

## ABSTRACT

Title of Thesis: IMMIGRATION EFFECTS ON FAMILY STRUCTURE  
AND HOMICIDE VICTIMIZATION FOR GROUPS  
WITH DIFFERENT RACE AND ETHNICITY STATUS

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Criminal Justice

Guided by the immigrant revitalization theory, this paper will argue that improvements in family structure plays a role in the immigration-crime relationship. The data used in this study were obtained from the National Vital Statistics System, American Community Survey, and decennial census. This paper uses cross-sectional and longitudinal models to investigate whether family structure plays a role in the immigration-crime relationship. The longitudinal models will look at changes in homicide data from 2007 and 2017. Findings from the longitudinal models show no support to indicate that family structure plays a role in the immigration-crime relationship. However, findings from Black and White non-Hispanic cross-sectional models do show some support for the argument that family structure does play a role in the immigration-crime relationship.

IMMIGRATION EFFECTS ON FAMILY STRUCTURE AND HOMICIDE  
VICTIMIZATION FOR GROUPS WITH DIFFERENT RACE AND ETHNICITY  
STATUS

by

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## 1. INTRODUCTION

Despite the public perception that immigration is associated with an increase in crime, empirical evidence shows that a large concentration of immigrants in a geographical area is linked to a reduction in crime (Martinez et al., 2010; Ousey and Kubrin, 2018; Ousey and Kurbin, 2009; Reid et al., 2005; Stowell and Martinez, 2009; Velez, 2009; Xie and Baumer, 2018). Also, empirical evidence from individual-level studies demonstrate that immigrants are less likely to engage in crime and have lower incarceration rates than U.S. born individuals (Hagan and Palloni, 1999; Rumbaut et al., 2006; Sampson, Morenoff, and Raudenbush, 2005). Given the strong evidence suggesting a negative relationship between immigration and crime, scholars have shifted their attention to explaining the observed phenomenon.

The immigrant revitalization perspective posits that a large concentration of immigrants in a community will lead to a decrease in crime as a result of increased social control and economic growth (Lee and Martinez, 2002; Velez, 2009). Social control is defined as the ability of a community or society to realize common goals and values, or the ability of a community to regulate itself based on certain values (Janowitz, 1975; Sampson, 1986). Scholars have tested it using many different units of analysis, analytical methods, and data sets. With continued effort to research the link between immigration and crime scholars have made significant progress. However, scholars have concentrated their attention towards economic organization without paying sufficient attention to investigating family structure as an influential factor.

In earlier criminological literature, family instability has been linked to crime at macro-level units. Sampson (1987) argued that there were three explanations for the

family disruption and crime link: first, broken homes cause juvenile delinquency at the individual level; second, marital and family disruption may decrease formal social control, which consists of actions carried out by government and/or community organizations, in a community; and finally, family disruption in communities may also decrease informal social control, which is usually carried out by community residents. Additionally, if there is only one parent in the household then parental supervision will be weakened (Ousey, 2000). Family structure is connected to community organization, parental supervision, and social attachment, making family structure a highly complex factor for structural theories of crime. Sampson (1986) emphasized the importance of family and marital disruption, which represented informal social control in his article, as predictors of crime. Sampson and Groves (1989) further established the importance of family disruption in criminology by highlighting that family disruption plays a significant role in social disorganization. Family structure also plays an important role in criminology at the individual level. Laub and Sampson (2001) accentuate the importance of family structure in reducing crime via their empirical work on life-course criminology. Lastly, Ousey (2000) argued that the removal of a parent could weaken the attachment between the parent and their child, which could threaten social control. Given the connection between family structure and crime and its link to social control, it must be examined in detail with respect to immigration and crime literature.

Ousey and Kubrin (2009) analyzed the immigration and crime relationship using longitudinal data and found evidence suggesting family instability explains the relationship. However, Ousey and Kubrin (2009) used the total population in their analyses and did not disaggregate by race or ethnicity. This is problematic because there



is evidence implying the effect of immigration is assumed to be different for Whites, Blacks, and Hispanics (Browning, Dirlam, and Boettner, 2016; Harris and Feldmeyer, 2013; Xie and Baumer, 2018). In particular, Blacks and Hispanics are more likely than Whites to experience reductions in crime because they reside in communities with a large immigrant concentration. Residential segregation, demographic changes, and individual preferences may play a role in the differential effects of immigration on family structure and crime.

Expanding the immigration and crime research to include family structure as a main independent variable may provide support for the immigrant revitalization perspective, and insight into racial and ethnic differences in the immigration and crime relationship. This paper aims to understand if changes in family structure can explain the immigration and crime relationship. This study will use county-level data from the American Community Survey (ACS) and National Vital Statistics System (NVSS) to assess the effects of immigrant concentration and family structure on homicide victimizations for Latinos, non-Latino Whites, and non-Latino Blacks. Investigating how family structure and immigration are related to crime can offer theoretical knowledge and explain the crime-reducing benefits of immigration.

## 2. LITERATURE REVIEW

The literature review will begin with an overview of the immigrant revitalization perspective. Next, family structure will be discussed with regards to crime and immigration. Then, a review of theoretical arguments regarding racial and ethnic differences will be provided. An overview of the racial invariance hypothesis and immigrant destination types will also be presented. Lastly, studies that analyze racial and ethnic differences in the immigration and crime relationship are presented, followed by studies analyzing the racial invariance hypothesis and immigrant destination types.

### IMMIGRANT REVITALIZATION

Traditional criminological theory has posited that immigration is linked to crime. Social disorganization theory, as developed by Shaw and McKay (1942), argues that neighborhoods with increased residential instability, low socioeconomic status, and a significant level of ethnic heterogeneity will experience more crime. With the presence of these structural variables, communities will be unable to create formal and informal social controls which may, in turn, lead to the inability to solve problems (Sampson and Groves, 1989). An increase in immigration is argued to increase ethnic heterogeneity and residential instability within a community, and lead to social disorganization. Social disorganization theory suggests that racial and ethnic heterogeneity, as a result of immigration, weakens informal social controls because community members will interact with each other less due to cultural and language differences, therefore, impeding the development of social ties within the community. With weak social ties, a community will experience an attenuation in informal social control, which may lead to crime

(Kubrin and Ishizawa, 2012). However, arguments positing a positive relationship between crime and immigration have received skepticism.

Recently, scholars have considered the hypothesis that immigration reduces crime. In 2002, Lee and Martinez theorized that areas with large concentrations of immigrants might experience a decrease in crime as a result of new forms of social organization. In particular, Lee et al. (2001) hypothesized that communities with a large proportion of immigrants will experience a lower level of crime as a result of ties to family members and the labor market. This theoretical framework is referred to as the immigrant revitalization thesis (Lee et al., 2001; Lee and Martinez, 2002). Large concentrations of immigrants have been linked to an increase in job availability, increases in product demand, and consumption of services, all of which improve economic conditions (Peri, 2012; Waldinger, 1989). As the share of immigrants within an area increases, economic growth will ensue and will likely encourage attachment to the labor market, which will then strengthen social control (Ousey and Kubrin, 2009; Ramey, 2013; Velez, 2009).

In addition to developing economic growth, a large proportion of immigrants in an area will also strengthen formal and informal social institutions. Immigrants strengthen informal institutions by developing strong ties with family and community members. Social ties may then be utilized for providing social support and increasing social control (Ousey and Kubrin, 2009; Velez, 2009). Immigrants also strengthen formal social institutions, such as churches, community centers, and schools.

Immigrant revitalization theory argues that communities with large concentrations of immigrants will experience a reduction in crime. Therefore, residents within these

communities are theorized to benefit from the large immigrant concentration (Lee et al., 2001; Sampson, 2008; Xie and Baumer, 2018). Lee et al. (2001) suggest that immigrants reduce crime within the geographic area for the immigrant population and indirectly reduce crime for other groups of individuals by altering the community structure. In short, an increasing presence of immigrants in communities is theorized to improve economic factors and family structure, leading to an increase in informal social control and a decrease in crime for residents within the geographic area.

## RACIAL INVARIANCE THESIS

Shaw and McKay (1942) argued that crime in neighborhoods was the result of community conditions, such as poverty and residential mobility. They also noted that more crime occurs in neighborhoods experiencing poverty and residential mobility regardless of the ethnic/racial groups residing in the neighborhood. In other words, the consequences of social disorganization are racially invariant. The racial invariance thesis states that individuals residing in disadvantaged neighborhoods should experience high levels of crime regardless of ethnicity/race and that crime is a matter of types of places instead of the types of individuals (Hernandez et al., 2018; Peterson and Krivo, 2005; Steffensmeier et al., 2010). Sampson and Wilson (1995) have also posited that factors leading to violent crime should be invariant across different race groups and stem from structural differences between communities. Despite the description of the racial invariance thesis developed by scholars over the years, there is disagreement in how to operationalize racial invariance.

There are two methods for measuring racial invariance: qualitative and

quantitative. Sampson et al. (2018) argue for a qualitative conceptualization instead of a quantitative conceptualization of the racial invariance thesis. A qualitative conceptualization is when the “predictors of crime need only operate in similar directions across different racial and ethnic groups or neighborhoods, that is, have a similar quality” (Velez, 2018: 40). For example, if one were to evaluate the effects of unemployment on crime with the qualitative conceptualization and found that unemployment has a significant positive effect on crime in Black and White neighborhoods, that would be considered as support for the racial invariance hypothesis. They argued that the “ultimate sources of crime are the same across racial groups” (Sampson et al., 2018: 17). Velez (2018) agreed with Sampson et al. (2018) that the source of crime that affected racial groups similarly in quality is evidence supporting the racial invariance thesis. However, Velez (2018) stated that using a quantitative conceptualization would enable scholars to make a precise claim regarding racial invariance and can be used to detect differences. A quantitative conceptualization is when scholars look for “statistically identical coefficients in race-specific models...” (Sampson et al., 2018: 17). In the end, Velez (2018) argues that using a quantitative conceptualization can provide important information regarding race and crime, despite potential issues regarding measurement error and random fluctuations as mentioned by Sampson et al. (2018).

Given that the main objective of this study is to analyze how structural factors influence crime across racial and ethnic groups, the racial invariance thesis has a very relevant and important role. Based on the racial invariance thesis, family disruption and immigration should affect crime for Whites, Blacks, and Hispanics similarly with regards

to the directionality of the effect because the sources of crime are the same for all racial and ethnic groups (Sampson, 2018).

## RACIAL AND ETHNIC DIFFERENCES IN THE IMMIGRATION AND CRIME RELATIONSHIP

Scholars have argued that increases in immigrant concentration in communities are usually associated with economic benefits and improvement within family structures. Additionally, scholars have theorized that all individuals residing in communities with a large concentration of immigrants will experience crime-reducing benefits. Despite these arguments, some scholars have argued that racial and ethnic differences exist within the immigration and crime relationship. For example, Xie and Baumer (2018) argued that racial and ethnic differences could exist within the immigration and crime relationship due to the finding that immigrants are more likely to reside in Black and Latino communities than in White communities (Hall, 2013; Velez, 2009; Xie and Baumer, 2018). Therefore, White individuals, who are segregated from areas with large immigrant concentration, may be less likely to experience the crime-reducing effects of immigration. Blacks are more likely to experience the crime-reducing benefits of immigration, with Hispanics experiencing the most crime-reducing benefits of immigration. However, various factors could potentially explain specific racial and ethnic variations in family structure and economic factors within the immigrant revitalization theory.

### *Potential Explanations for Racial and Ethnic Variations in the Family Structure*

There is theoretical evidence to suggest that within certain communities, immigration can affect the family structure, but not all racial and ethnic groups are affected equally. The influx of immigrants from Latin American countries is most likely to change the family structure in Hispanic communities because of its large magnitude. In 2010, about 53% of the foreign-born population in the U.S. was from Latin America (Grieco et al., 2012). This disproportionately increases the population size of existing Hispanic communities because Hispanic immigrants are inclined to reside in ethnic enclaves (Logan, Zhang, and Alba, 2002; Ramey, 2013). An ethnic enclave is usually a community distinguished by a large presence of residents of the same ethnicity and exhibits strong social and economic ties between residents (Ramey, 2013; Velez, 2009). Furthermore, immigrant social networks have been found to lead Hispanic immigrants to ethnic communities where their friends and family reside (Xie, 2010). A population increase in Hispanic communities should lead to an increase in the pool of potential marital partners, which in turn should improve family structure (Fossett and Kiecolt, 1990; Lichter, Kephart, and Landry, 1992; Lichter, Carmalt, and Qian, 2011).

Black and White immigrant groups make up smaller portions of the U.S. immigrant population. Therefore, Black and White communities may not experience significant increases in population size (Pew Research Center, 2018). In 2016, about 9% of the foreign-born population was black (Pew Research Center, 2018) and about 13% of the foreign-born population in the U.S. in 2016 were from Europe or Canada (Pew Research Center, 2018). Without large influxes of Black and White immigrants, it can be hypothesized that Black and White communities may not be experiencing significant

increases in population size. Thus, changes in the family structure may not materialize in White and Black communities.

The sense of family obligation and pronuptial normative beliefs may also be a theoretical explanation for racial differences in the family structure. Latinos uphold family values by maintaining positive relationships with family members and addressing the needs of the family before individual needs (Oropesa and Gorman, 2000). And, according to Keefe et al. (1979), Hispanic families are cohesive groups of family members who are sources of support and protection. Given the theoretical arguments stating that Hispanics value the social institution of family greatly, one can theorize that Hispanic family structures may experience increases in levels of two-parent families and low divorce rates as a result of immigration. Furthermore, Oropesa and Gorman (2000) argue that the small proportion of Black and White immigrants is theorized to exert a weak influence on pronuptial normative beliefs, which in turn does not significantly alter family structure for Whites and Blacks.

In addition to the supply of potential marital partners and family values, the economic and social standing of individuals must also be taken into account as they affect family structure. Individuals who are searching for a potential marital partner might make their selection based on certain characteristics, such as education and financial background. Education is important for individuals who are searching for potential partners because it is an indicator of socioeconomic status and social capital (Lewis and Oppenheimer, 2000). However, if there is a lack of suitable partners then marriage may be threatened. In other words, the quality of potential spouses may theoretically influence family structure (South and Lloyd, 1992). However, given that education and income



gaps between racial and ethnic groups exist, there might be differences across racial and ethnic groups in terms of preferences.

Multiple studies have found that the appeal of potential marital partners is positively related to higher socioeconomic status and higher-income/economic security. Broman (1993) argued that the poor educational and financial status of Blacks could lead to economic uncertainty for Black individuals. As a result, Black individuals may experience fewer improvements in family structure due to lower-income and poor financial security (Broman, 1993; South and Lloyd, 1992). Scholars have also characterized Hispanics as having high poverty levels and low levels of education and earnings compared to Whites (Oropesa, Lichter, and Anderson, 1994; Raley et al., 2004). As a result of the low socioeconomic status associated with Hispanics, Hispanics may experience restrictions on marital opportunities. Whites, however, are theorized to enjoy few constraints on the availability of suitable potential spouses due to a higher socioeconomic status.

In addition to the suitability of available marital partners, changes in women's perceptions of marriage have also been argued to influence family structure. Increasing educational opportunities and financial independence have led women to not get married or at least delay the marriage (South, 1993). The incentive for women to marry is reduced with increasing educational opportunities and financial independence because these factors decrease the financial motivation to have a spouse (Oropesa, Lichter, and Anderson, 1994). While this theory could be applied to all racial and ethnic groups equally, the socioeconomic status of Blacks and Hispanics differs from Whites, which could lead to racial and ethnic differences in women's perceptions of marriage. As stated

before, Hispanics and Blacks experience low levels of education and high levels of poverty, which could influence the financial motivation to have a spouse and ultimately change Black and Hispanic women's perceptions of marriage (Broman, 1993; Oropesa, Lichter, and Anderson, 1994; Raley et al., 2004).

*Potential Explanations for Racial and Ethnic Variations in Economic Factors*

Immigrant revitalization theory argues that large concentrations of immigrants lead to economic growth, yet some scholars argue that not all racial and ethnic groups experience the benefits of economic revitalization associated with immigration. Reed and Danziger (2007) argue that natives could benefit economically from immigrants since immigrants may increase the wages of natives. However, it is also possible that immigrants could economically harm natives by reducing their wages and employment opportunities (Raphael and Ronconi, 2007; Reed and Danziger, 2007). More specifically, an influx of immigrants could lead to the displacement of low-skilled workers (Waldinger, 1997).

Reed and Danziger (2007) argue that since blacks have less education than whites, influxes of immigrants are more likely to negatively affect blacks. Blacks with low levels of education are found to have low-skilled jobs, but immigrants have also been found to be concentrated in the low-skilled labor market (Reed and Danziger, 2007). Furthermore, immigrants have lower levels of education, which theoretically makes them suitable substitutes for low-skilled Blacks (Reed and Danziger, 2007). Additionally, low-skilled Blacks are less skilled compared to low-skilled Whites, which further led researchers to posit that Blacks will experience the negative impacts of immigration more than low-skilled Whites (Blau and Mackie, 2016). Therefore, influxes of immigrants are

likely leading low-skilled Blacks to compete with immigrants for low-skilled job opportunities (Reed and Danziger, 2007).

Hispanics are less likely to be affected by the increase in immigration as they can leverage the support that ethnic enclaves provide. Hispanics utilize the economic ties within co-ethnic communities to obtain jobs. For example, Hispanic individuals within ethnic enclaves receive co-ethnic support in the form of information regarding job opportunities (Waldinger, 1997; Xie et al., 2018). Therefore, the co-ethnic support provided to Hispanic immigrants regarding job opportunities leads us to believe that Hispanics are positively impacted by immigration.

In summary, immigrants are most likely to compete with low-skilled Blacks, diminishing the likelihood that Blacks may experience the economic benefits usually associated with an increase in immigration. Thus, the crime-reducing effects of immigration may not be experienced by Blacks. More specifically, the immigrant concentration may theoretically exert a weak effect on crime for Blacks due to increased competition within the labor market and reduced wages. Whites and Hispanics are theorized to not be negatively impacted by increases in immigration because Hispanics have access to co-ethnic support and Whites do not directly compete with immigrants for jobs given their higher levels of education.

## SHIFTING THE FOCUS TO FAMILY STRUCTURE

Immigrant revitalization is theoretically linked to economic growth and improvements in the family structure, although recent studies have not directed sufficient attention to family structure. Shihadeh and Barranco (2010a, 2010b) conducted two

studies investigating the effect of Hispanic immigration on economic factors and homicide for Blacks and Whites. Also, Xie and Baumer (2018) evaluated the impact of competition within the labor market on the immigration and crime relationship. These studies have provided important information on the immigration and crime relationship with regards to economic factors and have provided theoretical clarification. However, family structure is theorized to be as equally important as economic factors and little research has evaluated the impact of immigration on family structure and crime, especially across different racial and ethnic groups. A study analyzing the impact of immigration on family structure and crime across different racial and ethnic groups would be advantageous because it would provide additional theoretical clarification with regards to the racial invariance hypothesis and immigrant revitalization theory.

## IMMIGRANT DESTINATIONS

Scholars have recently considered the effect of immigrant destinations on crime. Towards the end of the 20th century, immigrant settlement patterns were changing with immigrants beginning to settle in new destinations. New destination neighborhoods are defined as neighborhoods with an immigrant population below the national average, and the immigrant population growth rate is above the national average growth rate (Suro and Singer, 2002; Xie et al., 2018; Xie and Baumer, 2018). Scholars have found that recently arriving immigrants and immigrants who were leaving traditional destinations began settling in areas with a very weak co-ethnic presence (Ramey, 2013). Traditional destinations are areas in which the immigrant population exceeds the national average (Suro and Singer, 2002; Xie et al., 2018; Xie and Baumer, 2018). Neighborhoods and

cities across various parts of the US were changing as a result of immigrants increasingly settling in new destinations.

There are several possible explanations for shifts in immigrant settlement patterns. One reason for the change in immigrant settlement patterns could be due to robust labor markets in new destination areas, which possibly attracted immigrants who were looking for economic opportunities (Shihadeh and Barranco, 2010). New immigrants could view traditional destinations as a highly competitive environment because of a large number of low-skilled workers, thus making traditional destinations unsuitable (Shihadeh and Barranco, 2010; Harris and Feldmeyer, 2013). New destination areas may have less competition among low-skilled laborers, which could make these areas appealing to new immigrants (Harris and Feldmeyer, 2013). Additionally, recently arriving immigrants could be avoiding traditional destinations as a result of increased immigration enforcement (Feldmeyer et al., 2015). While the reasons why immigrant settlement patterns are changing is important, this study is concerned with immigrant destination types because of the neighborhood context.

Taking into account the type of destinations in which immigrants settle into is important because scholars believe there are differences in context between the different destinations. Certain destinations may be receptive to immigrants and try to assist them socially and economically. Traditional destinations are considered receptive neighborhoods and may encourage the development of strong social ties and economic growth within immigrant neighborhoods. A large immigrant concentration in traditional destination neighborhoods could increase community cohesion, strengthen social institutions, and reinforce attachment to the labor market, all of which help increase

social control and reduce crime (Feldmeyer, 2009; Lee et al., 2001; Ousey and Kurbin, 2009; Xie and Baumer, 2018). However, some destinations may not be receptive to immigrants and lack the appropriate resources needed to help immigrants integrate into the community (Portes and Rumbaut, 2006; Ramey, 2013).

The social, economic, and political environment in new destination areas may differ from those in traditional destination areas, and the differences could disrupt the revitalization of neighborhoods (Painter-Davis and Harris, 2016; Ramey, 2013). New destination neighborhoods lack the social control that traditional destination neighborhoods experience because immigrants in new destinations may not have access to social resources and may not experience community cohesion, which impacts the ability of immigrants to revitalize neighborhoods (Ramey, 2013). New destination neighborhoods may not have an adequate number of immigrants to result in community revitalization, leading to only a small reduction in crime (Shihadeh and Winters, 2010; Xie and Baumer, 2018; Xie et al., 2018).

An additional destination type to take into account is low immigration destination areas. Low immigration destination neighborhoods are characterized as neighborhoods that have a small immigrant population and the immigrant population growth rate is also small (Xie et al., 2018; Xie and Baumer, 2018). Theoretically, these neighborhoods lack the community organization and strong social institutions that traditional destination neighborhoods have and may have weak social control. Additionally, new destinations are in a better position than low immigration destination because the immigrant population is growing in emerging destinations, which means that these emerging destinations will experience improvement in social factors and social control. Given the

contextual differences between different immigrant destinations, destinations will be analyzed to determine if there are any differences between them with regards to the effects of immigrant concentration and family disruption on homicide victimization.

Scholars claim that certain immigrant destination types should experience reductions in crime when compared to others due to differences in social support and economic opportunities. Traditional destinations have larger immigrant populations than new destinations, which make traditional destinations more likely to experience reductions in crime as a result of strong social support networks and economic conditions. Despite new destinations having small immigrant populations, new destinations are experiencing large increases in their immigrant populations, which should lead to improvements in social ties and economic opportunities. With improvements in social ties and economic opportunities, new destinations should also experience reductions in crime. low immigration destination areas, however, may not experience improvements in social ties or economic conditions as a result of very small immigrant populations and small immigrant population growth rates. Thus, low immigration areas should not experience reductions in crime.

#### EMPIRICAL EVIDENCE FOR RACIAL/ETHNIC DIFFERENCES IN THE IMMIGRATION-CRIME RELATIONSHIP AND FAMILY STRUCTURE

Ousey and Kubrin (2018) conducted a meta-analysis of the macro-level studies analyzing the immigration and crime relationship. After analyzing 51 articles, Ousey and Kubrin (2018) found evidence suggesting a significant negative relationship between immigrant concentration and crime, which is consistent with the immigrant revitalization

theory. Using data from the National Crime Victimization Survey (NCVS) and ACS, Xie and Baumer (2018) found evidence implying that neighborhood immigrant concentration decreases violent victimization for whites, blacks, and Latinos. However, Latinos experience the crime-reducing effects of immigrant concentration more than whites and blacks (Xie and Baumer, 2018). Not only do the findings from Xie and Baumer (2018) further support the immigrant revitalization theory, the findings suggest that racial and ethnic differences exist in the immigrant and crime relationship. Harris and Feldmeyer (2013) performed a study highlighting the differential effects of immigration on crime across race groups by analyzing the relationship between recent Latino immigration and black, white, and Latino crime using arrest data from census places in California, New York, and Texas. Empirical evidence showed that there are differences in the immigration and crime relationship across race groups. Latino violence and black violence were found to be significantly associated with recent Latino immigration, but the association between black violence and immigration was weak compared to Latino violence (Harris and Feldmeyer, 2013). In addition, white violence and recent Latino immigration were weakly related (Harris and Feldmeyer, 2013). Findings from Harris and Feldmeyer (2013) show racial and ethnic differences in the immigration and crime relationship, which provides support for the theoretical argument that there are racial and ethnic differences in the immigration and crime relationship. Stowell and Martinez (2009) studied the impact of immigration on homicide between different ethnic groups in Miami using data gathered from police records. In their analysis, they found evidence suggesting Latino immigration has a stronger negative relationship with homicide than non-Latino immigration (Stowell and Martinez, 2009). In summary, empirical studies



have shown that racial and ethnic differences exist in the immigration and crime relationship. Thus, attention must be directed towards investigating racial and ethnic differences in the family structure to better understand the immigration and crime relationship.

There is some evidence to suggest that racial and ethnic differences in the family structure could be linked to the pool of potential marital partners and familism. Oropesa and Gorman (2000) found that foreign-born Latinos are more likely to hold pronuptial normative beliefs than foreign-born Whites. Sabogal et al. (1987) evaluated familism in a sample consisting of Hispanics and non-Hispanic Whites and found that Hispanics tend to be more familistic than non-Hispanic Whites. The findings from these studies support the notion that Hispanics have strong pronuptial beliefs and that there are differences in familism between different racial and ethnic groups. Given these differences, there could be differences in the effect of family structure on homicide victimization across races and ethnicities.

Despite the small number of research articles evaluating the effect of immigration on family structure and crime, there are some interesting findings. Feldmeyer (2009) studied the relationship between Latino immigration and Latino violence using arrest data from California and New York from 1999-2001. Using structural equation models, he found evidence suggesting a weak, negative relationship between Latino immigration and Latino violence. Additionally, he was able to determine that immigration was related to family structure and family structure was related to crime. More specifically, he found that the percentage of recent Latino immigrants is negatively related to the percentage of Latino female-headed families with children. Additionally, the percentage of Latino

female-headed families with children is positively related to Latino crime, leading Feldmeyer (2009) to conclude that immigration indirectly reduces Latino crime by improving family structure. Ousey and Kurbin (2009) also examined the relationship between immigration and crime, but they used crime rate data from across U.S. cities from 1980 to 2000. In their first statistical model, they were able to determine that increases in the percentage of immigrants in U.S. cities are associated with decreases in violent crime (Ousey and Kubrin, 2009). Ousey and Kubrin (2009) then proceeded to test explanations for the relationship by evaluating changes in a variety of community variables, including labor markets, drug markets, demographics, size of the police force, unemployment rate, and family structure. They found that the negative relationship between crime and immigration was mainly a result of immigration being negatively associated with family structure, which they operationalized as the percent of divorce and the percent of single-parent families (Ousey and Kubrin, 2009). As a result of decreased family disruption, U.S. cities in their samples experienced lower crime rates. Despite Ousey and Kubrin (2009) finding empirical evidence showing that family structure is a mediating mechanism in the immigrant revitalization theory, they did not disaggregate by race and ethnicity. Not disaggregating by race and ethnicity leaves important questions unanswered regarding differences across groups, which have been shown to exist. Despite evidence suggesting racial and ethnic differences, some scholars have found evidence suggesting that sources of crime tend to be uniform across racial and ethnic groups.

Scholars have long posited that structural factors are related to crime in neighborhoods uniformly across racial and ethnic groups. Hernandez et al. (2018) used

data from the National Neighborhood Crime Survey, which included information about neighborhood property and violent crime across a representative sample of 87 cities, to evaluate whether ethno-racial differences in crime at the neighborhood-level are related to structural factors. They found evidence showing that the relationship between structural factors and neighborhood crime was similar across racial and ethnic groups (Hernandez et al., 2018). In the end, the authors state that the evidence supports the perspective that types of places influence crime. Peterson and Krivo (1996) used data from Columbus, Ohio and found that neighborhood disadvantage increased crime for Whites and Blacks. Peterson and Krivo (2010) again found evidence showing that disadvantage similarly impacted crime for Whites and Blacks (Hernandez et al., 2018). While some scholars strongly support the racial invariance hypothesis, other scholars view the evidence as insufficient. Using data from 125 US cities in 1990, Ousey (1999) found evidence suggesting that there are racial differences in the impact of neighborhood structural factors on crime and states that structural theories require revision to take into account racial differences.

In addition to arguments regarding differences between racial and ethnic groups, scholars also argue that there are differences between immigrant destination types due to neighborhood context. Several studies have provided empirical evidence in support of the theory that destination type has an effect on the immigration and crime relationship. In a study evaluating immigration and crime using neighborhood data from across US cities, Ramey (2013) found that immigrant concentration is associated with a decrease in crime in traditional destination cities. However, immigration was found not to decrease crime significantly in new destination cities (Ramey, 2013). An interesting finding in Ramey's

study (2013) was that immigrant concentration is associated with a decrease in crime in Latino neighborhoods in new destination cities. Harris and Feldmeyer (2013) also investigated the relationship between immigration and crime by traditional and non-traditional destinations. Using arrest data from New York, California, and Texas, Harris and Feldmeyer (2013) discovered that recent Latino immigration is associated with increased violence in non-traditional destinations and decreased crime in traditional destinations. Lastly, Xie and Baumer (2018) found evidence that certain immigrant destinations have an influence on immigration and crime for certain racial groups. Despite some scholars finding empirical evidence suggesting an immigrant destination effect exists, some scholars have not found evidence suggesting that certain immigrant destinations have an influence on crime. For example, Xie et al. (2018) used data from the NCVS and ACS to study why there are differences in the risk of violent victimization among young Latino adults who reside in new and traditional destination areas. With their multi-level data, they found that there was no evidence of destination type effects in their total violence models. Thus, the finding from Xie et al. (2018) suggests that the context within different immigrant destinations do not influence crime.

A review of the empirical evidence provides important background information. First, differences between destination types exist, which suggests that differences could exist within racial and ethnic groups. Second, racial and ethnic differences seem to exist within the immigrant and crime relationship, and there is some evidence implying racial/ethnic differences within family structure. Lastly, although there is evidence of racial/ethnic differences in the immigration and crime relationship, all individuals experience a reduction in crime as a result of immigration. While there are numerous

studies on immigration and crime, it is still unknown if racial and ethnic differences exist with regards to family structure and its impact on the immigration and crime relationship.

## EXTENDING PRIOR RESEARCH

Scholars have analyzed racial and ethnic differences in the immigration and crime relationship in general, but little attention has been directed towards specifically analyzing racial and ethnic differences in the family structure and how these potential differences may impact the immigration and crime relationship. Feldmeyer (2013) found evidence suggesting that Hispanic immigration alters Hispanic family structure and is important in explaining Hispanic crime. Ousey and Kubrin (2009) also found evidence suggesting family structure as a mediating mechanism, which is consistent with the immigrant revitalization theory, but did not disaggregate by race and ethnicity. Feldmeyer (2013) and Ousey and Kubrin (2009) left unanswered whether changes in Black, Hispanic, White family structure play a role in explaining the effect of immigration on crime. Theoretical arguments and limited findings from a small body of research suggest important racial and ethnic differences in the impact of immigration on crime through changes in family structure. Additional research is needed because prior articles did not disaggregate family structure by race/ethnicity to evaluate potential racial and ethnic differences in the immigration and crime relationship. This study aims to analyze how immigration impacts crime across different racial and ethnic groups via changes in family structure.

### 3. CURRENT STUDY

Past studies have found that immigration reduces crime for the overall population, and recently, researchers have realized that racial differences exist within the immigration-crime relationship. This study aims to evaluate race and ethnicity differences in the immigration-crime relationship. Furthermore, this study investigates whether immigration reduces crime by reducing divorce and female-headed households. Using data from the American Community Survey (ACS) and National Vital Statistics System (NVSS), this study will determine if changes in immigration at the county-level are related to changes in homicide victimizations and if family structure plays a role in explaining the immigration-crime relationship. The analysis will be conducted for each race and ethnicity group to determine if there are race and ethnicity differences in the immigration-crime relationship. Immigrant destination types will also be considered in the analysis to determine if context matters. In the end, this study will provide clarification on the differential effect of immigration on crime across race and ethnicity groups with respect to homicide victimization.

#### Hypotheses

Overall, racial and ethnic differences may exist within the immigration and crime relationship due to differences in residential segregation and the supply of potential marital partners. Focusing on racial and ethnic differences in the immigration and crime relationship the following hypotheses evolve:

1. In the full sample, immigrant concentration is associated with a reduction in homicide victimizations.

2. Immigrant concentration will reduce homicide victimizations through changes in family disruption in the full sample.
3. Black immigrant concentration will reduce Black homicide victimizations through changes in Black family disruption.
4. White immigrant concentration will reduce White homicide victimizations through changes in White family disruption.
5. Hispanic immigrant concentration will reduce Hispanic homicide victimizations through changes in Hispanic family disruption.
6. Hispanics will experience a greater reduction in homicide victimizations than Blacks and Whites because of changes in family disruption, and Blacks will experience a greater reduction in homicide victimization than Whites as a result of changes in family disruption.
7. Across all racial and ethnic groups, traditional and new destinations will experience reductions in homicide victimizations as a result of changes in family disruption brought upon by changes in immigrant concentration.

## 4. DATA AND METHODS

### DATA

#### National Vital Statistics System

This study will use county-level mortality data from the National Vital Statistics System (NVSS) from 2007 and 2017 for the dependent variable. The data were acquired from the National Center for Health Statistics (NCHS) at the Center for Disease Control and Prevention (CDC). The NVSS data are beneficial for this research as it provides information regarding the victim's race and ethnicity, allowing for disaggregation by race and ethnicity. It also has a larger coverage rate compared to the Supplementary Homicide Reports (SHR) (Xie, 2010).

#### American Community Survey & U.S. Census Bureau

This study will use county-level data from the American Community Survey (ACS) from for independent and control variables. County variables were lagged by 1 year before the violence to ensure temporal ordering is aligned with the causal order argued in the hypotheses. The main purpose of the ACS will be to provide information on independent and control variables. The data were obtained from the American FactFinder, which is a U.S. Census website containing various datasets. County-level data from the 2000 decennial Census will be used for the independent variables and control variables and were obtained from American FactFinder. Interpolation techniques will be used to obtain the values of independent and control variables in 2007.

#### Unit of Analysis

Counties are ideal units of analysis for examining immigration and family structure because counties provide residents with economic and social opportunities and



resources (Xie et al., 2018). Also, counties are defined across the entire US and cover both rural and suburban areas (Xie and Baumer, 2018). Counties define geographic areas that extend past metropolitan and city boundaries, which is beneficial as they capture areas outside urban centers (Xie and Baumer, 2018). Furthermore, counties are preferred over census tracts when trying to characterize marriage markets given that individuals also search for marital partners outside of their neighborhoods (Xie et al., 2018). Lastly, homicide victimization data disaggregated by race and ethnicity from the NVSS were measured at the county-level, which is the lowest level of aggregation for NVSS data. Therefore, counties are used as the unit of analysis in this study because of data availability, coverage of land, and economic and social factors.

### Missing Data

There are different sample sizes for different groups because of missing data from the decennial census and ACS. Data are missing in the full sample and for Whites, Blacks, and Hispanics, but the data are missing to a greater extent for Blacks and Hispanics. For Blacks, about 23.5% of data is missing for percent foreign-born, 23% is missing for percent of female-headed households, and about 24% is missing for percent divorced/separated. For Hispanics, about 17% of the data for the variable percent foreign-born is missing, 17% is missing for the variable percent divorced/separated, and 9% is missing for percent households headed by a female. Despite the missing data, the sample sizes are large enough to obtain reliable estimates. The generalizability of the results, however, could be called into question given that the missing data reduce the ability to call the sample nationally representative.

## MEASURES

### Dependent Variable

The dependent variables will be total, Black, Hispanic, and non-Hispanic White homicide victimization. It will be a count of homicide victims for each group who resided in U.S. counties in 2007 and 2017. This study will focus on homicide victimization because it is a critically important topic to the public and government officials, and homicide measures are relatively accurate.

### Independent Variables

The first independent variable will be the county immigrant concentration. Immigrant concentration is measured as the percentage of the county population that is foreign-born, non-Hispanic White foreign-born, Black foreign-born, and Hispanic foreign-born. Family disruption will be measured in two ways: percent divorced/separated, and percentage of female-headed households. Both measures of family disruption will be disaggregated by race and ethnicity (percent non-Hispanic White divorced/separated, percent Black divorced/separated, and percent Hispanic divorced/separated, percent of non-Hispanic White female-headed households, percent of Black female-headed households, and percent of Hispanic female-headed households).

### Immigrant Destination

Immigrant destination was specifically measured based on the 1990 immigrant population and immigrant growth rate from 1990 to 2010 (Suro and Singer, 2002; Xie et al., 2018; Xie and Baumer, 2018). Traditional areas are counties with immigrant populations that surpassed the national average of immigrant concentration in 1990, which was 7.9%. New areas are counties where the immigrant populations were below

the immigrant concentration national average in 1990 and the immigrant growth rate was higher than the national average growth rate (95.65%) (Suro and Singer, 2002; Xie et al., 2018; Xie and Baumer, 2018). Low immigration areas are counties where the immigrant populations were below the immigrant concentration national in 1990 and the immigrant growth rate was lower than the national average growth rate (Suro and Singer, 2002; Xie et al., 2018; Xie and Baumer, 2018).

### Control Variables

The study will include additional individual and county factors as control variables, and all control variables will be disaggregated by race and ethnicity. This study will control for gender (the percentage of males), population size, age (percentage of individuals who are 15-29 years old), percent Black, and percent Hispanic. The percentage of Black and Hispanic individuals will control for racial/ethnic differences in crime (Xie and Baumer, 2018). The percentage of individuals who are 15-29 years old will be a control variable because this age group has been found to experience violent crime at higher rates than other age groups (Rand et al., 2007). Gender is also a control variable to account for the percentage of the population who are males, given that males are victims of crime at a higher rate than women (Lauritsen et al., 2001). An economic disadvantage index was created from combining the following variables: unemployment (percent unemployed), poverty (the percentage of the population living below the poverty line), education (the percentage of the population 25 years old and over without a high school diploma), and household median income. The economic disadvantage index was created by summing the z-scores of the four variables. Economic disadvantage is

included as a control variable to hold constant theoretical factors that are considered alternative influences in the immigrant revitalization theory.

## ANALYTIC STRATEGY

Given that the dependent variable is a count of homicide victimizations across racial and ethnic groups, I will evaluate how changes in immigration influenced changes in homicide victimization by race and ethnicity through a series of negative binomial regression models. To evaluate if family structure/disruption plays a role in the immigration-crime relationship, I will be evaluating changes from 2007, which will serve as the first time point (T1), and 2017, the second time point (T2). Furthermore, given the interest in the relation between the change in immigration and family structure and the change in homicide victimization, county and year fixed effects will be used. By concentrating on within county change, fixed effects will remove the effects of all time-constant factors related to crime that could potentially bias the models. Using year fixed-effects will account for any unobserved trends or factors that could have influenced homicide victimization over time. First, a full sample in which all homicides were aggregated together was created to evaluate the relationship between immigration and homicide victimization for all individuals. I then built individual models for Whites, Blacks, and Hispanics to evaluate racial differences in the immigrant revitalization theory and if family structure/disruption was influential. The full sample models use counties with a population of at least 2,500 individuals. Race/ethnicity specific models will use counties with a population of at least 1,000 individuals. Also, a series of negative binomial regression models with county and year fixed-effects will be used to determine

if immigrant destination type is a moderating factor. I will also use cross-sectional negative binomial models to evaluate the relationship between immigration and crime and if immigration reduces crime through family disruption. The models were tested for multicollinearity and all models had variance inflation factors (VIF) less than 4.3.

## 5. RESULTS

The descriptive statistics for the full sample are in table 1. The findings show that the average number of homicides in US counties increased from 6.2 in 2007 to 6.6 in 2017. For Whites, the mean number of homicides also increased from 1.92 in 2007 to 2.016 in 2017 (table 2). Blacks also experienced an increase in homicide counts from 2.867 in 2007 to 3.25 in 2017 (table 4). Hispanics, however, experienced a very small decrease in the average number of homicides with an average of 1.186 in 2007 to 1.097 in 2017 (table 3). Overall, Blacks had the highest averages in homicide counts followed by Whites and Hispanics with the lowest averages in homicide counts. To account for population changes, homicide rates were computed for each sample at 2007 and 2017. In the full sample, the mean homicide rate in 2007 was 0.0404 per 1,000 individuals and 0.048 per 1,000 individuals in 2017. For Whites in counties with a population of at least 1,000 individuals, the mean homicide rate in 2007 was 0.028 per 1,000 individuals and 0.034 per 1,000 individuals. For Blacks in counties with a population of at least 1,000 individuals, the mean homicide rate in 2007 was 0.132 per 1,000 individuals and 0.164 per 1,000 individuals. For Blacks in counties with a population of at least 1,000 individuals, the mean homicide rate in 2007 was 0.06 per 1,000 individuals and 0.047 per 1,000 individuals.

In the global dataset, the percentage of foreign-born increased from 4.063 in 2007 to 4.648 in 2017. Whites experienced a slight increase in the percentage of foreign-born when the percentage rose from 1.263 in 2007 to 1.353 in 2017. Blacks experienced a large increase in the percentage of foreign-born when the percentage rose from 4.176 in 2007 to 7.683 in 2017. For Hispanics, the average percentage of foreign-born decreased

from 30.18 in 2007 to 26.445 in 2017. Although the percentage of foreign-born decreased for Hispanics, they still had the highest averages of percent foreign-born with regards to magnitude. Also, Blacks had larger percentages of foreign-born than Whites at both time periods.

With regards to family disruption, data from the full sample shows that percent divorced/separated and percent of female-headed households increased from 2007 to 2017. For example, percent divorced/separated increased from 12.4% in 2007 to 13.7% in 2017. Percent of female-headed households increased from 10.9% in 2007 to 11.2% in 2017. The data also show that there are differences in the changes of percent divorced/separated and percent female-headed households across racial/ethnic groups. Percent divorced/separated for Whites increased from 12.4% in 2007 to 13.8% in 2017. However, percent of female-headed households for Whites remained virtually the same with an average of 8.5% in 2007 and an average of 8.8% in 2017. Hispanics experience increases in percent divorced/separated and percent of female-headed households from 2007 to 2017. The percent of divorced/separated for Hispanics rose from 10.9% in 2007 to 12% in 2017. The percent of female-headed households for Hispanics rose from 14.4% in 2007 to 15.3%. Blacks did not experience a change in percent divorced/separated. The percentage of Blacks who were divorced/separated was 15.4% in 2007 and in 2017 it was 15.3%. Interestingly, Blacks experienced a small decrease in the percent of female-headed households. Percent of female-headed households was 24.1% in 2007 and it decreased to 21.4% in 2017. Despite the 2.7% percent decrease in the percent of female-headed households for Blacks, Blacks had the highest averages for the percentage of female-headed households in 2007 and 2017.

### Longitudinal Models

The analysis of results entails the comparison of two sets of regression models. Models in the first set contain only percent foreign-born and control variables. These models are the baseline models, which show the effect of immigrant concentration while holding control variables constant. The second set of models contain percent foreign-born and control variables, but also contain measures of family disruption. If the association between immigrant concentration and homicide victimization is attributable to family disruption, controlling for family disruption should weaken or eliminate the effect of immigrant concentration in the models.

Table 14 shows the two regression models for the full sample, Whites, Blacks, and Hispanics. Findings from table 14 are used to test hypotheses 1 through 6. For each sample, model one is the baseline model. Model two, under each racial and ethnic group, includes family disruption measures. Results from model one for the full sample shows that immigrant concentration has a significant negative coefficient, which supports hypothesis 1 ( $b=-0.0837$ ,  $p<0.01$ )<sup>1</sup>. A one-standard-deviation increase in percent foreign-born would decrease the homicide victimization rate in the full sample by 8% ( $=100*[\exp(-0.0837)-1]$ ). Once family disruption measures were controlled for, the direct effect of immigrant concentration on homicide victimizations changes very little between models one and two. Immigrant concentration in model two has a coefficient of -0.0810

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<sup>1</sup> Percent Hispanic was removed from models using data from the full sample because there was a high correlation between percent Hispanic and percent foreign-born ( $r=0.67$ ).



and has a p-value of less than 0.01. Thus, family disruption does not appear to play a role in reducing homicide victimizations<sup>2</sup>.

Results from model one for the White sample indicates that immigrant concentration has a significant negative coefficient ( $b=-0.113$ ,  $p<0.01$ ). Model 2 for the White sample shows that after family disruption variables are added, the immigrant concentration variable remains statistically significant and changes very little when compared to the coefficient in model one ( $b=-0.102$ ,  $p<0.01$ ). This finding from the White sample implies that family disruption does not play a significant role in the immigration and crime relationship<sup>3</sup>.

When reviewing the results from model one of the Black sample, the coefficient for immigrant concentration is statistically significant and is in the negative direction ( $b=-0.0294$ ,  $p<0.01$ ). After controlling for family disruption in model 2 of the Black sample, immigrant concentration remains statistically significant and does not substantially weaken ( $b=-0.0302$ ,  $p<0.01$ ). Therefore, these findings suggest that family disruption does not play a role in the immigrant and crime relationship for Blacks<sup>4</sup>.

Findings from the Hispanic model suggest that there is no evidence suggesting that immigration is related to a reduction in crime, nor that family disruption plays a role in the immigration and crime relationship. In model one of the Hispanics sample, the coefficient for immigrant concentration is not statistically significant, but it is in the

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<sup>2</sup> Even when percent divorced and percent female-headed households are added individually to the model, immigrant concentration remains statistically significant and is reduced very minimally.

<sup>3</sup> With the individual addition of percent divorced and percent female-headed households to model one, percent foreign-born remains statistically significant and the coefficient changes very little.

<sup>4</sup> Immigrant concentration was not reduced substantially and remains statistically significant with percent divorced and percent female-headed households added individually to model one.

negative direction ( $b=-0.00236$ ). In model two, after the inclusion of family disruption measures, immigrant concentration remains non-significant and is now in the positive direction ( $b=0.00524$ ).

Findings from table 14 indicate that there is a lack of support for hypotheses 2 through 6. There is, however, support for hypothesis one, which was concerned with whether immigrant concentration reduces homicide victimizations for all individuals. There is no evidence to suggest that changes in family disruption serve as a main process behind the immigration and crime relationship in the full sample, White sample, Black sample, and Hispanic sample.

Tables 15, 16, and 17 report the results for testing hypothesis 7, which states that crime in traditional and new destinations should decrease across all racial/ethnic groups as a result of changes in family disruption brought upon changes in immigrant concentration. There are three destination types: traditional, new, and low immigration areas. Under each destination type, there are two models. The first model is a baseline model without family disruption measures and the second model is the baseline model with family disruption measures added to it. Table 15 displays the results for the White sample by destination type. Reviewing the results from table 15 shows that immigrant concentration in traditional areas in the White sample is not statistically significant in models one and two. Immigrant concentration in new destination areas is not statistically significant in model one and model 2, but the coefficients in both models are in the negative direction. Given that immigrant concentration is not statistically significant in traditional and new areas for Whites, it appears that immigration is not associated with a significant reduction in crime and changes in family disruption do not play a role in the

immigration and crime relationship. However, immigrant concentration in low immigration areas is statistically significant and is in the negative direction ( $b=-0.295$ ,  $p<0.01$ ). Model two, which contains family disruption variables, shows that the immigrant concentration variable remains statistically significant and is in the negative direction. Given that immigrant concentration in model 2 remains statistically significant after the addition of family disruption variables, family disruption does not seem to play an important role in reducing crime within the immigration and crime relationship for Whites in low immigration areas.

The results from table 16 indicate that immigrant concentration in traditional areas in the Black sample is not statistically significant. After the including family disruption variables, immigrant concentration remains non-significant, but the magnitude for immigrant concentration in traditional areas in the Black sample does decrease very slightly (model 1:  $b=0.0333$ , model 2:  $b=0.0307$ ). Immigrant concentration in new destination areas is also not statistically significant. Once family disruption is controlled for, the coefficient for immigrant concentration in new destinations for the Black sample does not reduce in magnitude and remains insignificant. Thus, immigration in new areas does not reduce crime via alteration in family disruption. Immigrant concentration in low immigration areas in the Black sample is statistically significant and is in the negative direction ( $b=-0.0695$ ,  $p<0.01$ ). Model two shows that the immigrant concentration variable remains statistically significant and in the negative direction, but the magnitude of the coefficient was not weakened ( $b=-0.0729$ ,  $p<0.01$ ). Findings from the Black sample offer no support for the hypothesis that immigration affects crime by changing family structure in the Black sample.

Table 17 shows the results from the Hispanic sample across three different destination types to determine if there is support for hypothesis 7. In traditional destinations, immigrant concentration is not statistically significant in model one. Immigrant concentration is also not statistically significant in model two once family disruption measures were included. Also, the magnitude of the coefficient for immigrant concentration in traditional areas does not decrease after family disruption is controlled for. In new destinations, immigrant concentration is not statistically significant. Model two also shows that immigrant concentration is not statistically significant and the magnitude of the coefficient does not diminish after controlling for family disruption. This finding implies that immigration is not associated with a reduction in crime in new areas for Hispanics and family disruption is not an intervening factor in the immigrant and crime relationship. In low immigration areas, immigrant concentration is statistically significant ( $b=-0.0916$ ,  $p<0.01$ ). Looking at the results in model two for low immigration areas for Hispanics, one can see that immigrant concentration stays statistically significant after the inclusion of family disruption variables, but the magnitude of the coefficient for immigrant concentration does diminish slightly ( $b=-0.0864$ ,  $p<0.05$ ). However, given that immigrant concentration remains statistically significant after the inclusion of family disruption variables, immigration does not reduce crime through changes in family structure in low immigration areas for Hispanics.

Findings from tables 15, 16, and 17 show interesting results. First, immigrant concentration is not significant in traditional and new destination areas. Immigrant concentration, however, was found to be statistically significant in low immigration areas. Second, even evaluating the immigration and crime relationship across racial and

ethnic groups by destination type reveals that family disruption does not play a role in the immigration and crime relationship. These results do not support hypothesis 7.

### Cross-Sectional Models

The method of comparing two sets of regression models to determine whether family disruption plays a role in the immigration and crime relationship will be used again for analyzing the results from cross-sectional models, which used data from 2007. Table 18 shows the results from cross-sectional models using data from the full, White, Black, and Hispanic samples. Results from model one for the full sample shows that immigrant concentration has a significant, positive coefficient ( $b=0.0238$ ,  $p<0.01$ ). When family disruption measures are added to the baseline model, immigrant concentration remains statistically significant and in the positive direction ( $b=0.0245$ ,  $p<0.01$ ). Results from model one for the White sample indicates that immigrant concentration has a significant negative coefficient ( $b=-0.0311$ ,  $p<0.01$ ). Model 2 for the White sample shows that immigrant concentration is no longer statistically significant once family disruption variables are added to the baseline model. This finding from the White sample indicates that family disruption plays a role in the immigration and crime relationship in the cross-sectional model. The coefficient for immigrant concentration in model one from the Black sample is statistically significant and in the negative direction ( $b=-0.0137$ ,  $p<0.01$ ). When family disruption variables are included in model 2, immigrant concentration is no longer statistically significant, but it remains in the negative direction. These findings suggest that family disruption does not play a role in the immigrant and crime relationship for Blacks. Results from the Hispanic models show no evidence suggesting that immigrant concentration is associated with a reduction in homicide

victimizations and there is no evidence suggesting that family disruption plays a role in the immigration and crime relationship because the coefficient for immigrant concentration is not significant in model one and two. Findings from the cross-sectional models support the argument that family disruption plays a role in the immigration and crime relationship for Whites and Blacks, but there was no support for this argument when using data from the full sample and Hispanic sample.

Tables 19, 20, and 21 show the results from cross-sectional models for Whites, Blacks, and Hispanics, respectively, by destination types. There are two models for each destination type. Model one is a baseline model without family disruption measures. Model two is the baseline model with family disruption variables included. Table 19 displays the results for the White sample by destination type and model one shows that immigrant concentration in traditional areas is statistically significant and is in the negative direction ( $b=-0.0563$ ,  $p<0.01$ ). Model 2 in table 19 also shows that immigrant concentration is no longer statistically significant once family disruption variables are controlled for, which indicates that family disruption plays a role in the immigration and crime relationship for Whites in traditional destination areas. Immigrant concentration in new destination areas is not statistically significant in model one and model two. Immigrant concentration in low immigration areas is statistically significant and is in the positive direction ( $b=0.0685$ ,  $p<0.05$ ). In model two, which controls for family disruption variables, immigrant concentration is no longer statistically significant. Results from White cross-sectional models moderated by destination type show some evidence to suggest that family disruption does play a role in the immigration and crime relationship and that context does matter.

Results from table 20 indicate that in traditional areas, Black immigrant concentration is significantly and negatively associated with Black homicide victimizations ( $b=-0.0319$ ,  $p<0.01$ ). After controlling for family disruption variables, immigrant concentration remains statistically significant and in the negative direction ( $b=-0.0198$ ,  $p<0.01$ ). Immigrant concentration in new destination areas in the Black sample is not statistically significant in model one and two. Additionally, immigrant concentration in low immigration areas is statistically insignificant in models one and two. Results from Black cross-sectional models by destination type provide no evidence to suggest that context matters nor do they suggest that family disruption plays a vital role in the immigration and crime relationship.

Table 21 shows the results from cross-sectional models using data from the Hispanic sample across three different destination types. In traditional destinations, immigrant concentration is not statistically significant in model one. However, immigrant concentration is statistically significant and in the negative direction in model two when family disruption variables were added to the baseline model. In new destinations, immigrant concentration is not statistically significant in models one and two. In low immigration areas, immigrant concentration is not statistically significant in models one and two. Cross-sectional models did not show any evidence to suggest that context matters when using data from the Hispanic sample.

Findings from longitudinal models show interesting results. First, immigrant concentration is not significant in traditional and new destination areas. Immigrant concentration, however, was found to be statistically significant in low immigration areas. Second, even evaluating the immigration and crime relationship across racial and

ethnic groups by destination type reveals that changes in family disruption do not play a role in the immigration and crime relationship. These results do not support hypothesis 7. Findings from cross-sectional models differ from the results in longitudinal models. The cross-sectional models indicated that there is support for the argument that family disruption plays a role in the immigration and crime relationship in the White and Black samples. Data from the White sample also suggest that context matters when evaluating the crime and immigration relationship, but there was no evidence to suggest that context matters in the Black and Hispanic samples. Although I controlled for a variety of known correlates of crime, there could be unobserved factors that are related to immigration, crime, and family disruption that could be biasing the results.



## 6. DISCUSSION

Researchers have long posited that immigration reduces crime in the US (Lee et al., 2001; Ousey and Kurbin, 2009; Xie and Baumer, 2018). Prior studies, however, did not disaggregate their data by race and ethnicity, leading to the inability to detect any potential racial and ethnic differences because they relied on aggregate-level data recorded by law enforcement agencies (Xie and Baumer, 2018). Using the immigrant revitalization theory as the main theoretical framework for this study and homicide victimization data, this study aims to evaluate race and ethnicity differences in the immigration-crime relationship and if immigration reduces crime through changes in family structure by reducing divorce rates and female-headed households.

Before analyzing the disaggregated data, longitudinal models using data from the full sample were used to determine if immigrant concentration reduces crime and if immigration reduces crime through changes in family disruption. I found that immigrant concentration is associated with a significant reduction in homicide victimizations, which is consistent with findings from previous studies. Results from the full sample also show that changes in family disruption do not play a role in the immigration and crime relationship. Longitudinal models using disaggregated homicide data showed that immigrant concentration reduces homicide counts for Blacks and Whites. Immigrant concentration was not associated with reductions in homicides for Hispanics, which contradicts findings from past research articles (Feldmeyer, 2009; Xie and Baumer, 2018). While this finding may be contradictory to past findings, it does show that Hispanic immigration is not associated with increases with homicides, which should help alleviate misconceptions that Hispanic immigrants increase crime. The findings also

show that immigration does not reduce crime through changes in family disruption. When analyzing the data disaggregated by race and ethnicity I found interesting results: family disruption does not play a major role in the immigration and crime relationship for Whites, Blacks, or Hispanics. Therefore, these findings do not support the hypotheses made in this paper. More importantly, the findings from this study do not support one of the hypothesized mechanisms stated in the immigrant revitalization theory: immigration reduces crime through improvements in family disruption. This finding is important because it suggests that there is no evidence in the data supporting one of the main mechanisms outlined in the immigrant revitalization theory. Since there is no evidence suggesting that improvements in family disruption plays a role in the immigration and crime relationship, future studies should perhaps evaluate mechanisms beyond family structure. Some mechanisms that go beyond improvements in family disruption are sources of formal social control, such as community organizations, churches, and schools. It is theorized that immigrants revitalize communities by increasing community involvement in community organizations, churches, and schools, which then should increase formal social control. An additional mechanism of interest is immigrant political opportunities, which could strengthen social control within areas with a large immigrant concentration. Scholars have theorized that areas with immigrant political opportunities should increase trust between officials and immigrants, which should encourage immigrants to engage in political affairs and increasing social organization (Lyons et al., 2013). Also, immigrant political opportunities allows areas with a large immigrant concentration to exert public social control and obtain the resources they need to counter crime (Lyons et al., 2013). Future studies should also evaluate economic mechanisms

when investigating the immigration and crime relationship given extensive theoretical arguments suggesting economic conditions are linked to immigration and crime relationship (Lee et al., 2001; Ousey and Kubrin, 2009; Xie and Baumer, 2018).

Cross-sectional models displayed some interesting findings. Cross-sectional models using data from White and Black samples in 2007 provide findings suggesting that family disruption plays a role in the crime and immigration and crime relationship. There also is evidence indicating that destination types matter in the White sample. However, there was no evidence showing that family disruption plays a role in the crime and immigration relationship in the Hispanic sample nor were there any findings suggesting that immigration destination types matter in the Hispanic and Black samples. The foreign-born coefficient for the full sample is positive and goes against theory and past findings. One potential reason for this positive coefficient is that increases in immigration could increase competition for low-skilled labor and reduce wages for individuals. If the low-skilled labor market is saturated with individuals looking for work then competition for labor should increase and wages could be reduced, which could lead to increases in crime (Shihadeh and Barranco, 2010). Perhaps, increases in immigrants no longer produce crime-reducing benefits at a certain point due to reasons unknown to scholars (Xie and Baumer, 2018). While there are potential explanations for this finding, findings from cross-sectional models should be viewed with caution because unobserved factors related to immigration, crime, and family structure could be biasing the results. Overall, the findings from cross-sectional models provide some support for the family disruption argument of the immigrant revitalization theory and provide limited support

for the argument that destination types matter when evaluating the immigration and crime relationship.

Scholars have argued that certain immigrant destination types should experience greater reductions in crime than others due to differences in social support, economic opportunities, and reception of immigrants in destination areas. Surprisingly, the results show that immigrant concentration significantly reduces crime in low immigration areas. One potential reason for this interesting finding might be that low immigration areas may have less competition among low-skilled laborers, which allow immigrants in low immigration areas to support the economy by providing low-skilled labor, increasing demand for goods, and consumption of services. Another possible reason for this finding is that the context of reception is different in low immigration areas than hypothesized by scholars. There was no evidence to suggest that immigration reduces crime in traditional or new destination areas, which is very different from findings from past research articles that found evidence suggesting reductions in crime in traditional and new destinations. Furthermore, there is no evidence to support the hypothesis that immigrant concentration in traditional and new destination areas reduces crime through changes in family disruption, which further supports the notion that other mechanisms might be responsible for the reductions in homicides.

Additional work will be needed to further investigate if racial and ethnic differences exist within the immigration and crime relationship. One avenue for future research would be to expand the definition of immigrant concentration. Scholars have argued that treating immigrants as a homogenous group of individuals can be problematic because this approach neglects to recognize the diversity that exists between immigrant

groups (Kubrin et al., 2018). Kubrin et al. (2018) state that the reasons immigrants migrate could vary across country of origin or race and ethnicity. Furthermore, scholars have determined that the motivation to migrate are associated with criminal behavior, which further emphasizes the need for a more inclusive definition of immigrant concentration (Kubrin et al., 2018). Therefore, it might be ideal to use ethnicity or country of origin as an alternative measure for foreign-born. Also, language spoken at home could be used as another alternative measure for foreign-born. Data regarding language at home is provided by data gathered by the U.S. Census. The data regarding language spoken at home provides information regarding the ability to speak English well and which language is spoken at home. Another avenue of future research would be to include more data. The data used in this study, which is from 2007 to 2017, has provided important information, but including more historical data we could provide a better perspective of how immigration has affected crime over the years. Also, future studies could use a dependent variable other than homicide victimization to determine if the immigration and crime relationship with an emphasis on race/ethnicity and family structure stays the same or changes. Lastly, future studies could consider using sex ratio as an independent variable because differing sex ratios can create unique contexts in which men and women interact with each other, which could affect family structure/disruption (Messner and Sampson, 1991). Also, including sex ratio as an independent variable could help explain whether immigration impacts family structure by changing the availability of potential marital partners, which is vital in investigating possible mechanisms through which immigration reduces crime in geographic areas.

In conclusion, the data has shown support for the immigration and crime relationship, but no evidence was found showing that family disruption plays a significant role in the immigration and crime relationship. I also found that there are differences in immigration destinations within racial and ethnic groups, with new destinations experiencing decreases in crime as a result of immigration. Additionally, the data provide qualitative support for the racial invariance hypothesis. However, future studies could use a quantitative method to further establish support for the racial invariance hypothesis as suggested by Velez (2018). Findings from this study provide clarification on the immigrant revitalization theory, race and crime, and the need to further dissect the complex effect of immigration on crime.

## Appendices

### Appendix A. Descriptive Statistics, Full Sample

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	3,143	6.203945	31.47475	3,143	6.602927	30.34811
% Female-headed Household	3,134	10.87325	1.586909	3,142	11.29195	4.367255
% Divorced/Separated	3,134	12.48535	2.335879	3,142	13.68511	2.776957
% Foreign-born	3,134	4.062934	5.201753	3,142	4.648337	5.683668
Economic Disadvantage	3,134	.4008195	3.028348	3,142	-.3997989	3.241724
% Male	3,134	49.80857	2.060649	3,142	50.06028	2.380024
% Age 15-29	3,134	19.059	4.057999	3,142	18.74134	4.206904
% Black	3,134	8.903797	14.48252	3,142	9.016264	14.51262
% Hispanic	3,134	7.572782	12.74502	3,142	8.946722	13.59881
Total population	3,134	95697.82	308596.4	3,142	101387.1	325201.7
Traditional	3,135	.0507177	.2194556	3,135	.0507177	.2194556
New	3,135	.5097289	.4999851	3,135	.5097289	.4999851
Low immigration	3,135	.4395534	.4964119	3,135	.4395534	.4964119

Appendix B. Descriptive Statistics, Whites

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	3,143	1.925867	6.31629	3,143	2.016227	5.566169
% Female-headed Household	3,131	8.455418	2.032296	3,142	8.770984	2.605204
% Divorced/Separated	3,131	12.36174	2.466754	3,142	13.74701	3.046102
% Foreign-born	3,131	1.262664	1.859945	3,142	1.352699	2.015885
Economic Disadvantage	3,130	0.214287	2.906086	3,140	-0.215091	3.333053
% Male	3,131	49.58976	1.735648	3,142	49.83251	2.14219
% Age 15-29	3,131	17.61412	4.072929	3,142	17.1609	4.242946
% Black	3,131	8.912217	14.4869	3,142	9.016264	14.51262
% Hispanic	3,131	7.550703	12.69337	3,142	8.946722	13.59881
Total population	3,131	95789.3	308730	3,142	101387.1	325201.7
Traditional	3,135	.0507177	.2194556	3,135	.0507177	.2194556
New	3,135	.5097289	.4999851	3,135	.5097289	.4999851
Low immigration	3,135	.4395534	.4964119	3,135	.4395534	.4964119



### Appendix C. Descriptive Statistics, Hispanics

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	3,143	1.186128	11.18657	3,143	1.097041	8.95365
% Female-headed Households	2,612	14.4194	6.623997	3,084	15.31919	13.90838
% Divorced/Separated	2,069	10.86184	3.657581	3,129	12.0086	10.04668
% Foreign-born	2,069	30.17954	14.7792	3,134	26.44494	16.05968
Economic Disadvantage	1,935	.2661619	1.815813	2,457	-.2107622	2.610482
% Male	2,620	54.2019	6.458647	3,134	53.55194	11.86684
% Age 15-29	2,620	27.85101	6.07352	3,134	25.60198	11.08267
% Black	2,620	9.561164	14.26888	3,142	9.016264	14.51262
% Hispanic	2,620	8.733626	13.61897	3,142	8.946722	13.59881
Total population	2,620	113126	334761.2	3,142	101387.1	325201.7
Traditional	3,135	.0507177	.2194556	3,135	.0507177	.2194556
New	3,135	.5097289	.4999851	3,135	.5097289	.4999851
Low immigration	3,135	.4395534	.4964119	3,135	.4395534	.4964119

### Appendix D. Descriptive Statistics, Blacks

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	3,143	2.870506	18.00172	3,143	3.250716	19.72618
% Female-headed Households	2,116	24.11977	9.453992	2,716	21.43043	18.34
% Divorced/Separated	1,775	15.36549	3.712483	3,030	15.34548	14.08175
% Foreign-born	1,775	4.176535	6.776814	3,047	7.683469	14.14341
Economic Disadvantage	1,646	0.262577	1.811333	1,933	-0.265792	2.397049
% Male	2,140	55.13864	12.00761	3,047	58.17938	19.20908
% Age 15-29	2,140	26.43166	9.748763	3,047	27.57879	17.90258
% Black	2,140	12.84472	16.06594	3,142	9.016264	14.51262
% Hispanic	2,140	8.061028	12.48021	3,142	8.946722	13.59881
Total population	2,140	134391.7	367032.1	3,142	101387.1	325201.7
Traditional	3,135	.0507177	.2194556	3,135	.0507177	.2194556
New	3,135	.5097289	.4999851	3,135	.5097289	.4999851
Low immigration	3,135	.4395534	.4964119	3,135	.4395534	.4964119

Appendix E. Descriptive Statistics, Whites/Traditional Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	159	8.09434	19.05315	159	6.490566	13.88919
% Female-headed Household	157	7.923367	2.417612	159	7.929375	3.217913
% Divorced/Separated	157	12.34076	2.916481	159	13.38302	4.059404
% Foreign-born	157	5.806062	5.104446	159	6.193732	5.33157
Economic Disadvantage	157	-2.269387	3.158068	158	-2.932432	3.80978
% Male	157	50.18414	3.282399	159	50.55306	3.982057
% Age 15-29	157	16.70789	3.866877	159	16.572	4.463437
% Black	157	6.425796	9.460584	159	6.413836	9.262156
% Hispanic	157	36.54299	23.82354	159	39.85283	24.47963
Total population	157	591619.3	1091681	159	621708.7	1134625

Appendix F. Descriptive Statistics, Whites/New Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,598	1.790989	5.125854	1,598	1.996871	5.356483
% Female-headed Household	1,598	8.718653	1.901717	1,598	9.154577	2.453212
% Divorced/Separated	1,598	12.54612	2.291161	1,598	13.98379	2.828167
% Foreign-born	1,598	0.9008726	0.9356074	1,598	1.007753	1.139782
Economic Disadvantage	1,597	0.4700853	2.990572	1,597	0.133675	3.358677
% Male	1,598	49.40962	1.453062	1,598	49.61393	1.737666
% Age 15-29	1,598	17.62575	3.360595	1,598	17.08881	3.475761
% Black	1,598	11.60989	15.58925	1,598	11.73404	15.6335
% Hispanic	1,598	6.263611	8.868378	1,598	7.78761	9.80979
Total population	1,598	72645.52	165122.5	3,142	101387.1	325201.7

Appendix G. Descriptive Statistics, Whites/Low Immigration Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,378	1.381713	3.764801	1,378	1.532656	3.566266
% Female-headed Household	1,376	8.210421	2.089358	1,377	8.436126	2.627896
% Divorced/Separated	1,376	12.15	2.589396	1,377	13.51031	3.126927
% Foreign-born	1,376	1.16443	1.176128	1,377	1.186863	1.2692
Economic Disadvantage	1,376	0.20079	2.631628	1,377	-0.2909136	3.089043
% Male	1,376	49.73113	1.756354	1,377	49.9951	2.155846
% Age 15-29	1,376	17.70401	4.779808	1,377	17.31104	4.930642
% Black	1,376	6.063009	12.96291	1,377	6.208351	13.02487
% Hispanic	1,376	5.737464	10.48052	1,377	6.742556	11.16718
Total population	1,376	66093.4	143228.8	1,377	68008.79	144980.5

Appendix H. Descriptive Statistics,Blacks/Traditional Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	159	17.06289	49.68275	159	16.91824	59.34644
% Female-headed Household	125	22.40756	8.962887	143	19.62909	15.35494
% Divorced/Separated	106	15.125	2.831147	153	15.88366	14.0533
% Foreign-born	106	13.74809	10.53525	154	15.16782	15.59085
Economic Disadvantage	104	-1.515262	1.647478	116	-2.10639	1.967593
% Male	126	53.45505	9.565436	154	57.09604	18.34469
% Age 15-29	126	24.33431	6.038653	154	23.65183	11.49181
% Black	126	7.823016	10.07651	159	6.413836	9.262156
% Hispanic	126	33.73254	22.24859	159	39.85283	24.47963
Total population	126	735054.8	1175699	159	621708.7	1134625

Appendix I. Descriptive Statistics, Blacks/New Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,598	2.374218	12.55206	1,598	3.047559	15.63249
% Female-headed Household	1,177	25.59711	8.565728	1,428	23.3641	16.89117
% Divorced/Separated	1,019	15.73533	3.345353	1,558	15.41348	12.50227
% Foreign-born	1,019	2.971908	5.762348	1,564	6.57323	13.6795
Economic Disadvantage	965	0.4793354	1.724803	1,099	-0.0579016	2.283728
% Male	1,186	53.55674	10.98048	1,564	56.59046	17.64566
% Age 15-29	1,186	24.95556	8.005715	1,564	26.36036	16.37201
% Black	1,186	15.48858	16.40209	1,598	11.73404	15.6335
% Hispanic	1,186	6.356619	8.421734	1,598	7.78761	9.80979
Total population	1,186	93553.6	187122.1	1,598	78822.64	184550.1

Appendix J. Descriptive Statistics, Blacks/ Low Immigration Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,378	1.825109	15.77329	1,378	1.928157	13.3011
% Female-headed Household	814	22.24655	10.3444	1,138	19.34149	20.09596
% Divorced/Separated	650	14.82492	4.2785	1,311	15.26766	15.77405
% Foreign-born	650	4.50412	6.176061	1,321	7.974067	14.01561
Economic Disadvantage	577	0.2205038	1.804047	715	-0.274983	2.493981
% Male	828	57.6607	13.26419	1,321	60.05324	20.79795
% Age 15-29	828	28.86513	11.77884	1,321	29.43205	19.88953
% Black	828	9.82192	15.61255	1,377	6.208351	13.02487
% Hispanic	828	6.595833	10.94006	1,377	6.742556	11.16718
Total population	828	101481.6	175731.7	1,377	68008.79	144980.5

Appendix K. Descriptive Statistics, Hispanics/Traditional Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	159	14.37736	43.96542	159	12.86164	35.44178
% Female-headed Household	156	17.39044	5.290759	159	18.32966	6.227619
% Divorced/Separated	155	10.81935	2.728811	159	11.68742	3.714694
% Foreign-born	155	37.11911	12.42852	159	34.66499	12.29791
Economic Disadvantage	154	0.2755879	1.900553	156	-0.5345395	1.995239
% Male	156	51.59659	3.684443	159	51.8973	5.499024
% Age 15-29	156	25.87286	3.493845	159	24.20936	4.626484
% Black	156	6.457692	9.482725	159	6.413836	9.262156
% Hispanic	156	37.23654	23.76215	159	39.85283	24.47963
Total population	156	595397.3	1094167	159	621708.7	1134625

Appendix L. Descriptive Statistics, Hispanics/New Destination Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,598	0.6414268	5.865831	1,598	0.6101377	4.066766
% Female-headed Household	1,377	13.90549	6.403606	1,573	15.49527	13.893
% Divorced/Separated	1,085	10.38419	3.670614	1,594	11.64304	9.795079
% Foreign-born	1,085	36.45419	13.9601	1,595	31.53422	15.74899
Economic Disadvantage	1,018	0.6341929	1.793867	1,292	0.2425441	2.621288
% Male	1,382	55.25871	6.303901	1,595	54.00352	11.32807
% Age 15-29	1,382	28.06635	5.383615	1,595	24.63591	9.760348
% Black	1,382	12.26787	15.36026	1,598	11.73404	15.6335
% Hispanic	1,382	6.974204	9.316856	1,598	7.78761	9.80979
Total population	1,382	82862.71	175368.8	1,598	78822.64	184550.1

Appendix M. Descriptive Statistics, Hispanics/Low Immigration Areas

	2007			2017		
	N	Mean	SD	N	Mean	SD
Homicide	1,378	0.3026125	1.617535	1,378	0.3105951	1.652679
% Female-headed Household	1,079	14.64569	6.945622	1,344	14.77256	14.53147
% Divorced/Separated	829	11.49493	3.699699	1,368	12.44788	10.74111
% Foreign-born	829	20.66973	10.51255	1,372	19.64772	14.06673
Economic Disadvantage	763	0.2267701	1.709988	1,005	-0.7320033	2.574181
% Male	1,082	53.2277	6.70759	1,372	53.20655	12.94809
% Age 15-29	1,082	27.86116	7.068849	1,372	26.86045	12.78698
% Black	1,082	6.551433	12.61521	1,377	6.208351	13.02487
% Hispanic	1,082	6.871396	11.52563	1,377	6.742556	11.16718
Total population	1,082	82247.62	157688.4	1,377	68008.79	144980.5

Appendix N. Fixed-Effects Negative Binomial Regression Models, All Race/Ethnicity Groups

Variables	Full Sample		White		Black		Hispanic	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	-0.0837** (0.00926)	-0.0810** (0.0107)	-0.113** (0.0377)	-0.102** (0.0392)	-0.0294* (0.0118)	-0.0302* (0.0121)	-0.00236 (0.0114)	0.00524 (0.0121)
% Divorced	-	0.0205 (0.0235)	-	0.0353 (0.0329)	-	0.00233 (0.0230)	-	-0.0205 (0.0338)
% Female-Headed Households	-	0.0137 (0.0211)	-	0.0235 (0.0427)	-	0.0173 (0.0160)	-	0.0589* (0.0247)
Economic Index	0.0401* (0.0204)	0.0336 (0.0217)	0.0330 (0.0288)	0.0182 (0.0308)	0.118* (0.0509)	0.107* (0.0522)	-0.130 (0.0807)	-0.181* (0.0847)
% Male	0.180** (0.0406)	0.176** (0.0427)	-0.0343 (0.0541)	-0.0355 (0.0560)	0.0913** (0.0275)	0.101** (0.0287)	0.0605 (0.0454)	0.0878 (0.0467)
% Age 15-29	-0.0510** (0.0156)	-0.0457** (0.0163)	-0.0470* (0.0195)	-0.0391 (0.0201)	-0.0561** (0.0217)	-0.0551* (0.0222)	0.0281 (0.0249)	0.0217 (0.0247)
% Black	0.0297** (0.00623)	0.0263** (0.00688)	0.0231* (0.00940)	0.0236* (0.00930)	0.00774 (0.00806)	0.00625 (0.00807)	0.0402* (0.0159)	0.0362* (0.0157)
% Hispanic	-	-	0.000932 (0.00827)	0.000514 (0.00826)	0.00955 (0.0108)	0.00866 (0.0108)	0.000814 (0.00995)	0.000849 (0.0101)
Total Population	-	-	-3.49e-07* (1.43e-07)	-3.44e-07* (1.45e-07)	-7.10e-07** (1.63e-07)	-7.05e-07** (1.61e-07)	-5.38e-07** (1.59e-07)	-5.61e-07** (1.56e-07)
Constant	-17.02** (1.991)	-17.34** (2.066)	-6.633* (2.651)	-7.433** (2.793)	-10.96** (1.421)	-11.94** (1.712)	-12.52** (1.967)	-14.67** (2.251)
Observations	4,258	4,258	3,774	3,774	1,928	1,922	1,246	1,246

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix O. Fixed-Effects Negative Binomial Regression Models, White by Destination Type

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	0.0103 (0.0744)	0.0162 (0.0825)	-0.141 (0.0923)	-0.157 (0.0951)	-0.295** (0.0963)	-0.274** (0.0994)
% Divorced	-	0.0176 (0.106)	-	-0.0722 (0.0489)	-	0.140* (0.0560)
% Female-Headed Households	-	-0.172 (0.163)	-	0.0255 (0.0595)	-	0.0339 (0.0689)
Economic Index	0.168 (0.116)	0.192 (0.124)	0.0420 (0.0444)	0.0618 (0.0499)	-0.00300 (0.0455)	-0.0523 (0.0517)
% Male	-0.364* (0.178)	-0.438* (0.189)	0.0447 (0.0931)	0.0727 (0.102)	0.0322 (0.0942)	-0.00693 (0.1000)
% Age 15-29	0.169 (0.0981)	0.201 (0.104)	0.0389 (0.0380)	0.0266 (0.0381)	-0.0750** (0.0244)	-0.0461 (0.0270)
% Black	-0.0486 (0.0301)	-0.0536* (0.0301)	0.00131 (0.0130)	0.0186 (0.0138)	0.0127 (0.0156)	0.0132 (0.0162)
% Hispanic	0.0228 (0.0338)	0.0284 (0.0346)	-0.0223 (0.0173)	-0.00254 (0.0179)	-0.00144 (0.0148)	-0.00484 (0.0151)
Total Population	-3.83e-07 (2.20e-07)	-3.97e-07 (2.27e-07)	-2.16e-07 (2.90e-07)	-2.87e-07 (3.09e-07)	1.81e-06* (8.39e-07)	1.57e-06 (8.58e-07)
Constant	6.149 (8.152)	10.43 (9.214)	-11.61* (4.594)	-11.92* (5.046)	-9.453* (4.627)	-10.09* (4.919)
N	210	210	2,014	2,006	1,548	1,548

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.



Appendix P. Fixed-Effects Negative Binomial Regression Models, Black by Destination

Type

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	0.0333	0.0307	0.0255	0.0229	-0.0695**	-0.0729**
	(0.0349)	(0.0359)	(0.0217)	(0.0222)	(0.0244)	(0.0250)
% Divorced	-	0.00322	-	-0.0169	-	0.0142
	-	(0.0721)	-	(0.0301)	-	(0.0407)
% Female-headed Households	-	-0.0451	-	0.0125	-	0.0356
	-	(0.0588)	-	(0.0213)	-	(0.0265)
Economic Index	0.373	0.391	0.00156	-0.0119	0.287**	0.258**
	(0.151)	(0.153)	(0.0757)	(0.0785)	(0.0982)	(0.0999)
% Male	0.0552	0.0242	0.0919*	0.0974*	0.116*	0.133**
	(0.0734)	(0.0855)	(0.0421)	(0.0434)	(0.0461)	(0.0461)
% Age 15-29	-0.0838	-0.0833	0.00205	-0.00465	-0.0713*	-0.0639*
	(0.0655)	(0.0667)	(0.0364)	(0.0384)	(0.0297)	(0.0314)
% Black	0.0176	0.0179	0.00816	0.00708	0.0145	0.00890
	(0.0246)	(0.0251)	(0.0110)	(0.0112)	(0.0157)	(0.0158)
% Hispanic	0.0519*	0.0524*	-0.0206	-0.0222	-0.0385	-0.0358
	(0.0223)	(0.0226)	(0.0223)	(0.0226)	(0.0224)	(0.0227)
Total Population	-6.51e-07**	-5.95e-07*	-1.51e-06**	-1.44e-06**	2.89e-06**	2.69e-06**
	(2.06e-07)	(2.33e-07)	(4.88e-07)	(5.02e-07)	(8.12e-07)	(8.26e-07)
Constant	-9.840*	-7.228	-11.67**	-11.85**	-11.75**	-13.86**
	(4.006)	(5.821)	(2.171)	(2.493)	(2.363)	(2.796)
N	170	170	1,144	1,144	614	614

Appendix Q. Fixed-Effects Negative Binomial Regression Models, Hispanic by  
Destination Type

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	0.00564 (0.0252)	0.0204 (0.0240)	0.00835 (0.0182)	0.0106 (0.0189)	-0.0916** (0.0345)	-0.0864* (0.0377)
% Divorced	- -	-0.109 (0.0763)	- -	-0.0409 (0.0463)	- -	-0.0247 (0.0607)
% Female-Headed Households	- -	0.152** (0.0588)	- -	0.0297 (0.0320)	- -	0.0274 (0.0516)
Economic Index	-0.288 (0.175)	-0.416* (0.183)	-0.0587 (0.135)	-0.0831 (0.139)	-0.444** (0.153)	-0.467** (0.160)
% Male	0.0536 (0.122)	0.149 (0.135)	0.0699 (0.0584)	0.0757 (0.0591)	0.0490 (0.104)	0.0510 (0.107)
% Age 15-29	-0.00577 (0.0557)	-0.00131 (0.0550)	0.0462 (0.0342)	0.0445 (0.0346)	0.166** (0.0601)	0.163** (0.0613)
% Black	0.00123 (0.0351)	-0.0113 (0.0376)	0.0523* (0.0212)	0.0517* (0.0214)	-0.145 (0.0861)	-0.141 (0.0931)
% Hispanic	0.00559 (0.0186)	0.00345 (0.0203)	0.0291 (0.0294)	0.0299 (0.0267)	-0.168** (0.0573)	-0.170** (0.0584)
Total Population	-3.53e-07 (2.12e-07)	-4.23e-07* (1.91e-07)	-7.89e-07* (3.62e-07)	-7.85e-07* (3.43e-07)	3.99e-06 (2.15e-06)	3.92e-06 (2.18e-06)
Constant	-11.47* (5.545)	-18.22** (6.783)	-14.51** (2.498)	-14.85** (2.807)	-3.512 (5.555)	-3.819 (5.817)
N	218	218	632	632	442	442

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix R. Cross Sectional Negative Binomial Regression Models, All Race/Ethnicity Groups

Variables	Full Sample		White		Black		Hispanic	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	0.0238** (0.00322)	0.0245** (0.00313)	-0.0311** (0.0114)	-0.0170 (0.00969)	-0.0137** (0.00494)	-0.00511 (0.00476)	-0.00267 (0.00277)	-0.000414 (0.00323)
% Divorced	-	0.144** (0.0115)	-	0.161** (0.0126)	-	0.102** (0.0139)	-	0.0477* (0.0208)
% Female-Headed Households	-	0.0386** (0.0112)	-	-0.0488** (0.0170)	-	0.0337** (0.00821)	-	-0.0163 (0.0102)
Economic Index	0.0821** (0.00730)	0.0270** (0.00907)	0.0878** (0.00816)	0.0520** (0.00912)	0.109** (0.0205)	0.0241 (0.0250)	0.0923** (0.0248)	0.106** (0.0278)
% Male	-0.0301** (0.0110)	-0.0239* (0.0108)	0.0329* (0.0162)	0.00759 (0.0161)	-0.0346** (0.00709)	-0.0214** (0.00717)	0.00694 (0.0130)	0.00175 (0.0139)
% Age 15-29	0.0191** (0.00486)	0.0376** (0.00488)	0.0154** (0.00498)	0.0370** (0.00499)	-0.00187 (0.00738)	0.0155 (0.00793)	0.00951 (0.0111)	0.0181 (0.0118)
% Black	0.0249** (0.00138)	0.0170** (0.00210)	0.0236** (0.00150)	0.0220** (0.00143)	0.00186 (0.00179)	0.00332 (0.00176)	0.0290** (0.00299)	0.0282** (0.00301)
% Hispanic	-	-	0.0158** (0.00208)	0.0108** (0.00200)	0.00521 (0.00322)	0.00418 (0.00308)	0.00149 (0.00231)	0.00201 (0.00233)
Total Population	-	-	2.22e-07** (6.29e-08)	1.25e-07* (4.89e-08)	4.05e-07** (7.41e-08)	2.52e-07** (6.18e-08)	1.19e-07* (4.98e-08)	1.28e-07* (5.09e-08)
Constant	-9.427** (0.539)	-12.34** (0.575)	-12.71** (0.787)	-13.46** (0.820)	-7.157** (0.356)	-10.83** (0.575)	-10.50** (0.657)	-10.80** (0.851)
Observations	3,013	3,013	3,075	3,075	1,393	1,393	1,398	1,398

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix S. Cross Sectional Negative Binomial Regression Models, White by  
Destination Type

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	-0.0563** (0.0149)	-0.0238 (0.0151)	0.00702 (0.0333)	-0.00172 (0.0312)	0.0685* (0.0349)	0.0177 (0.0338)
% Divorced	- -	0.159** (0.0307)	- -	0.161** (0.0204)	- -	0.146** (0.0226)
% Female- Headed Households	- -	-0.0824 (0.0443)	- -	-0.0534* (0.0259)	- -	-0.0359 (0.0299)
Economic Index	0.0810** (0.0298)	0.0515 (0.0348)	0.113** (0.0113)	0.0658** (0.0134)	0.101** (0.0151)	0.0613** (0.0170)
% Male	0.111** (0.0368)	0.0451 (0.0399)	0.0140 (0.0247)	0.00705 (0.0238)	0.0441 (0.0271)	0.0191 (0.0272)
% Age 15-29	0.00653 (0.0203)	0.0274 (0.0184)	0.0202* (0.00803)	0.0352** (0.00798)	0.0103 (0.00690)	0.0352** (0.00759)
% Black	0.0276** (0.00781)	0.0288** (0.00658)	0.00784** (0.00189)	0.0205** (0.00187)	0.0220** (0.00289)	0.0203** (0.00284)
% Hispanic	0.0111* (0.00443)	0.0142** (0.00408)	0.000973 (0.00420)	0.00793 (0.00426)	0.0173** (0.00408)	0.0112** (0.00416)
Total Population	1.29e-07* (5.87e-08)	4.85e-08 (4.64e-08)	5.62e-07** (1.46e-07)	3.59e-07** (1.24e-07)	1.44e-07 (2.23e-07)	3.10e-07 (2.08e-07)
Constant	-16.17** (1.750)	-14.92** (2.093)	-11.92** (1.213)	-13.34** (1.215)	-13.36** (1.315)	-14.04** (1.375)
N	150	150	1,576	1,576	1,349	1,349

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix T. Cross Sectional Negative Binomial Regression Models, Black by  
Destination Type

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	-0.0319** (0.00635)	-0.0198** (0.00672)	-0.0145 (0.0103)	-0.00417 (0.00990)	-0.0104 (0.0104)	-0.00399 (0.0105)
% Divorced	-	0.150** (0.0401)	-	0.0772** (0.0191)	-	0.0654** (0.0246)
% Female-Headed Households	-	0.0223 (0.0211)	-	0.0411** (0.0119)	-	0.0199 (0.0140)
Economic Index	0.295** (0.0489)	0.209** (0.0609)	0.172** (0.0288)	0.0684 (0.0350)	0.0962** (0.0370)	0.0448 (0.0480)
% Male	0.00718 (0.0200)	0.00308 (0.0234)	-0.0496** (0.0110)	-0.0332** (0.0110)	-0.0207* (0.0103)	-0.0156 (0.0107)
% Age 15-29	-0.0766* (0.0361)	-0.0239 (0.0382)	0.00518 (0.0111)	0.0136 (0.0117)	-0.0141 (0.0108)	-0.000974 (0.0120)
% Black	0.00982 (0.00580)	0.0112* (0.00531)	0.00233 (0.00243)	0.00338 (0.00241)	0.00327 (0.00294)	0.00387 (0.00291)
% Hispanic	-0.00879 (0.00514)	-0.00771 (0.00492)	0.00595 (0.00628)	0.00418 (0.00618)	0.0114 (0.00642)	0.00836 (0.00654)
Total Population	6.30e-08 (5.01e-08)	2.29e-08 (4.28e-08)	1.19e-06** (1.81e-07)	8.37e-07** (1.67e-07)	7.45e-07** (1.67e-07)	5.98e-07** (1.63e-07)
Constant	-6.312** (1.099)	-10.62** (1.938)	-6.851** (0.543)	-10.25** (0.804)	-7.617** (0.557)	-9.779** (0.952)
N	92	92	845	845	456	456

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix U. Cross Sectional Negative Binomial Regression Models, Hispanic by  
Destination Type

Variables	Traditional		New		Low Immigration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
% Foreign-born	-0.0101 (0.00560)	-0.0111* (0.00560)	-0.00990 (0.00539)	-0.00193 (0.00636)	0.00761 (0.00696)	0.00601 (0.00843)
% Divorced	-	0.0615* (0.0353)	-	0.0644* (0.0267)	-	0.0172 (0.0375)
% Female-Headed Households	-	-0.0293 (0.0187)	-	0.000737 (0.0161)	-	-0.0148 (0.0195)
Economic Index	0.0353 (0.0446)	0.0648 (0.0537)	0.144** (0.0417)	0.132** (0.0446)	0.0649 (0.0463)	0.0876 (0.0577)
% Male	0.0692* (0.0286)	0.0607 (0.0327)	0.00653 (0.0194)	0.00249 (0.0198)	-0.0209 (0.0237)	-0.0238 (0.0241)
% Age 15-29	0.0416 (0.0295)	0.0635* (0.0299)	0.0301 (0.0222)	0.0407 (0.0227)	-0.00511 (0.0147)	-0.00376 (0.0160)
% Black	0.0186** (0.00553)	0.0182** (0.00537)	0.0286** (0.00417)	0.0276** (0.00411)	0.0356** (0.00552)	0.0355** (0.00557)
% Hispanic	0.000361 (0.00386)	0.000181 (0.00421)	0.00824 (0.00510)	0.00913* (0.00508)	0.00390 (0.00506)	0.00335 (0.00513)
Total Population	5.43e-08 (3.80e-08)	5.75e-08 (3.56e-08)	5.19e-07** (1.62e-07)	4.39e-07** (1.53e-07)	1.30e-07 (2.19e-07)	1.87e-07 (2.37e-07)
Constant	-14.03** (1.427)	-14.25** (2.083)	-11.02** (0.956)	-12.07** (1.104)	-9.080** (1.229)	-8.882** (1.537)
N	153	153	1,015	1,015	762	762

Standard errors are in parentheses. \*\*p<0.01, \*p<0.05.

Appendix V. Correlation Table, Full Sample.

Variables	1	2	3	4	5	6	7	8	9	10
1.Homicide	1									
2.Foreign-Born	0.3268	1								
3.% Female-headed Households	0.1826	0.1069	1							
4.% Divorced	0.0293	-0.1192	0.413	1						
5.Economic Disadvantage	0.01	-0.0967	0.6654	0.42	1					
6.% Black	0.1737	-0.0139	0.7442	0.2216	0.463	1				
7.% Hispanic	0.1383	0.6762	0.1387	-0.0186	0.1306	-0.1064	1			
8.% Male	-0.1001	0.0637	-0.167	0.0165	-0.0221	-0.1179	0.145	1		
9.% Age 15-29	0.13	0.2333	0.2824	-0.1432	0.1141	0.2072	0.1608	0.0737	1	
10.Total Population	0.8438	0.4759	0.1255	-0.0383	-0.105	0.0769	0.186	-0.1054	0.1364	1

Appendix W. Correlation Table, White Sample.

Variables	1	2	3	4	5	6	7	8	9	10
1.Homicide	1									
2.Foreign-Born	0.3593	1								
3.% Divorced	0.0833	-0.0645	1							
4.% Female-headed Households	0.0821	-0.0742	0.5448	1						
5.Economic Disadvantage	-0.1358	-0.3411	0.4325	0.4906	1					
6.% Male	-0.0824	0.005	0.0294	-0.247	-0.0924	1				
7.% Age 15-29	0.1125	0.0851	-0.1711	0.1418	-0.0167	0.0142	1			
8.% Black	0.1116	0.0359	0.1057	0.104	0.0965	-0.0181	0.0538	1		
9.% Hispanic	0.1285	0.3282	0.0738	-0.0539	-0.1464	0.0812	-0.0664	-0.1053	1	
10.Total Population	0.7622	0.5875	-0.0147	0.0307	-0.2179	-0.0703	0.087	0.0767	0.189	1



Appendix X. Correlation Table, Black Sample.

Variables	1	2	3	4	5	6	7	8	9	10
1.Homicide	1									
2.Foreign-Born	0.0204	1								
3.% Divorced	0.0384	-0.1786	1							
4.% Female-headed Households	0.1024	-0.2344	0.1422	1						
5.Economic Disadvantage	-0.0171	-0.2935	0.1238	0.4295	1					
6.% Male	-0.1304	0.1334	-0.0871	-0.3639	-0.0678	1				
7.% Age 15-29	-0.037	0.1931	-0.3531	-0.153	0.0268	0.2843	1			
8.% Black	0.1879	-0.2903	0.0358	0.3872	0.3534	-0.3258	-0.1761	1		
9.% Hispanic	0.0933	0.1899	-0.0129	-0.1056	-0.1815	0.0735	0.0348	-0.2002	1	
10.Total Population	0.6303	0.1898	0.0131	0.0356	-0.1776	-0.1037	-0.0188	-0.0337	0.2707	1

Appendix Y. Correlation Table, Hispanic Sample.

Variables	1	2	3	4	5	6	7	8	9	10
1.Homicide	1									
2.Foreign-Born	0.0612	1								
3.% Divorced	0.0027	-0.261	1							
4.% Female-headed Households	0.0633	-0.0851	0.2616	1						
5.Economic Disadvantage	-0.0001	0.2723	0.0236	0.2046	1					
6.% Male	-0.0474	0.1785	-0.0146	-0.1739	0.1025	1				
7.% Age 15-29	-0.0056	0.0389	-0.1924	0.0174	0.0333	0.1315	1			
8.% Black	0.045	0.2673	-0.0332	0.0035	0.136	0.0991	0.0418	1		
9.% Hispanic	0.1931	-0.0075	0.0201	0.1108	0.1312	-0.0836	-0.126	-0.1338	1	
10.Total Population	0.8461	0.1083	0.0036	0.1034	-0.0737	-0.0862	0.007	0.1142	0.1427	1

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