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### Downstream Impacts Of Racial Discrimination In Us-Born And Foreign-Born Latinxs

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Downstream Impacts of Racial Discrimination in US-born and Foreign-born Latinxs

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A Thesis

Submitted to the Department of Social and Behavioral Sciences

Yale School of Public Health

In Partial Fulfillment of the Requirements for the Degree of Master of Public Health

Committee Chair: Dr. Sarah Lowe

Committee Members: Dr. Michelle Silva

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## Abstract

Latinxs experience high levels of discrimination with potential negative downstream health impacts and there is question as to what extent nativity status moderates the relationship between discrimination and health. I utilized the National Epidemiologic Survey on Alcohol and Related Conditions Wave III to characterize the impact of self-reported instances of racial discrimination on anxiety as well as engagement with emergency department services in the Latinx population. I found that for Latinxs, each additional reported experience of racial discrimination was associated with 1.23 times odds of reporting generalized anxiety (95% CI: 1.16-1.30). Stratified analyses suggested no difference in the relationship between racial discrimination and generalized anxiety based on nativity status. No significant relationship was found between racial discrimination and utilization of the emergency department specifically for generalized anxiety. However, I found a slight positive association between the number of instances of racial discrimination and the number of times participants utilized the emergency room for any reason. These results provide the groundwork for further investigations into the potentially different pathways discrimination impacts the lives of both US-born and foreign-born Latinxs and unique protective factors.

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Notice: This manuscript was prepared using a limited access dataset obtained from the National Institute on Alcohol Abuse and Alcoholism and does not reflect the opinions or views of NIAAA or the U.S. Government

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## Background

### *Racial Discrimination*

The Latinx population is one of the largest growing ethnic minority groups in the United States with over 59.9 million persons in 2018 (Flores et al., 2018). Latinxs who were born in the US<sup>1</sup> make up a majority of the Latinx population, but there has been an increase in the number of foreign-born Latinxs in the United States (Davis et al., 2016). For example, in the period between 2005 and 2010, over 5 million Latinxs that were born outside of the US entered the country through legal pathways<sup>2</sup> (Walters et al., 2011). In addition, although difficult to accurately assess, estimates place the total population of “illegal” or unauthorized immigrants<sup>3</sup> (not all Latinx) in the United States between 10.6 and 11.1 million (Rodriguez et al., 2016; Warren, 2018).

Great concern has arisen in recent years regarding a perceived increase in anti-immigrant and Hispanophobic rhetoric, particularly from leading members of the US government (Newman et al., 2018). Almost as a byproduct of this increased Hispanophobic rhetoric, there has been a notable increase in discriminatory acts and hate crimes directed at Latinxs (Edwards et al., 2018; Mirandé, 2019). Nearly 60% of all reported hate crimes for race or ethnicity are targeted toward Latinxs (Mirandé, 2019). Qualitative research with 40 white Americans also revealed an attitude of *perpetual inferiority* that whites held against Latinxs, characterizing Latinxs as lesser and “third world” (Lacayo, 2017). At the policy-level, many states are taking more drastic measures to restrict immigration, particularly from Latin American countries. Summarizing previous

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<sup>1</sup> US-born referring to individuals that are US citizens at birth, including people born in US, Puerto Rico or other US territories (Pew Research)

<sup>2</sup> According to Pew Research Center, lawful immigrants are “defined as naturalized citizens; people granted lawful permanent residence (previously known as legal permanent residence); those granted asylum; people admitted as refugees; and people admitted under a set of specific authorized temporary statuses for longer-term residence and work”

<sup>3</sup> According to the Pew Research Center, unauthorized immigrants is a term often used by the US Department of Homeland Security and is applied to individuals that entered the country without valid documents or arrived with valid visas but stayed past their visa expiration date or otherwise violated terms of their admission

literature on immigration law, Viruell-Fuentes and colleagues (2011) described how anti-immigrant or nativist policies are often successful in producing an “othering” effect toward immigrant groups. A notorious example of an anti-immigrant law is SB 1070 passed by Arizona’s state government in 2010 that allowed for police officers to stop, search, and arrest people if there was “reasonable suspicion” of them being in the US without proper documentation (Morse, 2011). As a state, Arizona has also passed previous legislation that withheld social services for people without proper documentation and made it more difficult to acquire employment (Ayón & Becerra, 2013). These policies facilitated interpersonal discrimination, as highlighted by an investigation into Arizona’s Maricopa County Sheriff’s Office, which found that Latinx persons were nearly 4-9 times more likely to be pulled over by a police officer and that police officers were more likely to act on “immigration crime suspicions” when no criminal activity was explicitly reported (United, 2011). Especially notable is that anti-immigrant policies are broadly hostile to Latinxs, with both US-born and foreign-born Latinxs experiencing discrimination (Almedia et al., 2016).

In the general population, perceived discrimination has been closely linked to negative health outcomes (Dion et al., 1992; Troxel et al., 2003; Williams et al., 2003; Pascoe & Smart Richman, 2006). Previous research has found that Latinxs report higher levels of perceived discrimination than other ethnic groups, with negative impacts on mental health, academic performance (DeGarmo & Martinez, 2006), and risky health behaviors (Romero et al., 2008; Okamoto et al., 2009). Additionally, the connection between perceived discrimination and anxiety has been documented amongst Latinxs of various ages (Hwang & Goto, 2008). Previous research has documented how relative degree of ethnic identification (i.e. the sense of belonging to an ethnic group) can serve as a protective factor buffering the relationship between racial discrimination and mental health outcomes (Umaña-Taylor et al., 2008; Torres et al., 2011). Placed within the context of stress and coping, the degree of ethnic identification can be viewed

as a resource that individuals can draw upon when directly faced with instances of discrimination and that can facilitate resilience. However, research in the field has been mixed, with some studies finding that stronger ethnic identity may enhance the relationship between discrimination and adverse psychological outcomes (McCoy & Major, 2003; Yoo & Lee, 2008). For example, a previous study on Mexican immigrants found that higher levels of ethnic identification increased the negative psychological outcomes associated with acculturative stress (Kim et al., 2014). It is possible that having a higher level of ethnic identification leads to hypervigilance of instances of discrimination therein making their negative downstream effects more salient. Recent research has also explored the potential temporal effects of ethnic identity formation, finding that Latinx immigrants that were in a period of ethnic identity “exploration” perceived higher levels of racial discrimination when compared to immigrants who already formulated ideas of their ethnic identity (Gonzales-Backen et al., 2018). For Latinx immigrants to the US, factors such as acculturative stress and exploration of ethnic identity in a new context may lead to greater perception of racial discrimination with more negative mental health outcomes.

### *Generalized Anxiety*

Few studies to date have addressed potentially different experiences of anxiety due to discrimination between immigrant and US-born Latinxs. A major focus of the previous research on Latinxs has been related to experiences of immigration or the post-immigration adjustments often recognized as acculturative stressors (i.e., language barriers, social isolation, unemployment, etc.) (Torres et al., 2012). Rarely have studies sought to understand shared experiences such as perceived racial discrimination in both immigrant and non-immigrant Latinxs. The closest example I could find was a study that looked at the relationship between perceived discrimination and sleep duration and variability. However, instead of comparing effects based on immigration status, the researchers focused on identification with Mexican and Anglo orientations (Zeiders et al., 2017). In this study, they found that individuals with high

identification with both Mexican and Anglo orientations as well as those with just high identification with Mexican orientation were protected from negative impacts of discrimination on sleep duration, whereas those with low identification with both Mexican and Anglo orientations as well as those with just high Anglo orientations were not shielded from these effects. Another study that examined explicit differences between US-born and foreign-born Latinxs worked with a small sample (n=170) and conducted focus groups to understand differences between intergroup and within-group perceived discrimination (Córdova & Cervantes, 2010). However, this research fell short of exploring differences in health outcomes based on these experiences of perceived discrimination.

#### *Emergency room utilization*

Anxiety can manifest across health behaviors and I am particularly interested in how it is reflected in emergency room use. Across the US, trends show an increase in the amount of people using the emergency department for their medical needs (Sun et al., 2018). An estimated 1 in 10 ED visits was made by an uninsured patient (Singer et al., 2018). Additionally, mental health concerns have been found to make up 4.45% of all emergency department visits (Hooker et al., 2019). For many Latinxs and other ethnic minorities, the emergency department is often the first point of contact for seeking help for mental health problems (US, HHS, 2001). Specific to undocumented Latinx immigrants, extra barriers arise when considering engagement with the health care system, including fears of detection and ability to pay, making the emergency room a potentially preferable option for medical care (Giacco et al., 2014). As such, contextualizing and understanding the underlying associations that lead to engagement with emergency services is crucial.

Additionally, when held in tandem with the rise in discrimination and anti-Latinx policies, it is possible that Latinxs are unable to access proper modes of treatment and may be more inclined to opt for treatment in the anonymous emergency setting. Especially when

legislation directly targets health care, there is a noticeable increase in uncertainty and fear in the Latinx population regarding their ability to access care (White et al., 2014). This may also serve as an introductory understanding into the ways in which anxiety might manifest differently across Latinxs, based on nativity status.

I proposed the following investigation to examine more closely a potential pathway in which discrimination is likely to manifest into mental health outcomes. For this study, I focused on generalized anxiety as a mental health outcome. Additionally, I assessed whether differences in perceived discrimination could lead to differences in engagement with the health care system, particularly with emergency services.

To facilitate a better understanding on the relationship between racial discrimination, generalized anxiety, and emergency room utilization, I conducted the following study. I had the following aims that helped guide the analysis:

**Aim 1:** Investigate the association between experiences of racial discrimination and the odds of having generalized anxiety disorder.

**Aim 2a:** Investigate the association between experiences of racial discrimination and the odds of using the emergency department use specifically for generalized anxiety.

**Aim 2b:** Investigate the association between racial discrimination and the odds of emergency department use for any reason.

I hypothesized that the strength of the relationship between discrimination and past diagnosis of generalized anxiety disorder would be higher amongst the foreign-born Latinx population when compared to US-born Latinxs. Additionally, I believed that a similar pattern would be found for foreign-born Latinxs accessing the ED for anxiety. In regard to the final aim, I also predicted that higher levels of discrimination would be related to a greater number of visits to the emergency department, with a stronger relationship amongst foreign-born Latinxs.

## Methods

### *Study Design and Participants*

This study relied upon previous population-based sampling from the National Epidemiological Survey on Alcohol and Related Conditions-III (NESARC III). NESARC III was a cross-sectional survey on the adult noninstitutionalized population of the United States (Grant et al., 2014). The primary goal of the survey was to record information regarding alcohol and drug use and disorders; however, other variables also collected information on mental and physical health as well as discrimination. The total sample for NESARC III was 36,309. Because I was interested in the Latinx population, I included 7,037 participants who identified as Latinx, 3,477 that were born in the United States and 3,587 that were born outside of the United States. Descriptive information on sociodemographic variables for both groups are reported in **Table 1**. Specific to the foreign-born Latinxs, the mean time spent in the United States was 20.1 years (SD= 12.9 years, Range: <1-79). Among foreign-born Latinxs, the top four locations of origin were as follows: Mexico (n=2028, 56.5%), El Salvador (n=217, 6.1%), Dominican Republic (n=169, 4.7%), and Cuba (n=150, 4.2%).

As reported elsewhere (Grant et al., 2014), NESARC III selected participants using a multistage probability sampling design. NESARC III purposefully oversampled for racial minorities (Latinx, black, and Asian) to achieve a more representative sample of racial/ethnic subgroups. Participants involved in the initial study were recruited to complete face-to-face interviews and an overall response rate of 60.1% was achieved (Grant et al., 2014). Data for the study was collected between April 2012 and June 2013. The protocol and procedures for informed consent were approved by both the Institutional Review Boards of the National Institutes of Health and Westat. The present statistical investigation was granted exemption from the Institutional Review Board at Yale University.

### *Measures*

## *Generalized Anxiety Disorder*

NESARC relied upon the Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-V Version (AUDADIS-V) to assess mood, anxiety, post-traumatic and eating problems (Grant et al., 2011). The reliability of the AUDADIS-V has been extensively reported (Chatterji et al., 1997; Grant et al., 2003). Specific to generalized anxiety disorder (GAD), two questions served as screeners that determined whether participants moved onto more specific questions about individual symptoms of GAD. Subsequent questions regarding symptomatology were linked to individual symptoms listed in the DSM-5 criteria for the disorder. The diagnoses were reported on two different time frames: (1) within the past year and (2) prior to the past year. In the current study, I focused on diagnoses made within the past year.

## *Discrimination*

The NESARC III introduced Latinx-specific measures related to perceived discrimination. Questions assessed the frequency (1=never, 2=almost never, 3=sometimes, 4=fairly often, 5=very often) of specific instances of discrimination ranging from racist name calling to discrimination in the healthcare setting. There was a total of six questions, and each assessed for (1) the past year and (2) prior to the past year. For the following analysis, I focused on past year instances of discrimination. Following similar studies (Krieger & Sidney, 1996; McLaughlin et al., 2010; Carliner et al., 2016) that used NESARC's discrimination measures, I recoded each discrimination measure into a binary variable where participants reported experiencing a discriminatory event at least "sometimes" (at a rating of 3). I then created a composite variable for all of these experiences where potential discrimination was reported with a possible range of 0-6.

## *Emergency Room Utilization*

There were two measures related to emergency room utilization in which I was interested. The first was nested within measures of GAD. All participants that made it past the

initial two screening questions for the GAD measures were then asked, “Did you EVER go to an emergency room to get help for feeling worried or anxious?” This was coded as a dichotomous variable. However, because I was interested in understanding broader utilization of the emergency room, I also used the more general measure included later in the survey. This question asked for the number of times that an individual received medical care or treatment from a hospital emergency room for any reason. The outcome was a continuous variable ranging from 0 to 10.

### *Demographic Data*

Demographic data collected in NESARC III and utilized in this analysis included sex (male or female), age (continuous), education level (less than high school, high school, some college, college graduate), partnered status (married/living together, separated/divorced/single), family income (<\$10,000, \$10,000-\$49,999, \$50,000-\$99,999, and > \$100,000 ), insurance status (any type of insurance, no insurance), and employment status (working full-time or part time, unemployed).

### *Statistical Analysis*

All analyses were performed using the Statistical Analysis System (SAS) statistical software package, version 9.4 SAS Institute Inc., Cary, NC, USA. Preliminary analyses were conducted to look at descriptive characteristics of the sample population and stratified by nativity status. I estimated the relationship between perceived racial discrimination and generalized anxiety using logistic regression models, first in an unadjusted logistical regression and then in an adjusted model controlling for sex, age, education, partnered status, household income, employment status, and insurance status. For the second aim, I looked at emergency room visits specific for generalized anxiety disorder and ran a logistical regression based on the cumulative perceived racial-discrimination events. To achieve the third aim, I ran unadjusted and adjusted linear regression models with perceived discrimination as a predictor of the number of

emergency room visits for any reasons with the past year. I controlled for the previously listed demographic variables. Across these analyses, I tested for effect modification by performing separate regressions based on nativity status.

## Results

### *Preliminary Analyses*

Demographic variables for the full sample and stratified by nativity status, are presented in **Table 1**. The US-born Latinx group was on average younger, more highly educated, reported higher levels of family income, and were more likely to be insured than foreign-born Latinxs. However, foreign-born Latinxs were more likely to report being married or living with someone and to report part-time or full-time employment compared to US-born Latinxs. Differences in the distribution of gender between the two cohorts were nonsignificant. For variables of interest in the exploratory analysis, I presented a summary of the distribution of these variables in the study sample in **Table 1**. US-born were significantly more likely to have been diagnosed with GAD in the past year compared to foreign-born Latinxs. Whereas ED use for GAD was higher in the US-born Latinx group, this result was not statistically significant. For past-year ED use, US-born Latinxs had a slightly higher average number of visits when compared to foreign-born Latinxs, and the difference by nativity status was statistically significant. Foreign-born Latinxs were more likely to report experiencing 3+ instances of racial discrimination in the past year, which was marginally statistically significant when compared to the US-born Latinxs.

### *Predictive Models*

#### *Generalized Anxiety*

**Table 2** presents the statistics from three unadjusted models for the logistic regression between diagnosis of generalized anxiety and experiences of racial discrimination. In the pooled sample on the first row of **Table 2**, each additional reported experience of racial discrimination was associated with a 1.23 times odds of reporting generalized anxiety (95% CI: 1.16-1.30). Results from the stratified analysis suggested that there was no effect modification present as the

odds ratios for both groups overlapped. Amongst both groups, there was a statistically significant increase in the odds for generalized anxiety associated with each additional experience of racial discrimination.

The results of the adjusted models examining the relationship between perceived racial discrimination and generalized anxiety are reported in **Table 2**. When covariates were included in the pooled model, the observed odds ratio between perceived racial discrimination and generalized anxiety increased slightly. Specifically, we noted 1.25 times the odds of reporting generalized anxiety (95% CI: 1.18-1.33). The model was repeated to test for effect modification, although similarly, the confidence intervals for the odds ratios overlapped suggesting no statistically significant difference.

#### *Emergency Room Utilization*

The results from the logistic regression model examining perceived racial discrimination as a predictor of emergency room utilization for generalized anxiety are reported in **Table 3**. In both the pooled and the stratified models, the relationship between perceived discrimination and emergency room utilization for generalized anxiety was not significant at the 0.05 level. Results did not change when the model was adjusted for covariates. The results of the linear regression models predicting the number of past-year emergency room visits for any reason are reported in **Table 4**. Across the models, higher perceived discrimination was significantly associated with a greater number of emergency department visits, although the magnitude of the associations was notably small. However, the regression coefficient was larger for US-born Latinxs than for foreign-born Latinxs. Specifically, each additional experience of racial discrimination was associated with 0.06 (SE=0.01, 95% CI= 0.04-0.08) additional visits for the US-born group and 0.03 (SE=0.01, 95% CI= 0.01-0.05) visits for the foreign-born group. There was overlap between the confidence intervals suggesting that there was not a statistically significant difference in the effect observed between the two groups.

## Discussion

The present investigation examined the association between past-year racial discrimination and (a) generalized anxiety disorder and (b) emergency room utilization in a population-based sample of Latinxs. Stratified analyses were conducted to examine differences between US-born Latinxs and foreign-born Latinxs. In both the full sample and in stratified analyses, I found small but significantly increased odds of being diagnosed for GAD for each additional experience of a discrimination event. Conversely, there was no significant increase in the odds for using the emergency department for GAD due to instances of perceived racial discrimination. This non-significant result was consistent across the US-born and foreign-born groups. Finally, I tested an association between instances of racial discrimination and the number of times individuals used the emergency department for any reason. I found that an increase in instances of racial discrimination was small but significantly associated with an increase in visits to the emergency department for any reason. Among the US-born Latinxs, this relationship was slightly higher than for foreign-born Latinxs, though this margin was not found to be statistically significant due to an overlap in confidence intervals.

Our finding regarding the relationship between perceived racial discrimination and generalized anxiety disorder is consistent with prior literature. Previous literature has consistently drawn links between perceived discrimination and negative mental health outcomes (Dion et al., 1992; Troxel et al., 2003; Williams et al., 2003; Pascoe & Smart Richman, 2006; Hwang & Goto, 2008). Research has often attempted to understand anxiety in Latinx populations in relation to experiences of acculturation (Zeiders et al., 2017). The present investigation attempted to explicitly examine if there were differences in the associations between events of racial discrimination and generalized anxiety disorder in Latinx populations differentiated by nativity status. Given that I saw no statistically significant difference between the two groups yet still saw a statistically significant relationship between discrimination and anxiety, it may be that experiences of racial discrimination do not differ significantly by nativity status. The results of

this research suggest that immigration status does not play a major role in moderating the relationship between racial discrimination events and generalized anxiety disorder. Future research may consider looking into other factors that moderate this association. For example, research has already found evidence that anxiety sensitivity moderates the relationship between discrimination and anxiety (Zvolensky et al., 2019), although further research is needed to examine whether this effect holds for both immigrants and non-immigrants.

Our results regarding the relationship between perceived racial discrimination and utilization of the emergency department for GAD were not significant. However, a significant limitation for this finding is that I was limited in the sample size due to the structure of the NESARC III questionnaire which only asked questions about ED use for GAD participants who screened positive for GAD. I anticipated that because the ED was a common point of contact for Latinx patients with mental health concerns (U.S, HHS, 2001), I would have observed a similar increase in the likelihood of accessing the ED specifically for GAD. However, due to the very specific nature of the question in the NESARC questionnaire, it is possible that people did not respond positively to seeking the ED for GAD and instead responded to just the general ED use question.

Therefore, I conducted a separate analysis for overall ED utilization. Our results showed low overall rates of utilization of the ED across both populations. However, the relationship between racial discrimination and ED use was significant for both groups, showing more reported instances of racial discrimination predicting higher levels of ED utilization in the past 12 months. Given the barriers in place for accessing health care for Latinx immigrants, I anticipated a more marked difference in access to emergency services from the foreign-born Latinx group. There are potential explanations that account for this observed non-difference. For one, it could be that higher levels of racial discrimination deter foreign-born Latinxs from accessing services at all. So, while the association was significant, there might be less of an

effect for the foreign-born population due to associated fears related to immigration status that deter those most severely discriminated against from accessing services. In this study, I used discrimination as an independent variable because I was interested in the potential impact racial discrimination experiences has on health care utilization. Further research may consider extending our findings to learn more explicitly about what Latinx patients are presenting for at the emergency room. I did not find an association between discrimination and patients reporting to the ED for generalized anxiety, although a more thorough analysis with chart reviews may be able to better approximate why patients are presenting to the ED. Additionally, retrospective studies may be of interest to understand how events of national scale that elicit fear and anxiety amongst Latinxs (e.g. increases in Immigration & Customs Enforcement raids) impact overall health care utilization and symptomatology.

There are a few notable limitations to this study that are worthy of consideration. First, a major limitation in dealing with instances of discrimination is that I had very little ability to distinguish between actual experiences of discrimination and perceptions of discrimination, although there is a case to argue that the perceived instances of discrimination are those that are most relevant to individuals. Nonetheless, it is possible that I was either over or underestimating the strength of the association between perceived discrimination and anxiety. Another limitation is that NESARC III did not ask respondents about their immigration status. Given my interest in drawing comparisons between Latinxs based on immigration status, this was a significant limitation. I approximated using nativity status, but this is including individuals born abroad that have since immigrated and lived in the US for years, likely experiencing things differently than a recently arrived immigrant. I tried to account for this in our analyses by adding time spent in the US as a covariate, but more detailed information on Latinxs' immigration status should be incorporated in future studies. Finally, for the purpose of this study, I focused on just generalized anxiety disorder given the higher prevalence compared to other anxiety disorders. NESARC III

houses information on a myriad of anxiety disorders that could present interesting analyses for future endeavors.

Despite these limitations, our study found that racial discrimination was significantly predictive of generalized anxiety in a representative sample of the Latinx population in the United States. Given the rise in discriminatory acts and legislation targeted towards Latinxs, it is important to consider the downstream impacts, from increases in mental health problems to changes in health care utilization patterns and help-seeking. Health disparities already exist at numerous levels and characterizing the different pathways through which these disparities manifest is of critical importance. Future research should consider the far-reaching impact that instances of racial discrimination has and attempt to develop ways to not only address the systemic barriers that facilitate discrimination, but also find ways to mitigate the impact of discrimination on individuals' health.

## References

- Almeida, J., Biello, K. B., Pedraza, F., Wintner, S., & Viruell-Fuentes, E. (2016). The association between anti-immigrant policies and perceived discrimination among Latinxs in the US: A multilevel analysis. *SSM-population health*, 2, 897-903.
- Ayón, C., & Becerra, D. (2013). Mexican immigrant families under siege: The impact of anti-immigrant policies, discrimination, and the economic crisis. *Advances in Social Work*, 14(1), 206-228.
- Campbell, S. B., Trachik, B., Goldberg, S., & Simpson, T. L. (2020). Identifying PTSD symptom typologies: A latent class analysis. *Psychiatry Research*, 112779.
- Carliner, H., Delker, E., Fink, D. S., Keyes, K. M., & Hasin, D. S. (2016). Racial discrimination, socioeconomic position, and illicit drug use among US Blacks. *Social psychiatry and psychiatric epidemiology*, 51(4), 551-560.
- Chatterji, S., Saunders, J. B., Vrsti, R., Grant, B. F., Hasin, D., & Mager, D. (1997). Reliability of the alcohol and drug modules of the Alcohol Use Disorder and Associated Disabilities Interview Schedule—Alcohol/Drug-Revised (AUDADIS-ADR): an international comparison. *Drug and alcohol dependence*, 47(3), 171-185.
- Córdova Jr, D., & Cervantes, R. C. (2010). Intergroup and within-group perceived discrimination among US-born and foreign-born Latinx youth. *Latinx Journal of Behavioral Sciences*, 32(2), 259-274.
- Davis, A. N., Carlo, G., Schwartz, S. J., Unger, J. B., Zamboanga, B. L., Lorenzo-Blanco, E. I., ... & Martinez, M. M. (2016). The longitudinal associations between discrimination, depressive symptoms, and prosocial behaviors in US Latinx/a recent immigrant adolescents. *Journal of youth and adolescence*, 45(3), 457-470.
- DeGarmo, D. S., & Martinez Jr, C. R. (2006). A culturally informed model of academic well-being for Latinx youth: The importance of discriminatory experiences and social support. *Family relations*, 55(3), 267-278.
- Dion, K. L., Dion, K. K., & Pak, A. W. (1992). Personality-based hardiness as a buffer for discrimination-related stress in members of Toronto's Chinese community. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 24(4), 517.
- Edwards, G. S., & Rushin, S. (2018). The effect of President Trump's election on hate crimes. Available at SSRN 3102652.
- Flores, A., Lopez, M. H., & Krogstad, J. M. (2019). US Latinx population reached new high in 2018, but growth has slowed. Pew Research Center. Retrieved July, 22, 2019.
- Garcia de Blakeley, M., Ford, R., & Casey, L. (2017). Second language anxiety among Latinx American immigrants in Australia. *International Journal of Bilingual Education and Bilingualism*, 20(7), 759-772.
- Giacco, D., Matanov, A., & Priebe, S. (2014). Providing mental healthcare to immigrants: current challenges and new strategies. *Current opinion in psychiatry*, 27(4), 282-288.
- Gonzales-Backen, M. A., Meca, A., Lorenzo-Blanco, E. I., Des Rosiers, S. E., Córdova, D., Soto, D. W., ... & Schwartz, S. J. (2018). Examining the temporal order of ethnic identity and perceived discrimination among Latinx immigrant adolescents. *Developmental psychology*, 54(5), 929.
- Grant, B. F., Dawson, D. A., Stinson, F. S., Chou, P. S., Kay, W., & Pickering, R. (2003). The Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV (AUDADIS-IV): reliability of alcohol consumption, tobacco use, family history of depression and psychiatric diagnostic modules in a general population sample. *Drug and alcohol dependence*, 71(1), 7-16.
- Grant, B. F., Amsbary, M., Chu, A., Sigman, R., Kali, J., Sugawana, Y., ... & Chou, P. S. (2014).

- Source and accuracy statement: national epidemiologic survey on alcohol and related conditions-III (NESARC-III). Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1-125.
- Grant, B.F., Goldstein, R. B., Chou S. P., Saha T. D., Ruan W. J., Huang, B., ... & Aivadyan C. (2011). The alcohol use disorder and associated disabilities interview schedule-diagnostic and statistical manual of mental disorders, version (AUDADIS-5). Rockville, MD: National Institute of Alcohol Abuse and Alcoholism.
- Hooker, E. A., Mallow, P. J., & Oglesby, M. M. (2019). Characteristics and trends of emergency department visits in the United States (2010–2014). *The Journal of emergency medicine*, 56(3), 344-351.
- Hwang, W. C., & Goto, S. (2008). The impact of perceived racial discrimination on the mental health of Asian American and Latinx college students. *Cultural Diversity and Ethnic Minority Psychology*, 14(4), 326.
- Kalogerakis, M. G. (1992). Emergency evaluation of adolescents. *Hospital and Community Psychiatry*, 43(6), 617–622.
- Kim, E., Hogge, I., & Salvisberg, C. (2014). Effects of self-esteem and ethnic identity: Acculturative stress and psychological well-being among Mexican immigrants. *Latinx Journal of Behavioral Sciences*, 36(2), 144-163.
- Krieger, N., & Sidney, S. (1996). Racial discrimination and blood pressure: the CARDIA Study of young black and white adults. *American journal of public health*, 86(10), 1370-1378.
- Lacayo, C. O. (2017). Perpetual inferiority: Whites’ racial ideology toward Latinxs. *Sociology of Race and Ethnicity*, 3(4), 566-579.
- McCoy, S. K., & Major, B. (2003). Group identification moderates emotional responses to perceived prejudice. *Personality and Social Psychology Bulletin*, 29(8), 1005-1017.
- McLaughlin, K. A., Hatzenbuehler, M. L., & Keyes, K. M. (2010). Responses to discrimination and psychiatric disorders among Black, Latinx, female, and lesbian, gay, and bisexual individuals. *American journal of public health*, 100(8), 1477-1484.
- Mirandé, A. (Ed.). (2019). *Gringo Injustice: Insider Perspectives on Police, Gangs, and Law*. Routledge.
- Morse, A. (2011). *Arizona’s immigration enforcement laws*. Washington, DC: National Conference of State Legislatures
- Newman, B., Shah, S., & Collingwood, L. (2018). During the election, Donald Trump's racist rhetoric activated the fears of people in areas with growing Latinx populations. *USApp-American Politics and Policy Blog*.
- Okamoto, J., Ritt-Olson, A., Soto, D., Baezconde-Garbanati, L., & Unger, J. B. (2009). Perceived discrimination and substance use among Latinx adolescents. *American journal of health behavior*, 33(6), 718-727.
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: a meta-analytic review. *Psychological bulletin*, 135(4), 531.
- Passel, J. S., & Cohn, D. (2018). US Unauthorized immigrant total dips to lowest level in a decade. *Pew Research Center*, 17.
- Pérez, D. J., Fortuna, L., & Alegria, M. (2008). Prevalence and correlates of everyday discrimination among US Latinxs. *Journal of community psychology*, 36(4), 421-433.
- Potochnick, S. R., & Perreira, K. M. (2010). Depression and anxiety among first-generation immigrant Latinx youth: key correlates and implications for future research. *The Journal of nervous and mental disease*, 198(7), 470–477.  
<https://doi.org/10.1097/NMD.0b013e3181e4ce24>
- Rodriguez, N., Paredes, C. L., & Hagan, J. M. (2019). Immigration Enforcement, Older Latinx Immigrants, and Implications for Health. In *Contextualizing Health and Aging in the Americas* (pp. 111-135). Springer, Cham.

- Romero, A. J., Martinez, D., & Carvajal, S. C. (2007). Bicultural stress and adolescent risk behaviors in a community sample of Latinxs and non-Latinx European Americans. *Ethnicity and Health*, 12(5), 443-463.
- Singer, A. J., Thode, H. C., & Pines, J. M. (2019). US emergency department visits and hospital discharges among uninsured patients before and after implementation of the Affordable Care Act. *JAMA network open*, 2(4), e192662-e192662.
- Sun, R., Karaca, Z., & Wong, H. S. (2018). Trends in hospital emergency department visits by age and payer, 2006–2015. *HCUP Statistical Brief*, 238.
- Torres, L., Driscoll, M. W., & Voell, M. (2012). Discrimination, acculturation, acculturative stress, and Latinx psychological distress: A moderated mediational model. *Cultural Diversity and Ethnic Minority Psychology*, 18(1), 17.
- Torres, L., Yznaga, S. D., & Moore, K. M. (2011). Discrimination and Latino psychological distress: The moderating role of ethnic identity exploration and commitment. *American Journal of Orthopsychiatry*, 81(4), 526.
- Troxel, W. M., Matthews, K. A., Bromberger, J. T., & Sutton-Tyrrell, K. (2003). Chronic stress burden, discrimination, and subclinical carotid artery disease in African American and Caucasian women. *Health Psychology*, 22(3), 300.
- US Census. An older and more diverse nation by midcentury. Washington, DC: US Census Bureau; 2008. (CB08-123, U.S Census Newsroom brief).
- United States. Department of Justice. Civil Rights Division. (2011). United States' Investigation of the Maricopa County Sheriff's Office. US Department of Justice, Civil Rights Division.
- US Department of Health and Human Services. Mental health: Culture, race, ethnicity—A supplement to mental health: a report of the surgeon general. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services; 2001.
- Umaña-Taylor, A. J., Vargas-Chanes, D., Garcia, C. D., & Gonzales-Backen, M. (2008). A longitudinal examination of Latino adolescents' ethnic identity, coping with discrimination, and self-esteem. *The Journal of Early Adolescence*, 28(1), 16-50.
- Varela, R. E., Niditch, L. A., Hensley-Maloney, L., Moore, K. W., Creveling, C. C., & Jones, K. M. (2019, February). Culture specific influences on anxiety in Latinx youth. In *Child & Youth Care Forum* (Vol. 48, No. 1, pp. 1-17). Springer US.
- Viruell-Fuentes, E. A., Miranda, P. Y., & Abdulrahim, S. (2012). More than culture: structural racism, intersectionality theory, and immigrant health. *Social science & medicine*, 75(12), 2099-2106.
- Walters, N. P., & Trevelyan, E. N. (2011). The newly arrived foreign-born population of the United States: 2010. US Department of Commerce, Economics and Statistics Administration, US Census Bureau.
- Warren, R. (2020). Reverse Migration to Mexico Led to US Undocumented Population Decline: 2010 to 2018. *Journal on Migration and Human Security*, 2331502420906125.
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: findings from community studies. *American journal of public health*, 93(2), 200-208.
- Yoo, H. C., & Lee, R. M. (2008). Does ethnic identity buffer or exacerbate the effects of frequent racial discrimination on situational well-being of Asian Americans?. *Journal of Counseling Psychology*, 55(1), 63.
- Zeiders, K. H., Updegraff, K. A., Sally, I., Kuo, C., Umaña-Taylor, A. J., & McHale, S. M. (2017). Perceived discrimination and Mexican-origin young adults' sleep duration and

variability: The moderating role of cultural orientations. *Journal of youth and adolescence*, 46(8), 1851-1861.

Zvolensky, M. J., Rogers, A. H., Bakhshaie, J., Viana, A. G., Walker, R., Mayorga, N. A., ... & Ochoa-Perez, M. (2019). Perceived racial discrimination, anxiety sensitivity, and mental health among Latinxs in a federally qualified health center. *Stigma and Health*.

Tables

**Table 1. Description of the Sample, by US-born Status<sup>a</sup>**

Characteristic	Pooled Sample	US-born Latinxs	Foreign-born Latinxs	p <sup>†</sup>
Age (years), mean (SD)	39.9 (5.3)	37.3 (15.8)	42.4 (14.4)	<0.001
Male, n (%)	3093 (44.0)	1478 (42.9)	1612 (44.9)	0.082
Education, n (%)				<0.001
Less than high school	2174 (30.9)	591 (17.2)	1583 (44.1)	
High school graduate	1980 (28.1)	1024 (29.7)	955 (26.6)	
At least some college	1403 (19.9)	952 (27.6)	450 (12.6)	
College Graduate	1480 (21.0)	880 (25.5)	599 (16.7)	
Married/Living Together, n (%)	3597 (51.1)	1384 (40.2)	2213 (61.7)	<0.001
Working Full/Part-time, n (%)	4323 (61.4)	2003 (58.1)	2318 (64.6)	<0.001
Family Income, n (%)				<0.001
<\$10,000	775 (11.0)	419 (12.2)	356 (9.9)	
\$10,000 ≤ x < \$50,000	4396 (62.5)	1943 (56.4)	2450 (68.3)	
\$50,000 ≤ x < \$100,000	1376 (19.6)	772 (22.4)	604 (16.8)	
\$100,000 ≤ x	490 (7.0)	313 (9.1)	177 (4.9)	
Insured, n (%)	4439 (63.1)	2526 (73.3)	1911 (53.3)	<0.001
Diagnosis of GAD, n (%)	285 (4.1)	186 (5.4)	99 (2.8)	<0.001
ED use due to GAD, n (%)	47 (4.7)	32 (5.2)	15 (4.0)	0.383
Past year ED use cumulative, mean ± SD	0.3 ± 1.0	0.4 ± 1.1	0.3 ± 0.8	<0.001
Instances of Discrimination				0.011
0	4138 (59.2)	2043 (60.0)	2093 (58.5)	
1	874 (12.5)	448 (13.2)	426 (11.9)	
2	634 (9.1)	316 (9.3)	318 (8.9)	
3	454 (6.5)	221 (6.5)	233 (6.5)	
4	382 (5.5)	163 (4.8)	218 (6.1)	
5	276 (4.0)	118 (3.5)	158 (4.4)	
6	232 (3.3)	98 (2.9)	134 (3.7)	

<sup>a</sup> Numbers may not sum to totals due to missing data, and column percentages may not sum to 100% due to rounding.

<sup>†</sup> P-value for analysis of variance F-test (continuous variable) or  $\chi^2$  test (categorical variable).

**Table 2**

Unadjusted and adjusted logistic regression between perceived racial discrimination and anxiety

Group	Unadjusted				Adjusted			
	$\beta$ (SE)	p	OR	[95% CI OR]	$\beta$ (SE)	p	OR	[95% CI OR]
Pooled Sample	0.20 (0.03)	<.001	1.23	[1.16, 1.30]	0.23 (0.03)	<.001	1.25	[1.18, 1.33]
US-born Latinxs	0.24 (0.04)	<.001	1.27	[1.18, 1.36]	0.25 (0.04)	<.001	1.28	[1.19, 1.38]
Foreign-born Latinxs	0.18 (0.05)	<.001	1.20	[1.09, 1.32]	0.21 (0.05)	<.001	1.23	[1.12, 1.36]

Adjusted for sex, age, marital status, employment status, education level, family income, and insurance

**Table 3**

Unadjusted and adjusted logistic regression between perceived racial discrimination and emergency room utilization for GAD

Group	Unadjusted				Adjusted			
	$\beta$ (SE)	p	OR	[95% CI OR]	$\beta$ (SE)	p	OR	[95% CI OR]
Pooled Sample	0.06 (0.08)	0.41 1	1.06	[0.92, 1.23]	0.06 (0.08)	0.400	1.07	[0.92, 1.24]
US-born Latinxs	0.13 (0.09)	0.16 1	1.13	[0.95, 1.35]	0.12 (0.09)	0.179	1.13	[0.95, 1.35]
Foreign-born Latinxs	-0.07 (0.15)	0.61 8	0.93	[0.70, 1.24]	-0.06 (0.15)	0.683	0.94	[0.70, 1.27]

Adjusted for sex, age, marital status, employment status, education level, family income, and insurance

**Table 4**

Unadjusted and adjusted linear regression between perceived racial discrimination and total # of emergency room visits

Group	Unadjusted			Adjusted		
	$\beta$ (SE)	p	R <sup>2</sup>	$\beta$ (SE)	p	R <sup>2</sup>
Pooled Sample	0.04 (0.01)	p<.001	0.01	0.04 (0.01)	p<.001	0.04
US-born Latinxs	0.06 (0.01)	p<.001	0.01	0.06 (0.01)	p<.001	0.03
Foreign-born Latinxs	0.03 (0.01)	p<.001	0.01	0.04 (0.01)	p<.001	0.04

Adjusted for sex, age, marital status, employment status, education level, family income, and insurance