◯
...so depressed that nothing could cheer you up?	◯	◯	◯	◯	◯
...that everything was an effort?	◯	◯	◯	◯	◯
...that you are worthless?	◯	◯	◯	◯	◯

The following questions are about your use of medical services:

* In the past 3 years...

	Yes	No	Don't know
...have you had your blood pressure checked?	◯	◯	◯
...have you had your blood sugar checked?	◯	◯	◯
...have you had your cholesterol checked?	◯	◯	◯

* In the last 12 months, have you delayed or avoided the medical care you needed?

- ◯ Yes
- ◯ No

Please tell us what prevented you from seeking care (select all that apply):

- ☐ I did not have money for the expense
- ☐ I was afraid of drawing attention to myself
- ☐ My work does not give me time off to go to the doctor
- ☐ Lack of transportation
- ☐ I cannot/do not want to go to Mexico for care
- ☐ Other, please explain:

* In the past 12 months, have you talked about your health with a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, therapist, counselor, or social worker?

- ◯ Yes
- ◯ No

The following questions are being asked to learn about your perceptions of and experiences with immigration enforcement policies under the current federal administration:

* What is your current immigration status?

- ◯ I am a US citizen
- ◯ I am a legal permanent resident/green card holder
- ◯ I am a legal temporary resident (such as, DACA recipient, on a student visa, work visa, fiancé visa, etc.)
- ◯ I am not a citizen and not eligible for DACA
- ◯ Prefer not to answer
- ◯ Other, specify:

* Which state do you live in?

-- Select --

* Think about the immigration laws and policies of the state where you live. Are they favorable or unfavorable towards immigrants?

- ◯ Favorable
- ◯ Unfavorable
- ◯ Don't know
- ◯ Prefer not to answer

* Regardless of your own immigration status, how much do you worry that you yourself, a family member, or a close friend will be deported?

- ◯ Not at all
- ◯ Not much
- ◯ Some
- ◯ A lot
- ◯ Prefer not to answer

* As a result of increased public attention on enforcement of immigration policies...

	More	The same	Prefer not to answer	Not applicable
...have you had more trouble getting or keeping a job or has it been about the same?	◯	◯	◯	◯
...have you been asked for documents to prove your immigration status more than in the past or has it been about the same?	◯	◯	◯	◯
...have you had more difficulty finding or keeping a place to live or has it been about the same?	◯	◯	◯	◯

* To what extent do you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Prefer not to answer
My legal status has limited my contact with family and friends	◯	◯	◯	◯	◯	◯
I will be reported to immigration if I go to a social service agency	◯	◯	◯	◯	◯	◯
I fear the consequences of being deported	◯	◯	◯	◯	◯	◯

* In the past two years, has fear of deportation prevented you from seeking medical services in the United States?

- ◯ Yes
- ◯ No
- ◯ Prefer not to answer

* Have you heard about the proposed changes to the “public charge” rule? (These changes would affect how the government decides if an applicant for a green card or a visa is likely to become dependent on the government for support)

- ◯ Yes
- ◯ No
- ◯ Prefer not to answer

Have you reduced or stopped using medical or social services for yourself or your family members because of the proposed changes to the "public charge" rule? (These services include: Medicaid, prenatal care, food stamps/SNAP, WIC, school meals, housing benefits, etc.)

- ◯ Yes
- ◯ No
- ◯ Prefer not to answer

* To what degree do the following statements describe your response to current immigration enforcement policies:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know	Prefer not to answer
I realize I have to accept how things are	◯	◯	◯	◯	◯	◯	◯
I try not to think about this topic	◯	◯	◯	◯	◯	◯	◯
I talk to friends and family about this topic	◯	◯	◯	◯	◯	◯	◯
I try to learn as much as I can about this topic	◯	◯	◯	◯	◯	◯	◯
I focus on positive things	◯	◯	◯	◯	◯	◯	◯
I pray or meditate to calm myself	◯	◯	◯	◯	◯	◯	◯
I participate in social activism such as the following activities: petitions, marches, rallies, etc. with people who share similar views	◯	◯	◯	◯	◯	◯	◯
I don't know what I feel about this topic	◯	◯	◯	◯	◯	◯	◯
I feel stressed	◯	◯	◯	◯	◯	◯	◯

Do you believe that your community treats immigrants well?

- ◯ Yes
- ◯ No
- ◯ Don't know

* Do you believe that your community can make things better for immigrants?

- ◯ Not at all
- ◯ Maybe
- ◯ Definitely
- ◯ Don't know

Did this survey make you think of anything else that you would like to tell us?

vi. **Survey Instrument: Spanish**

Título del Proyecto: Encuesta de Bienestar de la Comunidad Fronteriza
Investigadores Principales: Srita. Isabel Latz, Profesor Mark Lusk
Organización: Colegio de Ciencias de la Salud, Universidad de Texas en El Paso (UTEP)

INTRODUCCIÓN
Se le está invitando a usted a participar en un estudio sobre la salud y el uso de servicios de atención médica y sobre las percepciones de las políticas de inmigración de los EE. UU. entre adultos hispanos/latinos en la región Paso del Norte de los EE. UU. Este estudio ha recibido la aprobación ética del Consejo Institucional Ético Evaluador de la Universidad de Texas en El Paso. Antes de aceptar participar en este estudio, revise cuidadosamente la información a continuación. Favor de solicitar a los investigadores principales que expliquen cualquier palabra o información que no comprenda claramente.

¿POR QUÉ SE ESTÁ REALIZANDO ESTE ESTUDIO?
El propósito de este estudio es para examinar la salud, el uso de los servicios de atención médica y las percepciones de las políticas de inmigración entre los adultos hispanos/latinos que viven en la región de los EE. UU. Paso del Norte.

¿QUÉ ES LO QUE ESTÁ INVOLUCRADO EN ESTE ESTUDIO?
Este estudio incluye una encuesta en la que le preguntaremos sobre su salud emocional y física, el uso de los servicios de atención médica, las percepciones de las políticas de inmigración e información demográfica (como su edad, educación e ingresos familiares). Usted está siendo invitado a participar en este estudio porque tiene 18 años o más, se identifica como hispano/latino y vive en la región Paso del Norte de los EE. UU. (el condado de Hudspeth o de El Paso en Texas, o el condado de Doña Ana, Luna u Otero en Nuevo México). Aproximadamente 184 participantes serán inscritos en este estudio.

¿CUÁLES SON LOS RIESGOS DEL ESTUDIO?
Los riesgos de participar en este estudio implican la posible pérdida de anonimato y confidencialidad de sus datos. Los investigadores minimizarán este riesgo al no recopilar su nombre ni ningún otro identificador personal que pueda ser vinculado a las respuestas de su encuesta. En su lugar, se les asignará un código numérico aleatorio a sus datos que se utilizará al analizar los datos. Si usted proporciona su dirección de correo electrónico para ingresar a la rifa de la encuesta y/o para compartir la encuesta con sus contactos personales, su dirección de correo electrónico se guardará por separado de las respuestas de la encuesta para que no puedan identificarse. Su dirección de correo electrónico solo estará accesible para los investigadores principales y se borrará al final de la recopilación de datos para este estudio.

¿EXISTEN BENEFICIOS POR TOMAR PARTE EN ESTE ESTUDIO?
No habrá beneficios directos para usted por tomar parte en este estudio. Sin embargo, se espera que los hallazgos de este estudio beneficien a la comunidad hispana/latina y a las comunidades fronterizas de todo el país con un mejor conocimiento sobre el bienestar, el acceso a los servicios de atención médica y las percepciones de las políticas de inmigración. Los hallazgos del estudio se compartirán con líderes de la comunidad, investigadores, creadores de políticas y proveedores de servicios de salud, servicios sociales y servicios legales.

¿HABRÁ COSTOS O REMUNERACIÓN POR MI PARTICIPACIÓN?
No hay ningún costo asociado con su participación en este estudio. Si usted elige participar en la rifa de la encuesta, tiene la posibilidad de ganar una tarjeta de regalo con un valor de $50 (tercer premio), $150 (segundo premio), o $300 (gran premio) por completar la encuesta. Si usted elige compartir la encuesta con miembros de su red social por correo electrónico (puede reclutar hasta tres participantes), usted recibirá otra entrada en la rifa de la encuesta por cada persona que complete la encuesta. Usted recibirá un mensaje automático cuando se haya completado la recolección de datos y ya no estemos aceptando más participantes para el estudio.

¿QUÉ SUCEDE SI QUIERO RETIRARME O ME PIDEN QUE ME RETIRE DE ESTE ESTUDIO? Su participación en este estudio es completamente voluntaria. Si no toma parte en el estudio, no habrá ningún tipo de penalización. Si decide tomar parte, tiene derecho a parar en cualquier momento. El investigador puede decidir suspender su participación sin su permiso, si cree que el participar en el estudio puede causarle daños a usted o si ocurren riesgos imprevistos de violación de la confidencialidad.

¿QUÉ HAY DE LA CONFIDENCIALIDAD Y MI INFORMACIÓN PERSONAL?
Este estudio es anónimo. La única información que usted pueda proporcionar que podría permitir la identificación de su persona es su dirección de correo electrónico. Sin embargo, los investigadores mantendrán su dirección de correo electrónico y las respuestas de la encuesta por separado. Su dirección de correo electrónico solo será accesible al investigador y se borrará de nuestros archivos al final de la recopilación de datos. El investigador obtendrá un Certificado de Confidencialidad que protege su información de la divulgación obligatoria basada en solicitudes legales (como una orden de comparecencia) por parte de terceros (https://grants.nih.gov/policy/humansubjects/coc/what-is.htm).
Con este Certificado, los investigadores no podrán divulgar ni usar información que puedan identificarlo en ninguna acción legal, demanda o procedimiento federal, estatal o local civil, penal, administrativo, legislativo o de otra índole, ni podrá ser utilizados como evidencia, por ejemplo, si hay una citación judicial, a menos que usted haya dado su consentimiento para este uso. La información o los documentos protegidos por este Certificado no se pueden divulgar a ninguna otra persona que no esté relacionada con la investigación, excepto si existe una ley federal, estatal o local que requiera la divulgación.
Se hará todo lo posible para mantener sus datos de manera confidencial. Si usted toma la encuesta en línea, se usará el software QuestionPro para recopilar sus datos. El software cumple con las normas generales de protección de datos

(https://www.questionpro.com/security/). Su privacidad individual se mantendrá en todos los datos y escritos publicados que resulten del estudio. Los resultados de este estudio de investigación pueden ser presentados en reuniones o en publicaciones; sin embargo, su identidad no será revelada en esas presentaciones.
Todos los documentos impresos para este estudio se almacenarán bajo llave en gabinetes archivados de forma segura en el edificio de la Escuela de Enfermería de las Ciencias de la Salud de UTEP. Los datos electrónicos se almacenarán en dispositivos encriptados y protegidos por una contraseña a los que solo tendrán acceso los investigadores principales de este estudio en la misma ubicación.

¿A QUIÉN LLAMO SI TENGO PREGUNTAS O PROBLEMAS?
Usted puede hacer cualquier pregunta antes, durante o después de completar la encuesta. Puede comunicarse con la Srita. Isabel Latz al 915-213-4351 (iklatz@miners.utep.edu) para ayuda en inglés y con la Srita. Amelia Furrow al 915-224-0820 (alfurrow@miners.utep.edu) para ayuda en español. Si tiene preguntas o inquietudes sobre su participación como sujeto de investigación, por favor comuníquese con El Consejo de Revisión Institucional (IRB) de UTEP al
915-747-7693 (irb.orsp@utep.edu).

* DECLARACIÓN DE AUTORIZACIÓN

He leído y entendido cada sección de esta página sobre el estudio. Sé que mi participación en este estudio es voluntaria y decido participar en él. Sé que puedo dejar de participar en este estudio sin ninguna consecuencia y que puedo pedir información sobre los resultados del estudio más adelante si así lo deseo.

- ◯ Sí
- ◯ No

Antes de comenzar, asegúrese de estar en un ambiente seguro y de que puede completar la encuesta en privado. Por favor cierre la ventana de internet al completar la encuesta. Gracias, y empecemos ahora!

Las siguientes preguntas son acerca de usted.

* ¿Es usted de origen o descendencia hispana o latina?

- ◯ Sí
- ◯ No

* ¿Cuántos años tiene usted?

_____

* ¿Vive usted actualmente en cualquiera de los siguientes condados: El Paso, Hudspeth, Doña Ana, Luna u Otero?

- ◯ Sí
- ◯ No

* ¿Con cuál sexo (o género) se identifica usted?

- ◯ Femenino (mujer)
- ◯ Masculino (hombre)
- ◯ Otro

* ¿En dónde nació usted?

- ◯ México
- ◯ Estados Unidos
- ◯ Nací en otro país. Nací en:

* ¿Cuántos años tiene usted viviendo en los Estados Unidos?

_____

* ¿Cuál es su nivel más alto de educación?

- ◯ Primaria/Secundaria
- ◯ Algunos años de preparatoria
- ◯ Certificado de preparatoria/“GED”
- ◯ Certificado o título de una escuela técnica
- ◯ Algunos años de universidad (incluyendo “Associate's degree”)
- ◯ Título universitario
- ◯ Maestría o doctorado
- ◯ Otra respuesta. Por favor especifique:

* ¿Cuál es el ingreso anual en dólares de su hogar (incluya las ganancias anuales de todas las personas que viven en la misma casa)?

- ◯ $0 - $5000
- ◯ $5001 - $10,000
- ◯ $10,001 - $15,000
- ◯ $15,001 - $20,000
- ◯ $20,001 - $30,000
- ◯ $30,001 - $40,000
- ◯ $40,001 - $50,000
- ◯ $50,001 - $100,000
- ◯ $100,001 o más
- ◯ No sé
- ◯ Prefiero no contestar

* ¿Tiene usted seguro médico actualmente?

- ◯ Sí
- ◯ No
- ◯ No sé

Las personas obtienen cobertura de seguro médico de diferentes maneras. Por favor indique el tipo de seguro médico que usted tiene:

- ◯ Seguro por medio de su trabajo
- ◯ Seguro por medio de “Obamacare”/ “Affordable Care Act”/”Health exchange marketplace”
- ◯ Cualquier tipo de “Medicare”
- ◯ “Medicaid”
- ◯ Seguro militar, llamado “TRICARE”
- ◯ Algún otro seguro que usted compró por su cuenta
- ◯ Seguro de sus padres
- ◯ Seguro por medio de su esposo o esposa
- ◯ No sé
- ◯ Otra respuesta. Por favor de especifique:

Las siguientes preguntas son acerca de su estado general de salud física y emocional:

* ¿Cómo calificaría su estado general de salud física?

- ◯ Excelente
- ◯ Muy bueno
- ◯ Bueno
- ◯ Regular
- ◯ Malo

* Las siguientes preguntas son acerca de cómo se ha sentido usted en los últimos 30 días. Para cada pregunta, por favor escoja la opción que mejor describa qué tan seguido ha tenido este sentimiento. En los últimos 30 días qué tan frecuente se ha sentido…

	Todo el tiempo	La mayoría del tiempo	A veces	Pocas veces	Nunca
…¿nervioso(a)?	◯	◯	◯	◯	◯
…¿sin esperanza?	◯	◯	◯	◯	◯
….¿inquieto(a) o intranquilo(a)?	◯	◯	◯	◯	◯
…¿tan deprimido que nada pudo animarlo?	◯	◯	◯	◯	◯
…¿que todo era un esfuerzo?	◯	◯	◯	◯	◯
….¿que no vale la pena?	◯	◯	◯	◯	◯

Las siguiente preguntas son acerca de su uso de servicios médicos:

* En los últimos tres años...

	Sí	No	No sé
...¿Le han revisado su presión arterial (sanguínea)?	◯	◯	◯
...¿Le han revisado su nivel de azúcar (en la sangre)?	◯	◯	◯
...¿Le han revisado su colesterol?	◯	◯	◯

* En los últimos 12 meses ¿Usted ha retrasado o evitado recibir servicios médicos que usted necesitaba?

◯ Sí

◯ No

Por favor díganos ¿qué le impidió buscar tratamiento médico (escoja todas las opciones que correspondan):

- [ ] No tenía dinero para ese gasto
- [ ] Tenía miedo de llamar la atención
- [ ] Mi trabajo no me da tiempo para ir al doctor
- [ ] Falta de transporte
- [ ] No puedo o no quiero ir a México para recibir tratamiento médico
- [ ] Otra razón, por favor explique:

* En los últimos 12 meses ¿Usted ha platicado sobre su salud con algún profesional de salud mental como un psiquiatra, psicólogo, enfermero(a) psiquiatra, terapeuta, consejero, o trabajador social?

- ◯ Sí
- ◯ No

Las siguientes preguntas son hechas para conocer sus opiniones y experiencias con la aplicación de las leyes y normas políticas de migración del actual gobierno federal:

* ¿Cuál es su estado migratorio actual?

- ◯ Soy ciudadano americano
- ◯ Soy un residente permanente legal
- ◯ Soy residente temporal legal (por ejemplo: beneficiario de "DACA", con visa de estudiante, visa de trabajo, visa de compromiso de matrimonio)
- ◯ No soy ciudadano y no califico para "DACA"
- ◯ Prefiero no contestar
- ◯ Otra respuesta, por favor especifique:

* ¿En qué Estado vive?

-- Seleccionar --

* Piense en las leyes y normas políticas de migración del Estado en el que usted vive ¿Son favorables o desfavorables hacia los inmigrantes?

- ◯ Favorables
- ◯ Desfavorables
- ◯ No sé
- ◯ Prefiero no contestar

* Independientemente de su estado migratorio ¿Cuánto le preocupa que usted mismo, un miembro de su familia, o un amigo cercano sea deportado?

- ◯ No me preocupa en lo absoluto
- ◯ No mucho
- ◯ Algo
- ◯ Mucho
- ◯ Prefiero no contestar

* Como resultado del aumento de la atención pública a la aplicación de las leyes y normas políticas de inmigración …

	Más	Igual que antes	Prefiero no contestar	Ésta pregunta no se aplica a mí
...¿Usted ha tenido más problemas para obtener o mantener su trabajo, o ha sido más o menos igual que antes?	◯	◯	◯	◯
...¿se le han pedido documentos para comprobar su estado migratorio más seguido, o ha sido más o menos igual que antes?	◯	◯	◯	◯
...¿ha tenido más dificultad en encontrar, o en mantener un lugar donde vivir, o ha sido más o menos igual que antes?	◯	◯	◯	◯

* ¿Hasta qué punto está usted de acuerdo con las siguientes oraciones?:

	Completamente de acuerdo	De acuerdo	Ni de acuerdo ni en desacuerdo	En desacuerdo	Completamente en desacuerdo	Prefiero no contestar
Mi estado legal ha reducido mi contacto con mi familia y mis amigos	◯	◯	◯	◯	◯	◯
Seré reportado a inmigración si voy a alguna agencia de servicio social	◯	◯	◯	◯	◯	◯
Temo a las consecuencias de ser deportado	◯	◯	◯	◯	◯	◯

* ¿En los últimos dos años, el miedo a ser deportado le ha impedido solicitar servicios médicos en los Estados Unidos?

- ◯ Sí
- ◯ No
- ◯ Prefiero no contestar

* ¿Usted ha escuchado hablar sobre los cambios propuestos al reglamento llamado “carga pública” (“public charge”)? (Estos cambios afectarían cómo el gobierno decide si un solicitante para residencia o visa se convierte en dependiente del apoyo del gobierno).

- ◯ Sí
- ◯ No
- ◯ Prefiero no contestar

¿Usted ha reducido el uso o dejado de usar servicios médicos o sociales para usted o para su familia por los cambios propuestos al reglamento de la “carga pública” (“public charge”)? (Estos servicios incluyen “Medicaid”, cuidado prenatal, estampillas de comida/”SNAP”, “WIC”, alimentación escolar gratuita, beneficios de vivienda, etc.).

- ◯ Sí
- ◯ No
- ◯ Prefiero no contestar

* ¿Hasta qué punto describen las siguientes oraciones su reacción a la actual aplicación de las leyes y normas políticas migratorias?

	Completamente de acuerdo	De acuerdo	Ni de acuerdo ni en desacuerdo	En desacuerdo	Completamente en desacuerdo	No sé	Prefiero no contestar
Me doy cuenta que tengo que aceptar las cosas como son	◯	◯	◯	◯	◯	◯	◯
Trato de no pensar sobre este tema	◯	◯	◯	◯	◯	◯	◯
Hablo con mis amigos y mi familia sobre este tema	◯	◯	◯	◯	◯	◯	◯
Trato de aprender lo más que puedo sobre este tema	◯	◯	◯	◯	◯	◯	◯
Me concentro en cosas positivas	◯	◯	◯	◯	◯	◯	◯
Rezo o medito para tranquilizarme	◯	◯	◯	◯	◯	◯	◯
Participo en activismo social como en las siguientes actividades: peticiones, marchas, protestas, etc. con gente que tiene opiniones similares a las mías	◯	◯	◯	◯	◯	◯	◯
No sé cómo me siento sobre este tema	◯	◯	◯	◯	◯	◯	◯
Me siento estresado	◯	◯	◯	◯	◯	◯	◯

¿Cree usted que su comunidad trata bien a los inmigrantes?

- ◯ Sí
- ◯ No
- ◯ No sé

* ¿Cree usted que su comunidad puede mejorar las cosas para los inmigrantes?

- ◯ Para nada
- ◯ Quizá
- ◯ Definitivamente
- ◯ No sé

¿Esta encuesta le hizo pensar en algo más que le gustaría decirnos?

vii. Table 21. Overview of survey items, item sources, and citations corresponding to variables for statistical analyses

Concept	Survey item	Item source	Cited in
Dependent variables			
Self-rated physical health	How would you rate your overall physical health? *(Excellent; very good; good; fair; poor)*	Latino National Health Survey (LNHS) [Question 18]	Vargas et al., 2017
Non-specific psychological distress	The following questions ask about how you have been feeling in the past 30 days. For each question, please select the option that best describes how often you had this feeling. In the past 30 days, how often did you feel a) … nervous? b) …hopeless? c) …restless or fidgety? d) …so depressed that nothing could cheer you up? e) …that everything was an effort? f) …that you are worthless? *(All of the time; most of the time; some of the time; a little of the time; none of the time [1-5])*	K6 scale developed by Kessler et al. (2002)	Brabeck et al., 2016; Venkataramani et al. (2017)
Receipt of medical check ups	In the past 3 years… a) have you had your blood pressure checked? b) have you had your blood sugar checked? c) have you had your cholesterol checked? *(Yes; no; don't know)*	Hispanic Health Disparities Research Center Survey (HHDRC Survey)	
Delay/avoidance of medical care	In the last 12 months, I delayed or did not get medical care I needed. *(Yes; no)* [Followed by open-ended question, "If YES, please explain:…"	Human Impact Partners and LUPE Survey question	Human Impact Partners & Lupe report, 2018
Independent variables			
Residency status	Are you currently a U.S. citizen, a Legal Permanent Resident, ***a temporary resident***, or a non-citizen and not eligible for DACA? (Currently a U.S. citizen; Legal Permanent Resident; ***Temporary resident (for example, on a student visa, work visa, or DACA); Non-citizen/non-permanent or temporary resident***	LNHS [Question D5]	
Immigration enforcement measures			
Fear of deportation	Regardless of your own immigration status, how much do you worry that you, a family member, or a close friend will be deported? *(Not at all; not much; some; a lot)*	2007 Pew Hispanic Research Center survey of Latino adults	Becerra et al., 2013

Concept	Survey item	Item source	Cited in
Issues with immigration	Issues with immigration enforcement scale (=3 items) As a result of increased public attention [on] enforcement of immigration policies… 1) Have you had more trouble getting or keeping a job or has it been about the same? 2) Have you been asked for documents to prove your immigration status more than in the past, or has it been the about same? 3) Have you had more difficulty finding or keeping housing or has it been about the same?'' *(0 = the same; 1 = more). [Scores on scale range from 0 to 3 – higher scores indicating more personal issues as a result of immigration policies]*	2007 Pew Hispanic Research Center survey of Latino adults	Becerra et al., 2013; Quiroga et al., 2014
Protective factors			
Engaged and disengaged coping strategies	To what degree do the following describe your response to ***current immigration enforcement policies***? *1 = strongly disagree; 2=disagree; 3=agree; 4 = strongly agree -9 = don't know/not applicable* a. Realize I have to live with how things are b. Try not to think about it c. Talk to friends and family about it d. Learn all I can about it e. Concentrate on positive things f. Pray or meditate to calm myself **g. Participate in activism (e.g. petitions, marches, rallies, etc.) with people who share similar views** h. Don't know what I feel i. Feel stressed out *(1 = strongly disagree; 2=disagree; 3=agree; 4 = strongly agree -9 = don't know/NA)*	Item included in cross-sectional survey by O'Leary & Romero (2011)	O'Leary & Romero (2011)
Collective efficacy	Do you believe that you**r community** can make **things better for immigrants**? *(1=not at all, 2=maybe, 3=definitely)*	Item included in cross-sectional survey by Romero et al. (2017)	Romero et al., 2017
Additional measures for descriptive statistics and bivariate analyses			
Perception of anti-immigrant sentiments in state of residence	Thinking about the immigrant policies in your state, would you describe Texas policies as favorable or unfavorable towards immigrants *(favorable; unfavorable; don't know; refused)*	LNHS	Vargas et al. 2017
Immigration enforcement stress scale	Immigration enforcement stress scale (=3 items) 1. My legal status has limited my contact with family and friends; 2. I will be reported to immigration if I go to a social service agency; 3 I fear the consequences of deportation. *(strongly disagree=1; disagree=2; neither agree nor disagree=3; agree=4; strongly agree=5)*	First 2 items adapted from acculturative stress scale of 2012 National Latino & Asian American Study; 3rd item from "Good Neighborhood survey"	Lopez et al., 2017

Concept	Survey item	Item source	Cited in
Mental health care utilization	During the past 12 months, have you seen or talked to a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or social worker about your health? *(Yes; No; Don't know)*	Pew Hispanic Health Survey [Item 15]	
Interference of fear of deportation with health care utilization	In the past two years, has the fear of deportation kept you from seeking the services of health care providers within the United States? *(Yes; no; not applicable)*	HHDRC Survey [Question 77]	
Proposed changes to public charge rule		Newly created survey items	N.a.

Note, BOLD wording indicates modifications from original survey item.

viii. Literature review summary tables

Table 22. Studies with focus on beginning of the current federal administration, immigration policy, and enforcement

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Health outcome	Legal status measure
Eskenazi et al. (2019)	Pre-post design	Salinas Valley region, California	N=397 US-born adolescents (aged 14-16) with at least 1 immigrant parent from Mexico	2016 Presidential election; fear and worry about consequences of current immigration policy & rhetoric	Perceived Immigration Policy Effects Scale (PIPES)	Resting blood pressure-related measures, BMI, depression, anxiety problems, sleep quality, child's overall health	Not included
Gemmill et al. (2019)	Pre-post design	National-level	Births data from Centers for Disease Control and Prevention Wonder online database for years Jan. 21, 2009-July 31, 2017	Presidential election in 2016	Pre-election vs post-election	Preterm births	Not included
Krieger et al. (2018)	Pre-post design	New York City	N=230,105 singleton births	Presidential inauguration in 2017	Pre-election vs post-election	Preterm births	Not included
Roche et al. (2018)	Cross-sectional	Mid-Atlantic city	N=213 Latino parents of adolescents	Immigration actions and news	15-item political climate scale	Psychological distress	U.S.. citizen, legal permanent resident, legal temporary resident, undocumented
Stafford et al. (2019)	Qualitative (interviews)	Large city in the Midwest	N=24 young Latinas aged 13-20	Stress related to experience as Latina in the US (data from between 2016-2018)	Stress felt as a Latina currently living in the US	Cultural stressors (e.g., fears of deportation)	Not included (*distinction between first- and second-generation youth*)

Table 23. Studies with focus on self-rated and physical health outcomes (N=8)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Health outcome	Legal status measure
Anderson &Finch (2014)	Pre-post design	Arizona	Adult residents in Arizona (N=4740 in pre-SB1070 sample, N=5,983 in post-SB1070 sample)	S.B. 1070	Pre-SB 1070 vs post-SB 1070 (data from 2009-2011 BRFSS)	Self-reported health	Not included
Cavazos-Rehg et al. (2007)	Cross-sectional	St. Louis	Latino immigrant adults (N=143)	Detention/ deportation policies	Concerns about deportation (for participants themselves)	Subjective health status	Not included
Cho et al. (2011)	Pre-post design	National-level	Mexican women in the U.S. (N= 416,077 foreign-born, 258,061 native)	PRWORA	Pre- vs post- birth and infant death records	Infant mortality	Not included
Martinez et al. (2016)	Cross-sectional	Phoenix, Arizona	Members of 30 Mexican-origin mixed-status families, 65 children and 46 adults (N= 111)	Detention/ deportation policies	Household fear of deportation	BMI, salivary uric acid (sUA), a biomarker related to stress, hypertension, metabolic syndrome	Members of mixed-status families

Novak et al. (2017)	Pre-post design	Postville, Iowa	LBW data of infants of Hispanic and white mothers (N=52,344)	Immigration raid	Birth data before and after raid	Low birth weight	Not included
Torres et al. (2018)	Cross-sectional	Salinas Valley, California	Mexican-origin women (N=545)	Detention/ deportation policies	Worry about deportation	BMI, obesity, waist circumference, pulse pressure	Not included
Vargas et al. (2017b)	Cross-sectional	National-level	Latino adults (N= 1,200)	State-based immigration policies	Nr. of anti-immigrant laws passed in 21 states (that account for 91% of adult Hispanic population) between 2005 and 2011	Self-rated health	U.S. citizen; non-citizen
Vargas & Ybarra (2017)	Cross-sectional	National-level	Latino adults (N= 1,493)	State-based immigration policies	Perceptions of state immigrant policy and perceived anti-Hispanic /immigrant sentiments	Children's health	U.S. citizen; legal permanent resident (LPR); non-citizen/non-LPR

Table 24. Studies with focus on mental health outcomes in Hispanic children and youth (N=9)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Health outcome	Legal status measure
Allen et al. (2015)	Cross-sectional	Texas	Children of parents born in Mexico/Latin America (N=95)	Deportation policies	Parental deportation status	Emotional and behavioral functioning in children	Having a deported parent; parent fighting deportation; neither
Delva et al. (2013)	Qualitative (Interviews)	Washtenaw County, Michigan	20 Latino youth from mixed-status families (aged 11-18)	Detention/ deportation policies	Questions about immigration experiences	Mental health problems	Undocumented; documented with undocumented parents
Dreby (2015)	Qualitative (Interviews)	Ohio, New Jersey Mexico	Children, parents and guardians (N not specified)	Detention/ deportation policies	Family separation due to either deportation or migration restrictions	Children's well-being	Not included
Gulbas et al. (2015)	Mixed methods	Austin, TX; Sacramento, CA; Mexico	U.S. citizen children aged 8 to 15 with undocumented Mexican parents (N=48)	Detention/ deportation policies	Being affected vs. not affected by parental deportation	Psychosocial dimensions of depression	U.S. citizen children with v. without a deported parent
Gulbas & Zayas (2017)	Mixed methods	Austin, Sacramento, Mexico	U.S. citizen children (N=83)	Immigration enforcement policies	Impacts of immigration policies on Mixed-status families	Well-being of U.S. citizen children in mixed-status families	U.S. citizen children only
Rojas-Flores et al. (2017)	Cross-sectional	Southwest	U.S. born Latino children living with at least one undocumented parent (N= 91)	Detention/ deportation policies	Parental immigration status	Posttraumatic stress disorder (PTSD) symptoms and psychological distress in children	U.S. citizen children with detained or deported parent; unauthorized parent, not detained; legal permanent resident parent
Rubio-Hernandez & Ayón (2016)	Qualitative (interviews)	Arizona	N=54 Latino immigrant parents	Anti-immigrant policies in Arizona (Prop 203 & 200, E-verify, LAWA, S.B. 1070)	Questions about experiences as immigrant in the U.S.	Emotional impact on children	With US born children; with mixed-status children
Santos & Menjivar(2014)	Pre-post design	Arizona	Latino youth, wave I (N=726), wave II (N= 1025)	S.B. 1070	Awareness of SB 1070	Socio-emotional outcomes in youth	Not included
Zayas et al. (2015)	Cross-sectional	Sacramento, Austin, several states in Mexico	U.S. citizen children aged 8 to 15 of undocumented parents from Mexico (N=83)	Detention/ deportation policies	Whether or not children were directly affected by parental deportation	Children's psychological health	U.S. citizen children in MX w/deported parent; in US post-parental deportation; no detained/ deported parents

Table 25. Studies with focus on mental health outcomes in Hispanic adults (N=13)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Mental health outcome	Legal status measure
Arbona et al. (2010)	Cross-sectional	Two major cities in Texas	Adults born in Mexico or Central America (N=416)	Immigration enforcement policies	Immigration-related challenges (separation from family, traditionality, language difficulties), fear of deportation	Acculturative stress	Having a permanent/ temporary residency visa (documented) vs. not having such a visa (undocumented)
Bailliard (2013)	Qualitative (observations, interviews)	Town in North Carolina	Hispanic adults (N=19)	Section 287(g), REAL ID Act	Impacts of policies on occupations and daily living	Mental health issues (raised by participants themselves)	U.S.-born; naturalized; visa; undocumented
Becerra et al. (2013)	Cross-sectional	National-level	Latino adults (2,000)	Immigration enforcement policies	Issues with immigration enforcement (e.g., *'have you been asked for documents to prove your immigration status more than in the past, or has it been about the same?'*)	Quality of life, fear of deportation, & use of government services, including health care and social services	Citizen; noncitizen
Becerra et al. (2015)	Cross-sectional	National-level	Latino adults aged 55 and over (N=326)	Immigration enforcement policies	Issues with immigration enforcement (see above)	Quality of life, fear of deportation, & use of government services	Not included
Brabeck et al. (2016)	Cross-sectional	Three cities in a northeastern state	Latino foreign-born parent (N= 178)	Detention/ Deportation policies	Detention/ deportation experiences with the immigration system of themselves or a family member (together with immigration status measure formed 'legal vulnerability' scale)	Economic stress; occupational stress; parent mental health; marital, parenting and family stress, immigration stress, and legal status stress	U.S. citizen; Legal permanent resident; resident or work visa holder
Ebert & Ovink (2014)	Cross-sectional	National-level (569 counties)	Mexican Americans (N=5704)	Exclusionary ordinances (laws that restrict rights of/ services to immigrants)	Whether anti-immigrant ordinance was passed in municipality within county between 2004 and 2006	Discrimination (on the job, by police, from housing agents, in stores/ restaurants, one or more of these areas)	Not included
Hatzen-buehler et al (2017)	Cross-sectional	Data from 31 states	Respondents of the Behavioral Risk Factor Surveillance system survey, aged 18+ (N=293,081)	State-level policy climate	Multi-sectoral policy climate scale, including 14 policies in four domains (immigration, race/ethnicity, language, and agricultural	Number of days of poor mental health and psychological distress	Not included
Lopez et al. (2017)	Pre-post assessment (survey)	Washtenaw County, Michigan	Latino adults pre-raid (N=325), and post-raid (N=151)	Immigration raid	Pre-post immigration raid	Immigration- enforcement stress; self-rated health	Not specified
Rodriguez et al. (2017)	Panel data (surveys from 2007, 2008, 2010, 2013)	National-level	Latino adults (N=6002)	Immigration enforcement policies	Disapproval of immigration enforcement policies (e.g., workplace raids, increase of number of border patrol agents)	Fear of immigration enforcement	U.S. citizen/ permanent resident vs. non-citizen/ non-permanent resident
Sabo et al. (2014)	Mixed methods	Arizona-Sonora border region	Mexican adults (N=299)	Immigration enforcement policies	Immigration related stressors (e.g., encounters with immigration officials)	Perceived ethno-racial profiling and experiences of 'everyday violence'	US citizen/ permanent resident
Sabo & Lee (2015)	Cross-sectional	Arizona-Sonora Border	Arizona-resident farmworkers (N=349) and Mexican-based farmworkers (N=140)	Immigration enforcement policies	Border community and immigration-related stressors (e.g., stress caused by encounters with immigration officials, local police, presence of military in the region),	Stress; fear	US born or naturalized citizen; PR; Temporary resident; undocumented

					Immigration detention experiences, reporting of immigration encounters		
Szkupinski Quiroga et al. (2014)	Mixed methods	Phoenix, Arizona	Latino adults (N=104); Sub-sample for qualitative data (N=51)	Immigration enforcement policies	Whether heightened attention to immigration enforcement affected housing, employment, health care, fear of deportation, school event attendance, being asked for documents	Fear of deportation, service use and daily living (e.g., health care, housing, employment)	Undocumented; documented foreign born; US-born
Vargas et al. (2017a)	Cross-sectional	National-level	Latino adults (N= 1,493)	State-based immigration policies	Perceptions of state immigrant policy and perceived anti-Hispanic/immigrant sentiments	Problems with mental health, worry about deportation, self-rated health	U.S. citizen; legal permanent resident (LPR); non- citizen/ non-LPR

Table 26. Studies with focus on mental health outcomes in Hispanic families and communities (N=14)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Outcomes	Legal status measure
Ayón et al (2011)	Qualitative (focus groups)	Phoenix, Arizona	Mexican immigrants (N=26)	Legal Arizona Workers Act (LAWA)	Questions asked about knowledge and perceived impacts of laws that affected immigrant families	Impacts on participants' families and children, participants' feelings	Not included
Ayón & Becerra (2013)	Qualitative (Focus groups)	Arizona	Latino immigrant parents (52)	Political climate in Arizona	None included in interview guide, raised by participants themselves	Stress and depression; fear; barriers to care	Not included
Brabeck & Xu (2010)	Cross-sectional	Boston	Parents from Latin American country with child <age 18 (N=132)	Deportation policies	Existence of deportation	Family environment and child well-being	Legal vulnerability (based on Citizenship /legal resident vs undocumented status with/without family history of detention/deportation
Dreby (2012)	Qualitative (interviews)	Northeast Ohio, Central New Jersey	Mexican parents (N=91) and children (N=110) in 80 households	Detention/ deportation policies	Experiences of deportation or threat thereof	Fear and confusion due to immigration status/ existence of deportation policies	U.S.-born children; legal migrants; undocumented
Enriquez (2015)	Qualitative (interviews)	Southern California	Undocumented 1.5-generation parents who have U.S. citizen children (N=32)	Immigration enforcement policies	Questions about how undocumented status impacts parenting experiences and participants' children	Multi- generational punishment	Undocumented
Hacker et al (2011)	Qualitative (focus groups)	Everett, Massachusetts	Immigrants (N= 52; 39 of these from Latin America)	Immigration enforcement policies	Questions about impacts of enhanced immigration enforcement	community anxiety and fear, health, and health seeking behaviors	Documented (yes vs. no)
Hagan et al. (2010)	Mixed methods	Texas, North Carolina, El Salvador	Immigrants and their families (N not specified)	Immigration enforcement policies (IIRIRA, PRWORA, 287(6), Operations Gatekeeper, Hold-the-Line)	Views on locally-relevant immigration enforcement policies	Community well-being	Not included
Hardy et al. (2012)	Mixed methods	Flagstaff, Arizona	Latino residents (N=37); Health & social service providers, legal, experts, law enforcement (n=12); community leaders (N=11)	S.B. 1070	Passage and implementation of S.B. 1070 occurred during data collection and was raised by participants as impactful on community health and well-being	Fear; mobility; health seeking behaviors; trust in government officials	Not specified

Horner et al. (2014)	Qualitative (focus groups, interviews)	Southeast Michigan	Latino children, aged 11-18 (N=20)	Detention/ deportation policies	Experiences and meanings of deportation threats	Stress of living in mixed-status families	Undocumented; documented
Juby & Kaplan (2011)	Qualitative (interviews)	Postville, Iowa	Key informants (N=9)	ICE raid at meat processing plant	Post-raid interviews about community impacts	Mental health impacts and broader community impacts	Not included
Rodriguez & Hagan (2004)	Qualitative (interviews)	Texas, Mexico, El Salvador	households (N=510), government officials, social service providers, community leaders, Mexican commuters, Salvadoran deportees	IIRIRA	Familiarity with IIRIRA, anticipated and perceived effects	Family and community impacts	U.S. citizen; LPR; Tourist; undocumented; other
Salas et al. (2013)	Qualitative (focus groups)	Phoenix, Arizona	Mexican immigrant adults and adolescents (N=43)	Immigration laws (broadly), including S.B. 1070	Questions about which laws affect immigrant families and in what ways	Health and mental health (stressors and trauma)	Not included
Sladkova et al (2012)	Qualitative (interviews)	Lowell, MA	Community representatives (N=7)	Immigration enforcement policies	Presence of ICE in Lowell (and at national-level)	Impacts on immigrant community (incl. Health care seeking); community effects	Not included
O'Leary et al. (2015)	Qualitative (focus groups)	Tucson, Arizona	Latino adults (N=32) from immigrant households	Immigration enforcement policies	Experience of living in an immigrant household	Stress; fear	Household with or without undocumented member

Table 27. Studies with focus on mental health outcomes following DACA (N=5)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Outcomes	Legal status measure
Hainmueller et al (2017)	Pre-post assessment	National-level	Mothers (N= 5653) who gave birth to N= 8610 children between 2003 and 2015 (73% Hispanic)	Deferred Action for Childhood Arrivals (DACA)	Pre- vs. post-DACA period	Diagnosis of adjustment disorder, acute stress disorder, anxiety disorder in children	DACA eligible vs. ineligible mothers
Patler & Pirtle (2018)	Cross-sectional	California	Latino immigrant youth (N=487)	DACA	Retrospective (pre-DACA) vs assessment vs current (post-DACA)	Psychological well-being (stress/ nervousness/ anxiety; negative emotions; worry about self-deportation)	DACA eligibility
Raymond-Flesch et al. (2014)	Qualitative (focus groups)	San Francisco	DACA- eligible Latinos aged 18-31 years (N=61)	DACA	Perceptions on how DACA might impact health and access to health care	Health problems, health care access, barriers to health	DACA eligibility
Siemons et al. (2017)	Qualitative (focus groups)	San Francisco Bay area	DACA-elegible Latinos, aged 18-31 (N=61)	DACA	Questions asked about DACA's impact on health and access to health care	Mental health and well-being	DACA eligible
Venkataramani et al. (2017)	Pre-post assessment	National-level	Non-citizen Hispanic adults aged 19-50 years (N=14,973 for self-reported health, N= 5035 for mental health)	DACA	Survey data from pre-vs. post-DACA implementation	Self-reported health and mental health	Eligible vs. ineligible for DACA

Table 28. Studies with focus health care utilization (N=25)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Outcomes	Legal status measure
Health care services broadly (N=12)							
Ayón (2013)	Qualitative (Focus groups)	Arizona	Latino immigrant parents (N=52)	Political climate in Arizona	None included in interview guide, raised by participants themselves	Needed services to promote family well-being	Not included
Castañeda & Melo (2014)	Qualitative (semi-structured interviews)	Lower Rio Grande Valley of South Texas	Mixed-status Latino families (N=55) and health care providers, case workers, public health officials (N= 43)	Immigration policies and policies restricting access to health care (including PRWORA, IIRIRA, 287(g), ACA)	Experiences with health care access as a mixed-status family	Health care access	Not included (participants had to live in a household with different legal status members to be included in study)
Hacker et al. (2012)	Cross-sectional	Everett, Massachusetts	Health care providers (N=156)	Immigration enforcement policies	Impacts of ICE activities *(e.g., Have you noticed any negative effects from local enforcement of federal immigration policies (…)?)*	Immigrant health and use of health care	Whether provider takes care of foreign born/ foreign born undocumented immigrants
Hagan et al. (2003)	Qualitative (interviews)	Five counties in Texas	500 adult residents and 100 officials of public agencies and community-based organizations	PRWORA and IIRIRA	Views about and knowledge of PRWORA and IIRIRA	Health care utilization	Immigration status (US citizen, legal permanent resident, tourist, undocumented, other)
Heyman et al (2009)	Qualitative study (interviews)	El Paso, Texas	Uninsured immigrants in El Paso (N=84)	Immigration enforcement policies	How unauthorized status limits access to healthcare given immigration enforcement policies	Access and barriers to healthcare	Unauthorized; not unauthorized
Kline (2017)	Qualitative (interviews)	Atlanta, Georgia	Undocumented immigrants (n=45), health providers (n=18), staff from health-related NGOs (n=9), nonclinical hospital staff (n=4), state agency workers (n=3), state legislators (n=3), non-health related activist organization leaders (n=2)	HB87, 287(g), Secure Communities	How implementation of HB87, 287(g), Secure Communities changed care seeking (from patient and provider perspective)	Health care service use	Not included
Lopez-Cevallos et al (2013)	Qualitative study (interviews)	Rural Northwest Oregon	Mexican-origin farmworkers (N=179)	Detention/ deportation policies	Fear of deportation	Medical and dental care use	Not included
O'Leary & Sanchez (2011)	Cross-sectional (survey)	Tucson, Arizona	Immigrant women (N=80)	SB 1070 (and other federal/state laws relevant to Arizona's anti-immigrant climate, e.g., PRWORA, HB 2592, HB 2448, Prop 300, E-verify)	Issues with accessing health care due to immigration status	Access to healthcare	Belonging to a mixed-immigration status household vs. not belonging to a mixed-status household
Pedraza et al. (2017)	Cross-sectional	National-level	Latino US citizens (N= 732 for Chi-square; N= 1001 for logistic regression)	State-based immigration policies	Effect of priming "immigration issues" in survey on reporting of health care use	Healthcare use	Latino U.S. citizens only (either naturalized or by birth)

White et al (2014)	Qualitative (Interviews)	Jefferson county, Alabama	Foreign-born Latinas of child-bearing age (N=30)	Alabama's HB 56	Participant's knowledge of HB 56 measures; health care access pre-vs. post-passage	access to health care for themselves and children	Not included
Xu & Brabeck (2012)	Mixed methods	Metropolitan areas in northeast region of the U.S.	Latino immigrant parents (N=120) / Latino immigrant parents (N=21 from 18 families)	Detention/ deportation policies	Experiences related to detention/ Deportation and access to services in mixed-status families	Use of health care and other services for children	Documented vs. undocumented parent
Yeo (2017)	Pre-post design	National-level	N=47,426 pre-PRWORA, N=127,428 post-PRWORA	PRWORA	Pre-vs post PRWORA comparison	Outpatient healthcare use	Citizenship (yes, no)
Specific types of care (N=13)							
Beniflah et al. (2013)	Pre-post assessment	Georgia	Patients self-identifying as Hispanic (82136 total visits)	Georgia's HB 87	Pre-HB 87 (2009 and 2010) vs post-HB 87 (2011)	Visits to pediatric emergency department (via electronic medical records)	Not included
Fenton et al. (1997)	Pre-post assessment	San Francisco County	Adults over 18 (10,856), separating Hispanics and non-Hispanic whites	California's Prop 187	Pre-Prop 187 vs post-Prop 187 (data from August 1993 to April 1995)	Outpatient and crisis mental health service visits (from DMS database)	Not included
Fuentes-Afflick et al. (2006)	Cross-sectional	California, Florida, New York	Hispanic adult women (N=3,242)	PRWORA	Use of prenatal care following PRWORA	Use of prenatal care (adequate vs. inadequate)	U.S.-born citizen, foreign-born citizen, documented immigrant, undocumented immigrant
Joyce et al. (2001)	Pre-post design	California, New York City, Texas	Latina mothers	PRWORA	Birth files from pre- vs. post-PRWORA period	Use of prenatal care and birth outcomes	Not specified
Loue et al. (2005)	Cross-sectional (survey)	San Diego County	Women of Mexican ethnicity (N= 157)	PRWORA & IIRIRA	Difficulty obtaining care after August 22, 1996 compared to prior to the date	Prenatal care use	U.S. citizens; permanent residents (PRs) before 8/22/1996; PRs after 8/22/1996; undocumented
Marx et al. (1996)	Pre-post assessment	Los Angeles county	Patient data from inner-city hospital (serving 83% Hispanic patients)	California Proposition 187	Pre-post use of care at clinic	Ophthalmology clinic use	Not included
Moya & Shedlin (2008)	Qualitative (interviews)	El Paso, Texas	Mexican-origin immigrants (N=30)	Laws and policies (including immigration policies) broadly	Interviews inquired about knowledge of Federal, State and local policies and laws	Treatment-seeking for alcohol and other drug abuse problems	Not included
Rehm (2003)	Qualitative (interviews)	Two cities in western US.	Mexican American families caring for children with chronic health issues (N=17)	Immigration enforcement policies	Not asked directly by researcher, but participants raised impacts themselves	Access to care for children with chronic health conditions	Not included
Rhodes et al. (2015)	Mixed methods	North Carolina	Vital records from Hispanics (N=39,200 pre-implementation, N=28,984 post implementation); Focus groups (n=66), and interviews (n=17) among Latinos	Local immigration enforcement policies (specifically section 287(g))	Pre- vs post Section 287(g) implementation vital records data; questions about impact of local immigration enforcement policies on access to and utilization of health services	Prenatal care utilization	Not included
Spetz et al. (2000)	Pre-post assessment	California	Births data from among US-born and foreign-born	California Proposition 187	Comparing data pre- and post-passage of Prop 187	Prenatal care use; birth outcomes	Not included

			women in CA between 1993 and 1995 (N~600,000)				
Sun-Hee Park et al. (2000)	Qualitative (interviews)	California (LA County, San Diego County, San Francisco Bay area, Central Valley)	Key informants, incl. safety-net providers, immigrant health care advocates, health care providers, government officials from INS and California Department of Health care providers (N=99)	PRWORA and IIRIRA	Questions about low-income pregnant women and their access to health care	Access to prenatal care through Medical	Not included
Toomey et al. (2014)	Pre-post assessment	Large metropolitan city in Arizona	142 Mexican-origin adolescent mothers (N=142) and mother figures (N=137)	S.B. 1070	Survey data pre- vs. post S.B. 1070 implementation	Health care utilization (routine physical examination other than pregnancy/ deliver related; routine medical care visit for child)	Not included
White et al. (2014)	Pre-post design	Jefferson county, Alabama	Electronic health records (N= 140,856)	Alabama's Taxpayer and Citizen Protection Act (House Bill 56)	Pre-post HB 56 utilization rates	County health department clinic visits	Not included

Table 29. Studies with focus on protective factors (N=6)

Author(s) (year)	Study design	Location	Study population (N)	Policy focus	Policy measure	Resilience factors studied	Legal status measure
Ayón et al. (2017)	Cross-sectional (survey)	Arizona	Foreign-born Latino adults (N=300)	Restrictive immigration policy climate in the state	Perceived immigration policy effects scale (4 subscales: discrimination, social exclusion, threat to family, children's vulnerability)	Familismo, social support, spirituality, self-efficacy	Deportation of a family member (yes vs. no)
Philbin & Ayón (2016)	Qualitative (interviews)	Arizona	Immigrant parents (N=54)	Immigration enforcement policies	Impact of policies on families and what parents did to protect children	Strategies by parents to shield children from adverse effects	Not included
O'Leary & Romero (2011)	Cross-sectional (survey)	Arizona	Undergraduate Mexican / Mexican American / Chicana/o students (N=99)	SB 1108	Coping responses to proposed S.B. 1108	Engaged (e.g., talking to friends/family about law; activism; learning about law) vs. disengaged coping styles; civic engagement; ethnic identify (knowledge of cultural history and heritage)	Not included
Romero et al. (2017)	Mixed methods	Small city near the border in Arizona	Low-income, Mexican-decent community members; Study 1: N=143 (91 adults and 52 teens); Study 2: N=311 (184 adults and 127 teens)	SB 1070	Perceived collective efficacy (belief that community can come together/create positive change; belief in community capacity that leads to empowerment to create change)	Immigrant stigma (IS) stress	Not included
Vaquera et al. (2017)	Qualitative (interviews)	Florida	Undocumented/ formerly undocumented youth (half from Mexico) (N=53)	Undocumented legal status	Challenges due to legal status and strategies to overcome these	Coping strategies related to immigration status	Undocumented; DACA recipients; immigrant juvenile visa

Xu & Brabeck (2012)	Mixed methods	Metropolitan areas in northeast region of the U.S.	Latino immigrant parents (N=120) / Latino immigrant parents (N=21 from 18 families)	Detention/ deportation policies	Experiences related to detention/ deportation and access to services in mixed-status families	Social networks; parental efficacy	Documented vs. undocumented parent

CURRICULA VITA

Isabel K. Latz began the PhD program in Interdisciplinary Health Sciences at The University of Texas in the fall of 2016 and successfully defended her dissertation on November 8, 2019. Prior to joining the program, she worked as a Policy Analyst/Research Project Coordinator at the WORLD Policy Analysis Center, first at McGill University and subsequently at the UCLA Fielding School of Public Health. Prior to this role, she provided research assistance on national-level cohort studies at the Center for Epidemiology and Population Health at the Australian National University. Isabel earned her Master's degree in Health Sciences Research and Bachelor's degree in Health Sciences at Maastricht University.

She is currently a lecturer at the Public Health department at UTEP and enjoys the opportunity to teach the next generation of professionals in Health Promotion. In addition, she provides research assistance for a Community Health Assessment in Otero County under guidance from Professor Holly Mata.

Isabel's research interests involve analyses of laws and policies that shape social determinants of health and the role of social, immigration, and immigration enforcement policies in influencing utilization of health care and public assistance services as well as mental health outcomes among individuals with different immigration statuses. She is particularly interested in mixed-method and community-based approaches to assess the health needs of marginalized communities. Her publications include scientific journal articles as lead and co-author, book chapters, and policy briefs, reflecting her commitment to collaborative and interdisciplinary research. She has presented her work at local, national, and international conferences and strives to continue to approach her work from a global perspective. Above all, she is committed to translating research-findings into evidence-based recommendations for policymakers to create measurable changes that promote well-being of diverse communities in the border region and beyond.