

IMMIGRATION AND CRIME IN RURAL AMERICA:

THE CASE OF IOWA

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## ABSTRACT

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### IMMIGRATION AND CRIME IN RURAL AMERICA: THE CASE OF IOWA

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The popular media are rife with anecdotal reports of rampant crime perpetrated by immigrants across the U.S. A review of the literature reveals an abundance of research on the relationship between immigration and crime in urban neighborhoods that effectively debunks the media perpetuated belief that immigration causes crime as a myth. However, there remains a dearth of research and attendant literature that explores the immigration and crime nexus in rural areas of America. In response, this vanguard dissertation investigates the relationship between immigration and 16 crime rates among Iowa's 79 rural counties. To that end, two salient research questions drive this study: 1) Does immigration affect crime in rural areas? And, 2) if so, how does immigration influence crime in rural America?

The lack of suitable criminological theories is juxtaposed with the lack of relevant research and literature. In response, four competing theoretical frameworks were developed to answer the research questions. The first theory, immigration-crime affirmative nexus theory, suggests a positive connection between a foreign-born population and crime rates. The second, immigration-crime dissociation theory,

disavows any connection between a foreign-born population and crime rates. The third theory, immigration-crime conditional nexus theory, acknowledges a conditional influence of a foreign-born population on crime rates, increasing some crime rates, lowering other crime rates, and having no effect on others. The fourth, immigration-crime inverse nexus theory, posits that a foreign-born population decreases crime rates. Seventeen hypotheses for the effect of percent foreign-born population on 16 crime rates and the effect of interaction between percent foreign-born population and poverty rate on the crime rates were proposed for testing.

The data for the dependent variables on the 16 crime rates come from the Iowa Department of Public Safety and the Iowa Community Indicator Program (ICIP) affiliated with Iowa State University. The data for the independent and control variables come from the American Community Survey (ACS) and the Small Area Income and Poverty Estimates (SAIPE). Ordinary Least Squares regression was used to analyze 15 crime rates, and negative binomial regression was used to analyze murder rate because of the virtually non-existent number of murders that occurred in Iowa's rural counties.

The results of this research find a significant negative relationship between foreign-born population and crime rate for two serious crimes: motor vehicle theft and murder. Although percent foreign-born is associated with a lower crime rate, controlling for other variables, its effect is not statistically significant for the rates of six categories of crimes: total crime, violent crime, property crime, aggravated assault, forcible rape, and robbery. Surprisingly, the data suggest that foreign-born population significantly increases rates

for four public order crimes: drug abuse, disorderly conduct, drunkenness, and driving under the influence. Finally, the data show a positive but insignificant effect of percent foreign-born on the rates of four crimes: burglary, larceny, simple assault, and weapons violations.

The results of this study suggest that the relationship between immigration and crime is much more complicated and nuanced than what has been portrayed by the media and what was initially believed and that a holistic approach is called for in order to fully understand it. The findings also suggest that immigration-crime conditional nexus theory has the broadest applications to the nexus between immigration and crime in rural America for different types and combinations of crimes. The findings also have implications for policies and police training.

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## CHAPTER I

### INTRODUCTION

#### THE RESEARCH PROBLEM

In 2010, the foreign-born population of the United States reached 40 million people representing about 13 percent of the total population, a 2 percent increase from 11.1 percent in 2000 and a 5 percent increase from 7.9 percent in 1990 (U.S. Census Bureau 2010). While the foreign-born population in the United States dramatically increased during the 1990s and 2000s, the 9 countries of origin accounting for the largest numbers of immigrants were Mexico, China, India, Korea, the Philippines, Vietnam, Cuba, the Dominican Republic, and El Salvador (Howell and Egley 2005). The State of Iowa estimates that 4.4 percent of its population, or 134,040 persons, is foreign-born, a 47.2 percent increase from 2000, and a 209 percent increase since 1990 (IDC 2013). Removing the urban centers, the rural Iowa foreign-born population increased 204.7 percent during the same period. Concurrently, the total Iowa population increased only 8.7 percent, and the total rural population actually decreased 1.79 percent.

In line with the rest of the nation, rural Iowa enjoyed a consistent decrease in crime rates over the past several years (IUCR 2014). For the calendar years 2007 through 2011, the focus of this research, the rural Iowa county crime rates decreased 5.3 percent for total crimes, the violent crime rate decreased 0.5 percent, and the property crime rate

dropped 5.8 percent. This trend holds for minor public order offenses as the arrest rate for drunkenness fell 10.1 percent, and the drug violations crime rate decreased 3.1 percent among the rural counties. Comparing rural Iowa county crime rates with other states or measuring the nationwide effect of immigration on crime in rural areas is effectively an impossible task as the necessary comprehensive data source is currently nonexistent (Lopez, Passel, and Rohal 2015). Moreover, the existing literature on the rural immigrant-crime nexus tends to consist of anecdotal media reports on exceptional crimes that are sensationalized and incorporate a subjective tone. Consequently, the public's perception relating to immigrants and crime is based on hearsay, rumor, and conjecture. Perhaps the public's persistent cynical view of immigrants is the overuse of the term "illegal immigrant" among the media and politicians inculcating the mental belief that all immigrants are inherently criminal (Miles and Cox 2014).

According to Tichenor (2002), "for much of U.S. history, recent immigrants have been associated with negative stereotypes." The American public has maintained a persistent negative concept of immigrants, generally perceiving them as inherently criminal (Espenshade 1995). The public's perception of the immigrant crime problem is illustrated by Judith Gans, "who studies immigration at the Udall Center for Studies in Public Policy at the University of Arizona" (Archibold 2010:18). In a newspaper article, she explains the self-serving bias regarding the immigration debate as "both sides...accept information that confirms their biases...and discard, ignore or rationalize information that does not" (Archibold 2010:18). According to Gans, "If an illegal

immigrant commits a crime, this confirms our view that illegal immigrants are criminals, [conversely], if an illegal immigrant doesn't commit a crime, either they just didn't get caught or it's a fluke of the situation" (Archibold 2010:18).

Sampson's (2008) seminal study on immigrant crime in the United States is a valuable treatise providing salient empirical evidence for debunking popular opinion based in myth rather than actual conditions in society. However, Sampson's research focuses on urban immigrants and is essentially silent to the relationship between immigration and crime in rural areas. Indeed, there is an abject lack of literature addressing immigration and crime in rural areas of the U.S. as the topic is not only significantly overshadowed by urban issues but also that rural America comprises only about one-fifth of the U.S. population (Shihadeh and Barranco 2010a), thus making issues in rural America appear somehow undeserving of study. Further, Crowley and Lichter (2009) note that quantitative research based on the empirical evidence necessary to examine the accurate scope of immigrant crime in rural areas simply does not exist. Consequently, the general public and the nation's policy makers rely on myth, emotion, and anecdotal evidence upon which they make important decisions instead of building on the bedrock of empirical evidence, the essence of academic research.

Despite the research effectively dispelling the immigration-crime nexus in urban areas, stereotyping of immigrants as criminals persists with the typical American believing that immigrants, especially Hispanic immigrants, are responsible for 27 percent of crimes committed in the U.S. (Yukich 2013). Yukich further asserts that "scholars

commonly reference the distinction between ‘good/deserving’ and ‘bad/undeserving’ immigrants” which influences the recurrent national debate on immigration reform. The ongoing national debate over immigration reform illustrates the public’s misinformed concept of immigrants. For instance, a National Association of Hispanic Journalists study found that during the 2000s, 36 percent of news articles about Latinos have focused on immigration and crime concluding “that too often Latinos are portrayed as a problem people living on the fringes of U.S. society” (Branton and Dunaway 2009).

Balz (2013) highlights the contentious nature of immigration reform discussing the legislation hammered out by the U.S. Senate’s so-called Gang of Eight. Balz notes that “hundreds of amendments may be considered, and the opening day highlighted conservatives” opposition to the bill. He forecasts that “resistance to the current bill will be even fiercer in the House.” Holland (2013), reports that “President Barack Obama stepped into the fray in the U.S. Congress over immigration...urging...the Republican-led House of Representatives to approve a plan that is at risk of stalling.”

Considering the controversy surrounding the immigrant-crime issue, this study examines the relationship between immigration and crime in rural areas of the U.S. Crime is behavior that is punishable under the statutes of the Federal government, a state, or a local government. Since this study focuses on the effect of legal immigration on crime, immigration is defined as the flow of permanent residents to the U.S. from foreign countries. The specific research questions under this research problem include: 1) Does

immigration affect crime in rural areas? And, 2) If so, how does immigration influence crime in rural America?

This study uses Iowa as a case to analyze the relationship between immigration and crime in rural America, because Iowa has long been considered the epitome of a rural state (Curry 2000) and immigration in Iowa has been increasing over the past few decades. According to the 2010 Census data reported by Schulte (2011), Iowa's population in 2010 increased by 120,031 persons, a 4 percent increase from its 2000 population. The number of Hispanics increased 84 percent from 82,473 in 2000 to 151,544 in 2010. The increase in the Hispanic population may be attributed to the fact that "many are immigrants who found work in factories, slaughterhouses, and farms" (Schulte 2011). Iowa's significant increase in migrant population coupled with the availability of current data compiled and provided by the IDC makes Iowa the ideal state on which to focus this research.

#### THE SIGNIFICANCE OF THE STUDY

A cursory survey of the literature appears to settle the immigration-crime dispute despite the popular media portrayal of rampant crime across the country perpetrated by immigrants. Indeed, an abundance of research in urban neighborhoods has demonstrated that the popularly accepted belief that immigration causes crime is a mere myth (Ousey and Kubrin 2009), but there remains a dearth of literature exploring a relationship between immigration and crime in rural areas. This glaring gap in the literature supports the argument that perhaps there is some validity to the myth as no research to date exists

to repudiate the claim. This study is unique as it is the first systematic study of immigration and crime in rural America.

The U.S. has a long history of blaming immigrants for crime as an effective emotional strategy to gain critical public support for anti-immigration movements (Stowell et al. 2009). Sampson (2008) notes that the tactic was used to thwart the 2007 immigration reform bill supported by President George W. Bush and several Congressional leaders. More recently, despite initial encouraging prospects for passing a comprehensive immigration reform bill crafted through the efforts of bi-partisan U.S. Senate's "Gang of Eight," the current bill in Congress appears to be suffering the same fate as preceding immigration reform bills. This research will bring to the nation's immigration reform table salient information grounded in the empirical evidence rather than myth and emotion (Frey 2013) to support sound decisions among members of Congress.

Immigration has recently begun to be considered a civil rights issue (Dann 2013). Because immigration is now considered a civil rights issue, this study will be a valuable tool as it will serve to educate the policy makers and the public about the true nature of the connection between immigration and crime based on empirical evidence rather than myth and innuendo which assumes an inordinate level of importance in the absence of comprehensive and valid facts. To that end, this research will promote a more tolerant attitude toward immigrants through educating the public about the whole truth relating to the emotionally fraught immigration-crime debate. Concomitantly, a more tolerant attitude toward immigrants should translate into diminished incidents of violence and

hate crime directed toward immigrants in the U.S. Indeed, the immigrant community must be viewed as the valuable asset rather than a threat as it is perceived. Ideally, enhanced public acceptance of immigrants promotes interracial and interethnic harmony among the general population. Ultimately, justice will be universally served as immigrant offenders will be objectively judged instead of receiving an unduly harsh sentence as a result of retaliation.

The obvious value this study offers lies in its contribution to the literature examining the empirical evidence to confirm or dispel the touted connection between immigration and crime in rural America. Academia has the burden to scientifically analyze phenomena to determine its true nature based on empirical evidence. This study will be a model for future replication in other rural areas, as well as provide avenues for future important research. Despite the contentious political rhetoric common to public office election campaigns, the U.S. remains a consistent beacon of opportunity for a better life to people the world over. Whatever perceived or contrived problems existing in American society, the U.S. still epitomizes the promise of life, liberty, and the pursuit of happiness, as articulated in the Declaration of Independence.

## ORGANIZATION OF THE DISSERTATION

Six chapters comprise this dissertation—Introduction, Literature Review, Theoretical Frameworks and Hypotheses, Data and Methods, Findings, and Conclusion. As has already been seen, this introductory chapter reveals the purpose and scope of this research



as well as its central research question. It further discusses the significance of this dissertation.

Chapter 2 embodies the literature review relevant to this research. Considering the wholly destitute availability of academic literature directly relating to the purpose of this study, the literature review requires salient background information to support a thorough investigation into the relationship between immigration and rural county crime rates. To this end, this study's literature review must rely on the apparent juxtaposition with prior research on immigration and crime in urban areas. However, the peculiar environment germane to rural communities requires an examination of the literature relating to the general rural crime phenomenon allowing a comprehensive understanding into the essence of crime in rural America. Chapter 2 further conducts a literature review on the popular theories concerning immigration and crime. But, again, the unique conditions accordant to rural life disallow a seamless application of criminological theories typically used to explain criminal behavior, particularly crime attributable to immigrants, in urban neighborhoods. Consequently, Chapter 2 includes a survey of the literature providing the available empirical evidence relating to the nexus between immigration and rural crime.

Considering the fundamental difference between rural and urban environments and a review of the relevant literature reveals an equal utter lack of suitable criminological theories relating to the relationship between immigration and crime in rural America, Chapter 3 develops four theoretical frameworks concerning the potential relationships between the immigration and crime in rural areas of the U.S. The 4 proposed theories

provide an explanation for the relationship between the foreign-born population and 1) increasing crime rates in rural counties, 2) results that indicate there is no relationship, 3) an apparent relationship for some but not other crimes, and 4) overall lower crime rates. Chapter 3 also proposes 17 hypotheses relating to county crime rates for 3 crime categories, 13 specific crimes, and an interactional effect between county foreign-born population and poverty rate on crime rates.

Chapter 4 is divided into 4 major topics including data, variables and measures, limitations of data, and methods of data analysis and analytical strategies. The data topic specifies the source for the government collected data used in this study. The variables and measures segment lists the dependent variables, the independent variable, and the control variables. This section also establishes how each of the variables is measured for their effective use in this research. Recognizing the innovative nature of this research and its data use, Chapter 4 discusses the limitations of the data this study uses. Fleshing out the basis for the scientific analysis focus of this research, Chapter 4 establishes the requisite foundation supporting the methods of data analysis and analytical strategies.

Chapter 5 is perhaps the focal point in this study as it reports the results of descriptive analysis, correlational analysis, and regression analyses. The descriptive analysis provides the mean and standard deviation statistical values for each of the variables. Correlations among the predictor variables and the crime rate dependent variables across rural Iowa counties are the subject of the correlation analysis. At the heart of this study are the regression analyses using government collected data relating to rural Iowa county

crime rates, demographics, economic indicators, and social control to test the 17 hypotheses.

Chapter 6 summarizes the key findings of this research, discusses their implications, highlights the limitations of this study, and points to the direction for further research into the relationship between immigration and crime.

## CHAPTER II

### LITERATURE REVIEW

This review of the literature initially began with the premise of juxtaposing rural immigrant crime with Sampson's (2008, 2006; O'Donnell 2006) research on urban immigrant crime. It quickly became apparent that such an objective comparison was not only an impossible, arduous task, but it was also an inappropriate approach to consider the issue of immigrant-caused crime in the rural reaches of the United States. Indeed, the literature relating to rural immigrant crime does not parallel the literature addressing immigrant crime in urban areas of the United States. In fact, the predominant issue relating to the academic literature on immigration and crime in rural areas is the abject lack of scientific research addressing the topic. The literature that does exist primarily comes from non-scientific, anecdotal stories published in the news media, but relates to the relationship between immigration and county crime rates in rural areas of the U.S. nonetheless.

The challenge is to cleanse the mind of the influence from results of studies on the urban immigrant crime issue, such as Sampson's bellwether research, and let the scant literature on the rural immigrant crime phenomenon speak for itself. Since this study's topic is essentially uncharted territory some background information is necessary to provide a familiar path leading to the exploration of the relationship between immigration

and crime in rural America. While not directly relating to answering the research questions, this review of the literature conducts a cursory consideration of immigration and crime in urban areas as that is the milieu where virtually all scientific research has been conducted on the immigration-crime issue. A brief view of rural crime in general probes the relevant literature relating to the crime phenomenon in rural America. Unfortunately, the rural crime literature universally excludes any discussion on any relationship with foreign-born populations inhabiting rural communities. This chapter continues to review some popular theories relating to immigration and crime in the U.S. as well as providing a theoretical foundation for building a theoretical framework suitable to the research question. Then this chapter ends with an examination of the empirical evidence relating to the nexus between immigration and rural crime.

In an effort to adequately compare and contrast the immigration and crime phenomenon in urban and rural settings, there must be a definite distinction delineating the terms relating to urban and rural areas of the country to facilitate a thorough understanding of the issue. The federal Office of Juvenile Justice and Delinquency Prevention conceptualizes rural and small cities as having a population less than 25,000 persons (Howell and Egley 2005). In contrast, other agencies of the federal government use the arbitrary population of 50,000 to distinguish between metropolitan versus nonmetropolitan counties (Jensen 2006). This latter conceptualization is reinforced by the federal agency Housing and Urban Development (HUD) in their Community Development Block Grants (CDBG) program deeming urban communities having a

population of 50,000 or more as entitlement communities that essentially automatically receive federal grant funding each year without having to compete for grant funds, whereas those rural communities in counties having populations less than 50,000 must compete for funding under the CDBG program.

A common misconception among the general public, politicians, and academics is that civilization equates as life in the city. Society tends to universally focus on the needs and desires of urban inhabitants irrespective of the country or part of the world under consideration. This phenomenon is understandable as 79 percent of the U.S. population lives in an urban area (U.S. Census Bureau 2000a). The area between cities is generally viewed as an uninhabited hinterland fraught with lurking dangers eager to ambush unsuspecting travelers traversing the vast frontier. Supporting this thesis, Texas is an example of some states that have significantly increased the speed limit on portions of interstate highways in their rural areas to help drivers quickly travel from one urban center to the next. Moreover, penal codes are rife with examples of laws that myopic legislators have hastily passed to address a particular big city's malady du jour without any regard to the potential deleterious effects the law may have on people inhabiting smaller communities. The U.S. Congress and many state legislatures seem to have the attitude following the logic, laws enacted for a problem in Chicago having a population of 2,695,598; should work well for Des Moines having a population of 203,433; works just as well for Ottumwa having a population of 25,023; and even applies in the same manner in Coggon having a population of 658 (U.S. Census Bureau 2016) regardless of

the negative effects the law may impose on the smaller communities. The reality is that each community has unique characteristics, needs, and culture, and a one-size-fits-all approach inevitably results in an ill-fitting mantle for rural communities to endure. Indeed, rural America is a much different environment than urban America in myriad ways. Unfortunately, with the exception of the relative few rural sociologists, social research tends to be blind and indifferent to life in rural America. As Crowley and Lichter (2009) astutely observe, “an adequate understanding of the immigration-crime connection in rural areas requires a cross-community comparative perspective rather than impressionistic accounts that may or may not match reality or be fully generalizable across America’s rural Latino boomtowns.”

## BACKGROUND INFORMATION

### *Immigration and Crime in Urban Areas*

Albeit limited, there are some studies that analyze immigration and crime in urban American neighborhoods. Sampson’s (2008) study on the immigration and crime issue in Chicago demonstrates a likely disconnection between immigration and crime in the United States urban centers. Shihadeh and Winters (2010) acknowledge that there is a long history linking immigration and crime asserting a causal link, but recent research indicates that this long-held notion does not apply to Latinos (Neilsen, Martinez, and Lee 2005; Dugan and Apel 2003; Lee, Martinez, and Rosenfeld 2001) particularly in urban environs.

The history of Latino immigration into the United States contrasts with the experience of Eastern European immigrants of the late-nineteenth and early-twentieth century as Shihadeh and Winters (2010) observe, because Latinos tended to settle in well-established communities that were, or continue to be, comparatively safe. These communities appear to provide some sort of protective benefit that insulates immigrants from the ravages of residential instability and poverty which are two major correlates facilitating criminal behavior (Sampson 2006). Further, Shihadeh and Winters found that the experience of Latino deprivation fails to significantly affect Latino homicide victimization rates in traditional destination communities. This phenomenon constitutes the so-called Latino-paradox that recognizes the apparent logical contradiction that immigrant status and poverty common in Latino immigrant communities fails to result in violence (Sampson 2006).

The variety of immigrant streams currently entering the United States appear somewhat different, such as being less criminogenic, than immigrant groups in the past. But Stowell, Messner, McGeever, and Raffalovich (2009) doubt whether the empirical evidence supports such a conclusion. They argue that the archaic, albeit persistent, immigrant-crime link concept is an enduring “popular misperception and [governmental] policy distortion as it has been since the early 1900s” (p. 916). Other research, by Shihadeh and Barranco (2010b) for example, found that the new rapidly growing communities of Latino settlement tend to lack the types and levels of social control as the traditional communities in which previous Latino immigrants settled. Such a social



control vacuum lends itself to potential disorganization that may account for some of the crime occurring in these new Latino immigrant community destinations. According to Shihadeh and Winters' (2010) research findings, the Latino-paradox does not exist in the new destination communities. Indeed, this revelation suggests that new Latino immigrant destination communities are less able than traditional immigrant communities to ameliorate the abject living conditions characterized by excruciating poverty and violence. Moreover, establishing the necessary informal monitoring networks and social control in new destination communities is unrealistic considering the areas' typical lack of resources and unstable residential practices (Stowell et al. 2009).

Stowell, Messner, McGeever, and Raffalovich (2009) note that, simultaneous to burgeoning immigration into the United States, violent crime rates have concurrently dramatically decreased. Since 1990, the foreign-born population in the United States has grown by about 11 million persons, an increase of 56 percent. During the same period, empirical evidence indicates that the national crime rates for murder, robbery, burglary, and motor vehicle theft all significantly declined (Conklin 2003). The murder rate dropped from 9.8 per 100,000 persons in 1991 to 5.7 per 100,000 persons in 1999, a 42 percent reduction, falling to the 1966 rate. The national robbery rate fell from 272.7 per 100,000 people in 1991 to 150.2 per 100,000 people in 1999, a 45 percent decline, roughly mirroring the 1969 robbery rate. Burglary rates fell by 482 per 100,000 persons, a 38 percent drop, settling near the 1966 level. Likewise, between 1991 and 1999, motor

vehicle theft rates declined by 36 percent, with 238.3 motor vehicle thefts per 100,000 people, to the same level as in 1969.

The dynamic models developed in the research by Stowell, Messner, McGeever, and Raffalovich (2009) support the conclusion that “increases in the relative size of the Latino/foreign-born population during a period of exceptionally high immigration are significantly associated with decreases in the violent crime index, robbery rates, and aggravated assault rates” (p. 914). One plausible explanation proffers that “the strong economy in the 1990s might have made a modest contribution to the drop in property crimes, but it had little effect on changes in violent crime” (Levitt 2004). Another reasonable explanation for the lack of crime found among communities inhabited by illegal immigrants is their concerted effort to obey the law, with the exception of activities directly related to their status as undocumented immigrants, such as false documents. Indeed, statistics indicate that illegal immigrants tend to avoid violent resistance when apprehended by U.S. Border Patrol agents (Anderson 2010). Among the more than 10 million Border Patrol agent apprehensions of illegal immigrants since 2000, very few of those illegally entering the United States for work have armed themselves against Border Patrol agents. According to Anderson, however, “individuals linked to organized crime rings are likely to be armed, given their involvement in drug or human smuggling and the money involved.”

Although immigrants often find themselves in marginal positions, their resulting criminal behavior is primarily oriented toward survival efforts (Kposowa and Tsunokai

2003). Research by Engbersen and Van der Leun (2001) indicates that illegal immigrants avoid criminal behavior when options for survival are present and resort to criminal behaviors only when their options are removed. Their resultant crimes, however, are typically minor in nature. In an ethnographic study, of the 30 participants interviewed as part of their research, only 3 participants admitted to breaking the law including the crimes of drug trafficking, trafficking in persons, and driving under the influence of alcohol, while 7 participants had been arrested for noncriminal violations, such as driving without a valid license, and 1 participant had been cited for speeding (Velazquez and Kempf-Leonard 2010).

Research by Chavez and Griffiths (2009) found that, in Chicago, neighborhoods experiencing the lowest and most stable levels of homicide conjointly had the highest proportion of foreign-born residents across all census years included in their study. Providing internal validation to their research findings, Chavez and Griffiths found that neighborhoods enduring very high and unstable rates of lethal violence also had the lowest proportion of foreign-born residents. These results hold for neighborhoods having recent immigrants move into the area, as well as across several decades of data. Moreover, Chavez and Griffiths found that the safest neighborhoods in Chicago were clear destinations for immigrants to settle. In his Chicago neighborhood study, Sampson (2008) reported that immigrants were 45 percent less likely to commit violent criminal acts than were third-generation Americans. Sampson further asserts that “a person’s

immigrant status emerged as a stronger indicator of a dispropensity to violence than any other factor, including poverty, ethnic background, and IQ” (O’Donnell 2006:16).

Similar research concluded there is no significant association between a person’s citizenship status and arrests for violent crimes (Kposowa, Adams, and Tsunokai 2010). In fact, their research determined that non-citizens were 15 percent less likely than U.S. citizens to be arrested for property crimes, and they were, in the same manner, less likely to be arrested for offenses involving weapons and drugs. Conversely, non-citizens were found to be 50 percent more likely than citizens to be arrested for forgery and counterfeiting offenses. Several individual-level studies consistently find that immigrants are less likely to be involved in, or to be institutionalized for, criminal behavior than are native-born persons (Stowell et al. 2009; Sampson 2008; Hagan and Palloni 1999; Butcher and Piehl 1998).

Despite empirical evidence indicating immigrants’ positive influence in their adopted communities, immigrants in the United States and Western European countries have transformed, at least in the public’s mind, from welcomed guest workers to pariahs with inherent criminal tendencies. Research shows that, in the United States, immigrants are disproportionately arrested and incarcerated in penal institutions (Seiter 2011). But, other studies of immigration and crime in the United States overwhelmingly indicate that the apparent nexus is effectively non-existent. In fact, Sampson (2008) found evidence of a so-called Latino-paradox relating to areas experiencing high levels of Latino immigrant residents with significantly lower levels of violent crime. Indeed, this demonstrated

negative relationship between immigration and violent crime has been replicated in almost all the relevant literature.

### *Rural Crime*

For a complete examination of the effect of immigration on crime in rural communities, this research must consider the literature relating to the rural crime phenomenon, in general, across non-urban areas of the United States. Granted there appears to be some incongruity among authors indicating rural crime is an insignificant issue in the U.S. However, authors who may be viewing rural crime through an urban lens may be unable to adequately focus on the issue's serious nature. While rural crime numbers may be much lower than their urban counterpart numbers, rural crime is no less a blight on society than is crime in urban settings. The differential opinions about the serious nature of rural crime, proffered by the authors, reiterate the universal ingrained dismissive attitude the general public holds toward life in rural America. Including general rural crime in the literature may appear superfluous as it fails to directly relate to answering the research question, but it establishes the critical foundation to prosecute the research question germane to this research. Fundamentally, if rural crime is nonexistent, then the question asking the relationship between foreign-born populations and rural county crime rates is a non-issue.

The first glaring disparity in the literature between research on urban crime and rural crime is that, according to Weisheit and Donnermeyer (2000), there is a dearth of studies which analyze rural crime. The existing literature fragments addressing rural crime tend

to be very narrowly focused and splintered pieces of information that remain to be examined in a cohesive fashion; therefore, there is no clear determination that crime constitutes a significant condition of life in rural areas of the United States. Research by Ball (2001) found that people living in rural areas of the country tend to consider crime as a non-issue in their communities. They consider minor disturbances, such as speeding, more of a problem than real crime. Police officials in rural communities typically view the characteristic latent problems of domestic violence and child abuse as significant issues, whereas the public is more likely to consider the readily visible crimes of theft and destruction of property as the utmost serious crimes in their communities. Indeed, the popular perception of rural life is an atmosphere that has a “slower pace of living, better environmental qualities, better life for children, lower cost of living, and access to recreational opportunities” (Dissart and Deller 2000), but the quintessential quality of rural life is the significantly lower prevalence of crime as compared to urban areas (Deller and Deller 2010). What this information indicates is that unseen crime effectively does not exist. What crime or disorder that is readily visible to the public is the primary concern to the layperson. Despite the violence—domestic violence, child sexual abuse, etc.—occurring within the private sanctity of the home, does not impact the community as a whole. Much of the “real” crime in rural areas, arguably, goes unreported to the police.

The most prevalent reported type of crime in rural areas relates to agricultural crime. Agricultural crime is a type of offense that directly impacts commercial production of

crops that are used in a wide variety of market applications including foodstuffs, fuel, chemicals, and other valuable products. (Mears, Scott, and Bhati 2007). Agricultural crime includes “theft of crops, livestock, equipment, and chemicals (e.g. pesticides, burglary, and vandalism” (Swanson et al. 2012; Donnermeyer and Barclay 2005).

Vansickle (2011) highlights several anecdotes about agricultural crime and strategies that producers and industries can use to help thwart offenders whom Vansickle describe as “a disgruntled former employee, a neighbor who is jealous of your success as a pork producer, an animal activist or simply an intoxicated person out to have some fun...”

Research indicates that employee theft may be a significant problem in rural areas (Swanson et al. 2012) particularly considering that many rural industries rely on seasonal and low-paid laborers (Weisheit and Donnermeyer 2000).

The effect of the economic crisis beginning in 2008 has fostered “increased involvement in rural drug trafficking, consumption and production” (Grant 2008; Donnermeyer and Tunnel 2007; Mangum, Mangum, and Sum 2003; Weisheit and Kernes 2003). Weisheit and Donnermeyer also determined that drug related offenses commonly found in rural areas have higher rates than in urban settings include the manufacture and use of methamphetamine and marijuana production and use. In addition, rural areas experience higher incidents of male-to-female violence (Donnermeyer and DeKeseredy 2008) which is aggravated by offenses involving the abuse of alcoholic beverages. Research by Weisheit and Donnermeyer (2000) observes that driving while intoxicated (DWI) and other alcohol related crimes tend to be more prevalent in rural areas.

Since the 1960s, U.S. cities have experienced a congruent increase in crime as their population has grown. But, as the population has shifted from rural communities to the cities, rural crime has declined to rates significantly lower than found in urban areas (Lee 2008). However, recent research data indicate that serious violence remains a significant fact of life in some rural areas of the United States suggesting that murder rates are higher in jurisdictions where lynching is a historical phenomenon (Messner, Baller, and Zevenbergen 2005). Also, research by Weisheit, Wells, and Falcone (2006) indicates that the rate of law enforcement officers killed in the line of duty is higher among rural communities than in urban areas.

According to research by Deller and Deller (2010) the past two decades have witnessed a convergence of rural and urban crime rates. Deller and Deller point out that the total crime rate for urban counties from 1987 to 2002 declined by 29.9 percent including “a 24.2 percent decline for violent crime and 30.7 percent [decline] for property crime. Over the same time period total crime for rural counties actually increased by half a percent, with property crime declining by 1.5 percent, but violent crime increased by 19.7 percent.”

#### THEORIES CONCERNING IMMIGRATION AND CRIME

Criminological theories relating to social disorganization, economic issues, and social control are the three particularly cogent theories in the literature used to explain immigrant crime in the United States with social disorganization being the apparent default theory of choice among the relatively few researchers of immigrant crime. Social



disorganization is easily the most common theory found in the literature as the bulk of the literature relating to immigrant crime is centered in urban areas rather than rural settings. Thus, social disorganization theory is a convenient and natural theory for researchers of urban immigrant crime to use to ground their research. However, as some authors note, scientific literature relating to rural immigrant crime is non-existent (Crowley and Lichter 2009). The scant literature that ventures into the territory of the immigrant-crime nexus in rural communities retains the familiarity of popular theories used in urban immigrant-crime research. Similarly, economic theory and its myriad variations provide another readily available criminological theory suitable for a broad range of situations relating to immigrants and crime. As in most aspects of modern life, the immigrant-crime phenomenon is conducive to quantification in the form of dollars inculcating the sense that immigrant crime creates a definite cost to society. Social control theory provides another popular alternative perspective by focusing on those factors that influence individuals to refrain from committing crimes.

Beginning with the premier Chicago School of Sociology in the early twentieth century, social disorganization has often been a favorite criminological theory explaining crime among immigrant populations within urban neighborhoods. W.I. Thomas and Florian Znaniecki (1958) developed social disorganization theory in their research relating to Polish immigrants in urban Chicago hailing from small, rural farm communities in their homeland. Social disorganization's appeal is its link between a neighborhood's social organization and disorganization processes that purport to indicate

the community's state of health comparable to the metabolic processes in the human body (Burgess 1925). Decaying social bonds and sources of informal social control created a concurrent eroding of conformity to social norms and the law (Shoemaker 2010) evoking Durkheim's (1984) concept of anomie. While persons who were subjected to such deleterious conditions, and as a result resorted to criminal behavior did not commit suicide in the traditional vein, their sense of normlessness could account for their criminality. These neighborhoods in transition from stable homeowners to poor immigrant renters and characterized by a host of social problems became fertile breeding grounds for crime (Barkan 2012). Burgess' contemporary colleague, Robert Park (1925), established that modern city economic organization is directly related to the division of labor among its inhabitants. Appealing to Durkheim, Park asserts that urban populations are organically related considering the myriad specialized occupations and professions composing the metropolitan environment. If, as Park asserts, urban populations are organically related, then rural areas must be mechanically related. A brief review of Durkheim's mechanical and organic societies supports this contention.

Borrowing from economics and applying it to society as a whole (Hughes, Martin, and Sharrock 1995), Durkheim (1984) differentiates between his organic and mechanical societies based on their respective division of labor. According to Durkheim, the modern and more complex society is one that is unified through organic solidarity and has an "elaborated social division of labor." Members of an organic society tend to perform specialized tasks as their particular contribution to the efficient and effective functioning

of society. Organic society inhabitants tend to be unfamiliar with each other on a personal level as their interactions are typically limited to the professional milieu (Park 1925). Thus, an organic society's solidarity stems from each members' reliance upon other members' specialized role within the society. Consequently, the modern urban environment fittingly illustrates Durkheim's organic society.

Conversely, a mechanical society is one characterized as a simple collection of individual members. Moreover, it is a relatively small, homogeneous, and immature society in which each member is effectively independent from the others and primarily concerned with their own survival. Ritzer (2000) captures the essence of Durkheim's mechanical society by labeling its typical members as a jack-of-all-trades. Individual society members may come and go on a whim without creating a substantial negative effect, in any manner, on the continuing survival of other society members. The shared commonalities among the society members, their beliefs, values, and norms, comprise their particular rural culture dictating their individual and shared perceptions of right and wrong as well as appropriate reactions to miscreant behavior. This mechanical society with its general preoccupation with behavioral conformity among all its members owes its solidarity to the overwhelming similarity among its members and its organization "on utilitarian principles simply as an aggregation of individuals" (Hughes et al. 1995). Durkheim's concept of a mechanical society aptly captures the essence of the typical rural American community.

Members of mechanical, rural communities are more likely to obey the law than are residents in an organic, urban neighborhood, because sanctions for violations in mechanical societies are on an informal and personal rather than an impersonal level. As people are socialized within their particular culture (Schaefer 2007), they are more likely to conform to informal social control. Thompson and Bynum (2013:366) provide, “The *Gemeinschaft* community is characterized by a smaller population, less complex division of labor, and is dominated by primary face-to-face social interaction. In this type of community, informal mechanisms dominate social control strategies because they are so effective in this type of social structure.” Thompson and Bynum further provide, “...the *Gesellschaft* society characterized by a larger population, a complex division of labor, secondary relationships, and a formal social control. In these social circumstances, citizens, legislators, police, and court officials respond more formally to law violations...” (p. 367). Clearly, a *Gesellschaft* society is an urban, organic society, and a *Gemeinschaft* community is a rural, mechanical society. Urban neighborhoods that experience social disorganization must rely on more formal forms of social control, such as the police and courts, in proportion to the extent of urban decay. Social disorganization theory posits that crime is more likely to occur in neighborhoods experiencing a dysfunctional social structure and less likely in neighborhoods maintaining their informal social institutions (Coleman and Kerbo 2006). Such an explanation is insufficient in rural communities as the entire population effectively experiences the same level of social organization or disorganization, as well as other

salient factors, such as proximity to other communities offering desired amenities, affecting the community's level of social organization and disorganization. Moreover, police officers working in rural departments are more likely to personally know inhabitants of their jurisdiction facilitating effective communication, mutual understanding, and voluntary compliance with authority (Roberg, Novak, and Cordner 2005). As the population of an officer's jurisdiction increases, the likelihood of effective interpersonal relationships with residents living within the jurisdiction decline resulting in impersonal police-citizen interactions and an increase in the potential for resistance to police and other formal authority (Reisig et al. 2004).

Park (1925:25) attributes the prevalence of urban crime to the disconnection in the relationship between community residents and important influential institutions, such as the church, school, and the family, specifically identifying "under the influence of the urban environment." According to Wirth (1925), crime is identified as a prime indicator of a community's level of social disorganization. The disintegration of the neighborhood and, concurrently, the local sense of community providing a critical level of informal social control among its inhabitants are salient causes of social disorganization. Shaw and McKay (1942) reinforced the connection between the urban environment and deteriorating social institutions commonly found in poverty stricken urban neighborhoods as factors facilitating crime. Shaw and McKay cite the use of leisure time available to city youth as a phenomenon that is virtually non-existent in rural communities as a primary facilitator of juvenile crime. Indeed, this increase in opportunity, new

associations with delinquent peers, restricted to a socially disorganized neighborhood with its weakened positive influence from family and other sources of informal social control, created an environment conducive to delinquency and criminal behavior that was virtually nonexistent in their Polish homeland (Barkan 2012).

Research measuring social disorganization using more sophisticated methodologies in the 1980s “generally finds crime and victimization highest in communities with (1) low participation in voluntary organizations [suggesting a connection with status deprivation theory]; (2) few networks of friendship ties [relating to collective efficacy theory]; (3) low levels of collective efficacy, or community supervision of adolescents and other informal social control mechanisms; and (4) high degrees of residential mobility, population density, single-parent homes, dilapidated housing, and poverty” (Barkan 2012:164; Lee and Thomas 2010; Sampson 2006). However, while a few of these deleterious conditions germane to urban neighborhoods may exist in rural communities, they do not rise to the level of urban social disorganization conditions that facilitate a congruent crime rate.

Thomas and Znaniecki (1958) caution attempting to thoroughly grasp the difficulty in reducing explanations for crime to a small, convenient number of factors, such as the approach social disorganization theory attempts. As Thomas and Znaniecki (1958) state:

In all civilized societies some part of every cultural activity—religious, economic, scientific, artistic, etc.—is left outside of social regulation, and another, perhaps even larger part, though still subjected to social rules, is no longer supposed to affect directly the existence or coherence of society and actually does not affect it. It is therefore a grave methodological error to attempt to include generally in the field of

sociology such cultural domains as religion or economics on the ground that in certain social groups religious or economic norms are considered—and in some measure even really are—a part of social organization, for even there the respective values have a content which cannot be completely reduced to social rules of behavior, and their importance for social organization may be very small or even none in other societies or at other periods of evolution (P. 35).

To adequately appreciate why immigrants behave the way they do, one must embrace and understand the culture from which they come. Native-born citizens universally inculcate the general American culture and norms from birth, whereas foreign-born residents overwhelmingly have a differential background and must learn the new norms and laws to effectively assimilate into American society (Gordon 1961). Inevitably, conflicts will occur involving minor transgressions, often out of mere ignorance of the law, among some members of the foreign-born population considering their particular cultural socialization for appropriate behavior in their homeland that may be significantly different than what is considered acceptable or even legal throughout the U.S. According to Sellin (1938), conflict is the natural result and should be expected when foreign-born persons from these disparate cultures “migrate to or come in contact with those of another” culture. Large scale immigration poses significant problems which are aggravated if the migrants’ native culture significantly differs from the host society’s culture (Zolberg 1989). Shaw and McKay (1942) question whether punishment for such infractions lacking the requisite culpable mental state is rational, and minor breaches of public order should be treated “as a mere sickness or error” (p. 34).

Clinard (1964) makes a cogent observation regarding Durkheim's concept of anomie and suicide and its further development by Robert K. Merton. According to Clinard, anomie can account for deviant behavior and crime culminating in character suicide rather than a physical suicide. Bernard, Snipes, and Gerould (2010) confirm Durkheim's concept of anomie that includes inadequate regulation of behavior among individuals in a society can result in "a variety of social maladies, including crime." Clinard further provides, "To Durkheim, suicide in general, *as well as its various types* (italics added for emphasis), was not an individual phenomenon but was related to certain features of the social organization."

Lee and Thomas (2010:119) note that rural crime scholars generally agree "that rural communities vary in their social control capacities and, thus, in their ability to maintain well-integrated and nonviolent social units." Further, Lee and Thomas (2010:120) establish that most studies relating to rural crime either "implicitly or explicitly, use social disorganization as their explanatory framework, analyzing how low socioeconomic status, population heterogeneity, residential stability, and family structure explain community-level variation in crime rates." A critical analysis of social disorganization theory exposes its obvious failure as an adequate mechanism to explain conformity among some or most foreign-born residents living in the same rural area that may fit the definition of a socially disorganized community and why offending is not equivalent across statuses and other groups who live in the same rural environment. Perhaps the fundamental differences between urban neighborhoods and rural communities reveal the



lack of social disorganization as a suitable theory applicable to research in rural crime rates. As myriad research indicates, social disorganization theory effectively explains crime in urban neighborhoods considering its organic character and emphasis on formal social control, but in mechanical, rural communities continuing its effective use of informal social control demands a different theory to explain crime.

Juxtaposing rural social control with that of urban areas reveals an interesting contrast between the quite different philosophies of the two environments for responding to deviant behavior. In urban areas there is a definite positive relationship between the community's population and the amount of formal social control exerted on miscreants. Authorities are more likely to resort to formal sanctions for offenders as the community's population increases. However, the social norm for responding to most violations of the law in rural communities, as Brock, Copeland, Scott, and Ethridge (2001:50) observe, is that "providers of informal control may not, when obviously necessary, resort to formal control mechanisms (particularly law enforcement), because such action will lead to official sanctions that will develop strained relations within the rural family and the rural community that would be disadvantageous for all involved." Brock, Copeland, Scott, and Ethridge (2001:50) further observe that "In rural communities, there is very little anonymity as compared with larger cities. For the most part, everyone knows who did what. When an officer arrests a resident for whatever reason, everyone knows the offender and the arresting officer. Both may be subjected to a certain degree of

disapproval and stigma for their part in the event, depending on the nature of the offense.”

Several empirical studies suggest a strong relationship between communities’ social capital and their respective crime rates. Rural communities that foster a sense of civic community across the spectrum of its citizens realize lower crime rates than communities whose citizens are more likely to experience disenfranchisement (Lee and Bartkowski 2004). Moreover, communities having a stable population that is invested in their community through home ownership and civic engagement, including the political process, governmental service, civic organizations, religious participation, and a robust local business environment enjoy a higher quality of living with a corresponding lower crime rate. Conversely, rural communities lacking rudimentary civic institutions serving citizens’ needs and enfranchisement comprises the ideal environment conducive for crime to flourish.

In their research, Ellison, Burr, and McCall (2003) found that average homicide rates are higher in urban areas having a significant evangelical or conservative protestant community, whereas Lee and Bartkowski (2004) found lower juvenile homicide rates in rural communities having developed social capital with civically engaged religious denominations. The conclusions of these two monumental studies have been replicated with different samples or using data from different time periods thus confirming the validity of these research findings (Baumer and Gustafson 2007; Lee 2006; Beyerlein and Hipp 2005). Moreover, these studies illustrate the fundamental salience of civically

oriented religious denominations as an important and integral part of the community structure influencing crime rates.

In studies relating to residential stability and access to noneconomic institutions, macro-level evidence suggests that communities offering their citizens increased civic engagement opportunities tend to experience lower serious crime rates (Lee and Bartkowski 2004; Maume and Lee 2003). In research examining socioeconomic deprivation and crime rates in nonmetropolitan communities, Lee and Ousey (2001:594) found, contrary to their expectations, that “poverty concentration has no effect” on any of the crimes they examined in their research, including homicide, robbery, burglary, and motor-vehicle theft. In sum, Lee and Thomas (2010:135) establish from their research that “(a) civically robust communities generally experience lower rates of violence; (b) a high rate of population change is harmful in terms of elevating violent crime rates; and (c) although the implication is that civically robust communities experience less population change, over time a high rate of change can undermine the protective effect of civic robustness, as illustrated by the interaction effects.”

In addition, segmented assimilation theory, which was proposed by Alejandro Portes and Min Zhou (1993) to depict the adaptation of new second generation (i.e. children immigrants to American life can proffer some potential insight into the relationship between immigration and crime in the sense that just as the effect of assimilation on the adaptation of second generation, the effect of immigration on crime may not be

monolithic and uni-directional. Note that segmented assimilation theory was not intended to explain the nexus between immigration and crime.

Surveying the variety of existing criminological theories to determine the appropriate theory that applies to the research question exposes the inadequacy of each theory. Either only some aspects of a theory apply to the research question, or the theory's application to the research question seemed awkwardly forced to apply. Rather than focusing on an explanation for a foreign-born population's effect of increasing or decreasing rural county crime rates, a new approach became abundantly obvious. The new approach considered reasons foreign-born persons immigrated to the U.S. beginning with the push-pull dichotomy (Gordon 1961). Ultimately, the push-pull combination motivating migration to the U.S. simply rests on the same fundamental reason the U.S. Declaration of Independence gives for separating from England in 1776—"life, liberty, and the pursuit of happiness." The challenge was to connect happiness with a foreign-born population's effect on the rural county crime rate.

Emile Durkheim (1984) provides cogent insight into the issue. According to Durkheim, "an organism that in principle might take pleasure in things that were harmful to it could plainly not sustain itself" (pp. 182-183). Durkheim's organism concept applies equally to societies and subcultures, as well as individuals. Further, man, in the generic individual and collective meaning of the term, has an insatiable desire to increase his happiness and will make necessary changes to facilitate ever higher levels of happiness. Pascal (1931:113) punctuates Durkheim's assertion by stating, simply, "All

men seek happiness. This is without exception.” Sturt (1903) observes that morality is an integral human quality that results in happiness, thus “the adage that virtue brings happiness” (p. 220). Unfortunately, happiness is a nebulous concept that has proven quite difficult to define as the phenomenon is not easily quantifiable, and is clearly subjective in its nature (Kesebir and Diener 2008; Ziegler and Britton 1981; Renas and Kumar 1983; Cebula 1975).

Modern psychologists have added several additional attributes to the concept of happiness providing a more objective field of study comprising subjective well-being (Diener et al. 1999). Kesebir and Diener (2008:118) identify the additional attributes as “life satisfaction (global judgments of one’s life), satisfaction with important life domains (satisfaction with one’s work, health, marriage, etc.), positive affect (prevalence of positive emotions and moods), and low levels of negative affect (prevalence of unpleasant emotions and moods).” Kesebir and Diener (2008:121) note that several studies suggest that subjective well-being, or happiness, motivates people to become “more social, more cooperative, and even more ethical.”

Achieving subjective well-being, or happiness, requires a cognitive ability, “the capacity to reason, remember, understand, solve problems, and make [rational] decisions” (Bernstein et al. 2003). It is cognition that enables psychogenic needs in people (Murray 1981). Murray specifically defines the term “need” as “a hypothetical perseverating process in organisms occasionally directing and coordinating an activity.” He categorizes needs as viscerogenic, or primary, and psychogenic, or secondary, in nature.

Viscerogenic needs are centered in the satiation of a person's physiologic requirements for the sustenance of life, and psychogenic needs entail abstract thought processes desiring the satisfaction of a mental craving based in the spiritual person's socialization. While psychogenic needs derive from, and are presumed as dependent upon, primary viscerogenic needs, they are not biologically driven although some may be innate in humans. Murray, appealing to Jeremy Bentham, summarizes his hedonic calculus providing that people continually strive to satisfy their needs in a process of avoiding pain and pursuing pleasure. The United States is foremost among nations that exemplify the pursuit of pleasure.

Several studies have found that migration generally improves migrants' subjective well-being related to improved health, increased income, and educational opportunities (Bartram 2010). Ziegler and Britton (1981) theoretically linked migration and subjective well-being considering the hedonistic calculus that the potential benefits outweigh the costs of moving to a new location. Research suggests that perceived inferior living conditions where the potential migrant lives is a significant push factor motivating the person move to a new location that promises greater opportunity and satisfaction (DeJong, Chamratrithirong, and Tran 2002). A variety of reasons, including corrupt governments, a dangerous environment, and other threats motivate many people to migrate from their homeland; however, the primary factor motivating migration is the inherent desire to improve living conditions (Ravenstein 1889). The fact that migrants actually realize their hopes for moving to a new community is irrelevant. Rather, it is

what they believe that is important to obtaining subjective well-being. Easterlin (2004) reports that increased income is a major factor in improving subjective well-being. However, a basic personnel management tenet recognizes that money, alone, is a poor motivator due to its ephemeral nature (Drucker 1973). Indeed, subjective well-being is achieved when it is perceived that life is generally better, considering a variety of variables, in the new destination community than previously experienced in the home community.

Bolstering subjective well-being theory, Maslow (1943) provides a five-level hierarchy of human motivational needs including physiological, safety, love, esteem, and self-actualization. According to Maslow, each successive need is predicated on the satiation of the preceding need. Physiological needs are instinctual and viscerogenic in nature to maintain the organism's viability. Persons focused at this most basic level effectively have nothing to lose in their effort and may resort to criminal activity to satisfy this most fundamental need to survive. Once physiological needs are met, cognition and imagination will instill the need for safety. Similar to physiological needs, safety needs are viscerogenically centered although to a lesser degree than are the physiological needs. It is these safety needs that are the motivation for many children to go join a street gang (Fuller 2013). The love level is the "continental divide" between the viscerogenic and psychogenic drives among the hierarchy of needs. A fundamental tenet in sociology establishes that people are instinctually social creatures (Ballantine and Roberts 2012). However, affiliation with and affection from other people is, arguably, as

emotional (psychogenic) as it is a basic need to thrive physiologically (viscerogenic). Similarly, esteem is emotional and psychogenic centered providing a compelling inner-containment to avoid engaging in criminal activity. Finally, the self-actualization need lies almost entirely in the psychogenic realm as this level provides the ultimate symbol of success. While the theoretical successful criminal may realize a sense of self-actualization, the feeling tends to be quite ephemeral and is ultimately toxic to the person (Durkheim 1984). The proportion of viscerogenic versus psychogenic drives relative to each of Maslow's needs in the hierarchy may be generally divided as: physiological—100 percent viscerogenic and 0 percent psychogenic; safety—75 percent viscerogenic and 25 percent psychogenic; love—50 percent viscerogenic and 50 percent psychogenic; esteem—25 percent viscerogenic and 75 percent psychogenic; and self-actualization—0 percent viscerogenic and 100 percent psychogenic. The value of these theoretical components lies in its ability to explain a population's effect on a rural county crime rate by considering its relative happiness with the environment in which it lives, especially comparing it to the living conditions in the sending community.

#### NEXUS BETWEEN IMMIGRATION AND RURAL CRIME: EMPIRICAL EVIDENCE

Sampson's (2006) quintessential study on immigrant populations' influence on crime rates in the U.S. is a valuable treatise providing salient empirical evidence for debunking popular opinion based in myth rather than actual conditions in society. However, Sampson's research focuses on urban immigrants and is essentially silent to the foreign-



born population's effect on rural crime rates. Academics and special interest groups seem to be satisfied with the assumption that research indicating a particular phenomenon occurring in the city must correlate to rural America as well. Indeed, there is an inordinate lack of literature addressing the relationship between immigrants and the crime rate in rural areas of the U.S. as the topic is significantly overshadowed by city issues as rural America comprises only about one-fifth of the U.S. population (Shihadeh and Barranco 2010a), thus making issues in rural America somehow undeserving of study. Further, Crowley and Lichter (2009) note that quantitative research based on the empirical evidence necessary to examine the accurate scope of immigrant crime in rural areas simply does not exist.

Compounding the problem relating to the absence of relevant scientific research and academic literature in analyzing the effect foreign-born populations have on rural crime rates is the default reliance on anecdotal news media stories to fill the information gaps which leads to the faulty reasoning of reductionism. The typical native-born U.S. layperson ingesting a steady diet of news stories highlighting extraordinary crimes committed by an individual immigrant inculcates the perception that the larger immigrant population is innately criminal. Unfortunately, the lack of relevant research requires this literature review to consider some of these same anecdotal news reports of individual immigrant crimes. The results of this study will serve to confirm or dispel the popular notion that entire populations of foreign-born persons are responsible for increasing the crime rates in the rural areas in which they live. In the alternative, this research may

provide empirical evidence that immigrant populations actually benefit their rural communities by effectively reducing the crime rates or have no effect whatsoever.

Since at least the dawn of the twentieth century social scientists have researched the oft-emotion-laden issue of crime attributable to immigrants while the popular media continues their broadcast approach to sowing seeds of controversy among the gullible public who has sporadically angrily reacted to the perceived menace of immigrant crime. In the 1930s, Taft (1933:69) asked the question, “Does immigration increase crime?” Now approaching a century of contention since his perceptive observation, Taft made the cogent point that remains just as fresh and valid today: “It is clear that ignorance and prejudice have not allowed the ‘man on the street’ to make such a complete analysis. He therefore blames the immigrant.” Moreover, according to Taft, the 1929 “National Commission on Law Observance and Enforcement (the Wickersham Commission) ...demonstrated that the popular view of the role of the immigrant in crime is grossly exaggerated if not altogether erroneous” (p. 70).

Beginning in the late-1980s Latinos began shifting away from their traditional enclaves in the Southwest United States to the point where over half of rural Latinos are living in areas other than the Southwest United States (Kandel and Cromartie 2004). As an example, during the 1990s, the Hispanic population in Nebraska increased 165 percent (Dalla et al. 2004). Some research found that many Latinos have left their traditional settlement areas in California, Texas, and other southwestern states because of “poor schools, crime-ridden neighborhoods, crowded, expensive housing, and immigrant-

saturated urban labor markets” (Light and von Scheven 2008; Kandel and Parrado 2004). Other research suggests that Latinos are fleeing the cities for rural America to escape crime as well as the availability of low-skill labor jobs (Harris 1999), yet as Garcia (2009) points out, a rural community in northeast Oklahoma, universally considered as relatively crime free, has experienced a recent significant increase in its Latino population and actually now has a higher crime rate than the national average and higher than the average crime rate for the state of Oklahoma.

In 2000, the foreign-born population of the United States surpassed 55.9 million people (U.S. Department of State 2002), representing about “20.4 percent of the population, reflecting the high level of international migration since 1970” (U.S. Census Bureau 2000b:22). Despite the fact that these statistics incorporate immigrants in the United States hailing from a variety of countries, among the American public the overwhelming default concept of immigrant is Hispanic immigrants, especially those originating from Mexico. Granted, Latino is the fastest growing ethnic group in the United States accounting for a population of over 40 million people in 2003 (Wainer 2004). However, while the foreign-born population in the U.S. increased 57 percent during the 1990s with about half coming from Latin America (U.S. Census Bureau 2003), the nine countries of origin accounting for the largest numbers of immigrants are Mexico, China, India, Korea, the Philippines, Vietnam, Cuba, the Dominican Republic, and El Salvador (Howell and Egley 2005). Despite the intense focus the American media places on Latino immigration, a significant number of immigrants are coming from Asian

countries. According to Ward (1994:37), “earlier immigrant groups were heavily dominated by immigrants of European origin, but more recent immigrants are far more likely to be Asian or Hispanic.” Moreover, these new Asian and Hispanic immigrants “tend to be younger than the population at large, have young children, and have larger families” (Ward 1994:37).

Germane to this research, Iowa’s state-wide foreign-born population increased 5.4 percent to about 2.9 million persons between 1990 and 2000 (IPTV 2016). Latinos accounted for about two-thirds of the growth; the Iowa Latino population increased 153 percent, or about 83,000 persons, in the 1990s. According to Iowa Public Television (IPTV 2016:1), “by 2000 Latinos became the state’s largest minority population, outnumbering African Americans by more than 20,000 [persons].” According to the American Immigration Council (AIC) (2016), Iowa’s foreign-born population comprised 1.6 percent of Iowa’s state-wide population in 1990, 3.1 percent in 2000, and 4.8 percent (149,122 persons) in 2013. According to the U.S. Census Bureau (2016), “The 2010 Census did not include questions on the foreign-born population. Coinciding with the data used in this research, the American Community Survey (ACS) (2016) five-year estimate for the 2010 year, the total U.S. population was 303,965,272 of which 38,675,012, or 12.7 percent, were foreign-born residents. Note that the ACS gives a  $\pm 104,183$  margin of error on the foreign-born count.

Empirical evidence suggests an influx of immigrant residents may actually benefit a community, particularly reversing a trend of declining economic conditions that many

rural communities in the United States were suffering from in the 1980s and 1990s. For instance, between 1985 and 2001, Latino public school enrollment increased 600 percent in the rural Minnesota River Valley region in south-central Minnesota averting school closures and consolidations with the added benefit of adding eight million dollars to the region's school budgets (Geller 2001). According to Geller, between 1980 and 1990 the area's population declined by 5,659 residents in Minnesota's rural Region 9, including the counties of Blue Earth, Brown, Faribault, LeSueur, Martin, Nicollet, Sibley, Waseca, and Watonwan. However, by 2000, there were 6,469 new residents, 77 percent of whom were Latino, who had moved into the region. From 2000 to 2005, 41 percent of immigrants legally admitted to the U.S. came from Central and South America with most originating from Mexico (U.S. DHS 2006). Research indicates several significant benefits to rural communities relating to their recent Latino-immigrant population growth including revitalizing declining local economies and population bases while simultaneously expanding the particular community's often seriously eroded tax base (Waslin, 2008; Donato et al. 2007).

Mirroring the pernicious economic trends in the rural areas of the U.S., rural areas in Canada were suffering economic downturns during this same period. In response to a declining population and available workforce for rural industries, Lakeside meatpacking plant in rural Brooks, Alberta, Canada, began providing immigration services to its immigrant employees through its Global Friendship Immigration Center (Broadway 2007). According to Broadway (2007:569), "in 2003, nearly 90 percent of the Center's

413 clients were refugees. The leading source countries were Sudan (199), Ethiopia (48), Pakistan (33), Somalia (30), and Afghanistan (21).” The countries of origin for other immigrant employees include Burundi (4), the Democratic Republic of Congo (8), Liberia (2), Tanzania (1), and Sierra Leone (1). A contentious 2005 labor strike disenchanted company management with their African labor force who participated in the strike resulting in significant violent incidents. As a result of the strike, in 2006, the company brought in 250 temporary workers from China, the Philippines, El Salvador, and the Ukraine (Nicholson 2006).

Despite most Latinos continuing to live in urban areas, they are currently moving into rural communities in the South, Midwest, and Northeast outpacing their urban growth (Saenz and Torres 2003). Indeed, according to Lichter and Johnson (2006:111), “Roughly 3.1 million Hispanics reside in nonmetro counties, representing a nearly 70 percent increase over the 1990 figure and accounting for over 25 percent of nonmetro growth during the decade.” Although the rates of Latinos moving to the rural area is lower than those of Whites and Asians, it is higher than the rate for Blacks moving to rural United States (Garcia 2009). Interestingly, while Latinos are gravitating to rural communities in record numbers they continue to retain their historic tendency to live in ethnic enclaves within their new communities (Kandel and Cromartie 2004).

Immigrants’ sudden appearance in entrenched white rural communities throughout the United States and their congregating into enclave sub-communities, the appearance of new stores serving the immigrant community, and their culturally different way of life

may threaten some members of the long-established rural communities. The comments of a 44-year old white, rural Arkansas resident is indicative of a pervasive feeling among established residents in rural America, “I worry that I’m being swallowed up in a culture that isn’t mine” (Erwin 2003:67).

In his newspaper article, Brzezinski (2004) describes a clean and well-kept apartment complex housing mostly low-skill immigrant laborers who work at a nearby poultry processing plant in an idyllic, historic east-coast rural community. However, according to Brzezinski, “beneath the surface tranquility is a dark side to this immigrant community, as illustrated by a [recent] drunken brawl and stabbing” (p. 38). Brzezinski attributes the problem to “alienated and isolated [immigrant workers living] in what are effectively rural ghettos, many immigrant workers find solace in alcohol and are easy prey for drug dealers” (p. 38).

For gangs, such as MS-13, the growing Hispanic enclaves and communities developing in rural areas merely presents an attractive business opportunity for expanding their drug dealing and other criminal activities (Brzezinski 2004). Interestingly, Brzezinski notes that African American gangs have refrained from moving into the rural communities apparently preferring to remain in urban areas. Brzezinski cites a Dallas gang leader, Jessie Chavez, who observes the appeal for many Hispanic gang members is twofold. According to Chavez, “you recruit a couple of farm kids [as gang members], and you’re an instant jefe (chief)” (Brzezinski 2004:38). Another attractive characteristic of rural communities is their weak law enforcement. An

associate of Chavez summed up gang members' view of rural law enforcement as, "in small towns, the police are punks...you can have your way with them" (Brzenzinski 2004:38). Appealing to official FBI crime statistics, Brzenzinski reports that murder rates in communities having fewer than 10,000 residents have significantly increased while remaining steady in big cities. Small town and rural police typically do not have the resources and expertise "to pursue violent offenders across county and state lines with the same intensity as the [Los Angeles Police Department] L.A.P.D. and [New York Police Department] N.Y.P.D." (Brzenzinski 2004:38).

In 2003, Fairfax County, Virginia, attributed the bulk of their reported 700 gang-related incidents to MS-13 activities (Brzenzinski 2004). In one cited case, "a 14-year-old stabbed a stranger to death simply to impress fellow MS-13 members" (p. 38). Another case highlights MS-13 propensity for violence, when "MS-13 members attacked a teenager with a machete" (p. 38). In rural Northern Virginia in 2004, there were an estimated 1,500 MS-13 gang members comprising about 30 local cliques. According to an FBI analyst in Washington, DC, community leaders want to avoid scaring away tourists from the area, negatively affect property values, or harm their chances of being reelected to political office; consequently gang activity is simply underreported (Brzenzinski 2004).

Some research has found a relationship between rural economic conditions and crime (Lee and Stevenson 2006). One possible explanation for this relationship may lie in the fact that job growth in rural areas overwhelmingly gravitates toward low-skill jobs



(Barkley 1995). Additionally, low-skill jobs with their corresponding low-pay suggest a workforce having a congruently low-education attainment. People having a low education level tend to rely on their physical abilities rather than their mental acuity for problem solving in their daily lives. Accordingly, instead of discussing an issue, such persons will probably resort to fighting to resolve their conflict with another person. Latino immigrants tend to be younger than their non-Latino white counterparts as “about 34% of Latinos are below the age of 18, compared to only 23% among non-Latino whites” (Shihadeh and Barranco 2010a:415). According to the U.S. Census Bureau (2000c), about 57 percent of Latinos completed high school at least 80 percent of non-Latino blacks and whites earned a high school diploma. Consequently, Latinos tend to be relegated to performing low-skill jobs. According to Gibbs, Kusmin, and Cromartie (2005), rural labor markets heavily rely on low-skill labor employing a larger percentage of low-skilled workers than typically found in the urban labor market. In fact, the rural economic reliance on low-skill labor is a salient phenomenon as research suggests a correlation between low-skill jobs and criminal offending (Weiss and Reid 2005).

The emphasis on low-skill jobs tends to attract low-skilled immigrants, especially Latino immigrants (Guzman and Diaz McConnell 2002). Rural employers find immigrant laborers attractive because they can be depended upon to work hard for low wages (Kandel 2006). However, rural immigrant labor transcends traditional agriculture jobs to include manufacturing, construction, and food processing (Baker and Hotek 2003). According to Gibbs, Kusmin, and Cromartie (2005:6), “There were 10.3 million

workers employed in low-skill jobs in the nonmetro United States in 2000 representing 42.2 percent of the nonmetro workforce, compared with 34 percent of workers in metro areas.” Characterizing the economies of many Midwest rural counties, another researcher said “the production of foodstuffs is now second to tourism, recreation, and retirement. With the influx of service workers in those industries—many of whom are Asian, Hispanic, African American, or recent immigrants to the United States—the population has quickly become much more racially, ethnically, linguistically, and culturally diverse” (Ward 1994:38). Meatpacking and other low-skill industry labor recruitment strategies and word-of-mouth networking to attract large numbers of young adult, single male workers moving to a rural town (Broadway 2007). Broadway further provides that “accompanying the often welcomed population growth are increases in crime, drug and alcohol abuse, depression, and juvenile delinquency.”

Similar to other areas in rural America, Minnesota also boasts a thriving multi-billion dollar meatpacking industry employing “...Latinos, Asians and Africans seeking jobs that do not require high level skills or English language proficiency” (Fennelly and Leitner 2002:2). Many native-born U.S. citizens proffer that immigrants put an inordinate burden on their community’s social services. A study conducted to determine the scope and magnitude of the perceived problem of immigrants burdening communities’ social services found that the social service needs of new immigrants in Minnesota’s Region 9 cost the state and local governments \$24.5 billion, but the

immigrant workforce generated \$45 million in tax revenue to more than cover the added expense (Kielkopf 2006).

Studies of rural North American energy boomtowns in the 1970s “documented increases in crime rates, mental illnesses, divorce, and alcohol and drug abuse” (Broadway 2007:565). In a newspaper article, Archibold (2010:18) quotes “Judith Gans, who studies immigration at the Udall Center for Studies in Public Policy at the University of Arizona,” who posits that a self-serving perception bias is germane to the immigration debate as “both sides of the immigration debate accept information that confirms their biases...and discard, ignore or rationalize information that does not” (Archibold 2010:18). According to Gans, “If an illegal immigrant commits a crime, this confirms our view that illegal immigrants are criminals, [conversely], if an illegal immigrant doesn’t commit a crime, either they just didn’t get caught or it’s a fluke of the situation” (Archibold 2010:18).

In another newspaper article, Davey and Cox (2007:A1) highlighted a longtime resident of Storm Lake, Iowa, who lamented that the (mostly illegal) immigrants who flooded the town to work in the local meatpacking plant took “jobs away from the locals, left the schools jammed, and [drove] up crime.” Immigrants from Southeast Asia began coming to Storm Lake in the 1970 to work in the meatpacking industry, then Latinos began arriving in the 1990s. Currently, minority residents comprise more than 40 percent of the community’s population.

Also, in a National Public Radio (NPR) interview regarding Arizona's illegal immigrant crime statistics, Northeastern University law professor James Alan Fox made a cogent point when he related that most people cannot comprehend the significance of numbers and percentages relating to crime statistics, yet "anecdotal evidence is much more powerful in the minds of people to drive their public opinion than the actual facts" (Conan 2010:1). Fox later stated, "If an illegal immigrant is involved in criminal activity, obviously we punish them for the criminal activity and deport them. If a citizen is involved with illegal activity, we punish them. We don't deport them, but we punish them. But that's true in general. We shouldn't be saying, oh, we're going to have special rules and special hysteria for illegal immigrants because most of them are not criminals, some of them are. But that's true of American citizens as well" (Conan 2010:1). Further, Fox likens illegal immigration to status criminal activity, criminal behavior that many people engage in, such as betting on sports (Conan 2010).

Despite Arizona's burgeoning population, largely from illegal immigration from Mexico, during the same period, the violent crime rate declined in Arizona from 532 incidents per 100,000 residents in 2000 to 447 incidents per 100,000 residents in 2008 compared with the national crime rate of 507 per 100,000 in 2000 to 455 incidents per 100,000 residents in 2008 (Archibold 2010). However, as Archibold observes, Arizona's property crime rate during this 2000-2008 timeframe increased from 3,682 incidents per 100,000 residents in 2000 to 4,082 per 100,000 residents in 2008. The extent to which illegal immigrants are responsible for this increase in property crime cannot be accurately

determined. Archibold's article cites Scott Decker, an Arizona State University criminologist, who reported that studies indicate "that illegal immigrants commit fewer crimes, in part because they tend to come from interior cities and villages in their home country with low crime rates and generally try to keep out of trouble to not risk being sent home" (Archibold 2010:18).

Mirroring Archibold's article regarding violent crime, but tending to contradict the increase in property crimes, Anderson (2010) quotes Daniel Griswold, director of the Center for Trade Policies Studies at the Cato Institute, "According to the most recent figures from the U.S. Department of Justice, the violent crime rate in Arizona in 2008 was the lowest it has been since 1971; the property crime rate fell to its lowest point since 1966. In the past decade, as illegal immigrants were drawn in record numbers by the housing boom, the rate of violent crimes in Phoenix and the entire state fell by more than 20 percent, a steeper drop than in the overall U.S. crime rate" (p. 1).

Ethnographic research regarding the perceived community changes among non-Hispanic, white, long-term residents in three rural Nebraska communities, each having meatpacking plants employing 65-70 percent laborers of Latino descent, found the primary changes in the communities included "increased population and, with that, increased ethnic and cultural diversity, more crime, shortages in affordable and quality housing, overcrowded schools, and an inception of Mexican owned and operated businesses" (Dalla et al. 2004:237). Residents' perceptions of crime focused on a general

sense of increased crime specifically traffic violations, such as driving without a license or insurance. A common complaint is that the immigrants are unfamiliar with the laws.

A 2008 study regarding the institutionalization of men in California, including prisons, jails, halfway houses, etc., found that the institutionalization rate for U.S.-born men is 10 times greater (4.2 percent vs. 0.42 percent) than that for foreign-born men (Anderson 2010). Anderson did not indicate if U.S.-born children of immigrants were included with the numbers of U.S.-born men which may skew the results. Other research indicates that “immigrant men had much lower rates [of institutionalization] than the native-born men in both 1980 and 1990” (Butcher and Piehl 1998:659). Butcher and Piehl note that “unlike citizens, immigrants may be institutionalized for visa violations, or held in INS detention centers while claims for asylum are processed. Hence, if institutionalization is used to proxy criminality, it will overstate criminality among (noncitizen) immigrants” (p. 672). Further, Butcher and Piehl (1998:677) make the salient observation that “if natives had the same institutionalization probabilities as immigrants, our jails and prisons would have one-third fewer inmates.” Perhaps the fundamental explanation for immigrants’ unexpected low crime rates may be attributable to “the deterrent effect of the deportation threat will cause immigrants to be less likely to commit crimes” (Butcher and Piehl 1998:672). Statistics indicate that illegal immigrants tend to avoid violent resistance when apprehended by U.S. Border Patrol agents (Anderson 2010). Among the more than 10 million Border Patrol agent apprehensions of illegal immigrants since 2000, very few of those illegally entering the U.S. for work have armed themselves against

Border Patrol agents. According to Anderson (2010:2), however, “individuals linked to organized crime rings are likely to be armed, given their involvement in drug or human smuggling and the money involved.”

In his research relating to immigrant crime, Broadway (2007) found that Garden City, Kansas, and Brooks, Alberta, Canada, both rural communities having large immigrant populations working in local meatpacking plants, “experienced increases in their respective crime rates, due primarily to high population mobility and an influx of young single males with less than a high school education—the demographic group with the highest incidence of criminal activity” (p. 574). The Garden City crime rate continued to rise over the early 1990s, peaking in 1994, “falling to its lowest level in a decade in 1997, then steadily rising again through 2003. The number of arrests in Garden City dramatically increased by more than 33 percent from 2,252 in 1990 to 3,300 in 2003” (p. 574).

Prior to Lakeside meatpacking plant’s recruitment of immigrant labor, the reported crime rate in Brooks, Alberta, was relatively stable (Broadway 2001). Then the reported crime rate rose from 131 per 1,000 persons in 1996 to 257 per 1,000 persons in 2004. According to Broadway (2001:48), “Between 1996 and 1999, the number of persons reported for disturbing the peace increased from 66 to 377, while the number of intoxicated persons went from 128 to 309 and violations of the provisional liquor act went from 172 to 261.” Confirmed child abuse and neglect cases in Finney County

tripled between 1980 and 1985 when the number of such cases statewide increased only 50 percent (Broadway 1990).

Although not specifically relating to a foreign-born population's influence on the crime rate, research by Jobes (1999:508) found that "recent migrants accounted for a highly disproportionate amount of crime" in the agricultural and recreational communities in Montana that were part of his study. Short-term residents accounted for 63 percent of the 323 total crimes committed in the study communities, including more than 67 percent of the "thefts, parole violations, manslaughters, and homicides." Moreover, 68 percent of the total offenses occurred in the rural recreational communities with 32 percent occurring in the rural agricultural communities. This difference in crime experiences correlates with all of the rural recreational communities in the study having the highest migration rates over the agricultural communities that all enjoyed the lowest migration rates. Jobes (1999) identified two interaction factors that may account for rural crime. According to Jobes, "the absence of legitimate local interaction would increase the likelihood of criminal violations by recent residents in comparison with the established ones, [and]...the visibility of outsiders, especially in smaller lower-migration towns, would render them more susceptible to arrest" (p. 519). Another relevant factor that Jobes identified is the availability of unskilled, part-time and seasonal employment opportunities affiliated with the tourist industry in recreational communities that are not as plentiful in agricultural communities.



The U.S. government originally settled Hmong immigrants in California, Wisconsin, Minnesota, and Wyoming from the Thailand, Laos, and Vietnam region at the end of the Vietnam War in 1975 with most Hmong immigrants gravitating in Wisconsin, Minnesota, and California (Lor and Chu 2002). Lor and Chu conducted ethnographic research among a non-representative, snowball sample (N=12) of Hmong residents of a rural county in the Central Valley of California. Six of the participating families' children had records of delinquent conduct including auto theft, drugs, petty theft, as well as status offenses. While poverty and lack of education were significant factors in all of the participants' quality of life, the miniscule non-representative sample size is not conducive to drawing valid conclusions relating to the apparent significant involvement in juvenile delinquency among this Hmong population.

One plausible explanation for the perception that immigrants are committing a variety of crimes in their new rural destination communities may stem from a simple misunderstanding of immigrants' cultural practices among native inhabitants. A common lament among traditional community residents relates to "property upkeep and how Latinos spend their time at home, which is often portrayed as involving loud music and outdoor socializing" (Erwin 2003). Persons who are unfamiliar with immigrants' culture that may violate the community's social norms are likely to consider such faux pas as an illegal breach of the peace. From the immigrants' perspective, many immigrants simply avoid reporting crimes to the authorities out of fear of the police, experiences with the

police in their home countries, racism, and the real potential of deportation if they are discovered to be in the United States illegally (Bauer et al. 2000).

Immigrants from the Horn of Africa, primarily from Somalia, Ethiopia, Yemen, and Eritrea, while greatly fewer than Latino or Asian immigrants, have brought their custom of khat chewing to the United States, resulting in a legal conundrum (Armstrong 2008). The U.S. Federal Bureau of Investigation (FBI) considers khat a controlled substance, yet according to Armstrong, the possession of the khat plant is currently legal to possess throughout the U.S. It is estimated that six million people, worldwide, routinely chew khat, a naturally growing tree in parts of Africa and Asia having leaves that contain cathinone, a chemical compound that is similar to the chemical structure of amphetamine (Odenwald et al. 2005). A significant part of the population chew khat as a popular pastime in several countries, including Somalia, Ethiopia, Somaliland, Kenya, Eritrea, Djibouti, Uganda, Yemen, and Saudi Arabia (Armstrong 2008).

Law enforcement authorities in the North Texas High Intensity Drug Trafficking Area (HIDTA) report seizing more than 89 kilograms of khat in 2009 (U.S. DoJ 2010). There were no seizures of khat in the North Texas HIDTA region reported for 2008. According to the U.S. Department of Justice (U.S. DoJ 2010), immigrants from several African countries commonly continue to chew khat while living in the U.S. Armstrong (2008) cites several examples of evils befalling Somali immigrants purportedly as a result of their secret khat chewing habit. A U.S. Drug Enforcement Administration (DEA) spokesperson characterized khat use as “devastating” to those persons who use it

(Verhovek 2006). According to Steverman (2005), khat is responsible for Somali immigrants' inability to speak English well and find work in Minneapolis, the city having the largest Somali population. Likewise, Somali men in Columbus, Ohio, are faulted for their preoccupation with buying khat rather than supporting their children (Siek 2002).

Considering khat is not illegal to possess or use in the United States, Armstrong (2008) argues "the war on khat appears directed against Muslim immigrants from Somalia, Ethiopia, Yemen, and Eritrea...as [a convenient method] to control [these] marginalized populations." As Musto (1987:1) points out, the "use of a particular drug was attributed to an identifiable and threatening minority group" in every instance of drug criminalization in the United States.

Organized crime provides the only significant evidence of immigrant related crime in the U.S. Historically, gang activity in the U.S. has been closely related to immigration and labor-migration patterns (Brzezinski 2004). The results of the relatively recent phenomenon of shifting unskilled jobs from cities to rural areas is that "gangs are cropping up in unexpected places: tiny counties and quaint villages, farming communities and cookie-cutter developments, small towns and tourist resorts" (Brzezinski 2004:38). For example, rural Toombs County, Georgia, has 10 active Latino gangs.

Also, the emergence or escalation of gang activity in rural areas may be attributable to the changing demographic characteristics in some small towns and rural areas (Howell and Egley 2005). According to Howell and Egley, immigrant youths may naturally band together, coalescing into what essentially constitutes a gang, as a result of language

barriers and being ostracized by dominant population youths. Despite the significant influx of immigrants into rural communities, Klein (1995) cautions that most of the youth gangs in the U.S. are homegrown. For instance, similar to other racial and ethnic immigrant experiences in the US, children of Hmong immigrants are rejecting their parents' native language, traditions, values and way of life, and many of the Hmong immigrant children have become delinquent as they assimilate into the gang lifestyle (Lor and Chu 2002).

In addition, rural Rockingham County, Virginia, has experienced:

involvement of gangs like the Salvadoran MS-13 and the Sureños 13, a gang comprised of citizens of Mexico, in drug trafficking, murder, kidnapping, robbery and myriad other crimes in the community, often violence and mayhem directed at other immigrants. Local [school] teachers described how both groups are trying to recruit second-graders in their schools, and Mrs. Garst, [the commonwealth's attorney for Rockingham County and the city of Harrisonburg], pointed to numerous cases in which local gang members were illegal-alien criminals who had been deported and later re-entered the United States (Anonymous 2007:B02).

Virtually all the literature relating to immigrant population's effect on rural crime rates is based on myopic anecdotal accounts rather than scientific research. The academic studies examining the immigration and crime nexus focuses almost entirely on urban neighborhoods. There is scant academic research, at best, examining the effect of immigration on crime rates in rural communities. Consequently, in most cases, the only

information readily available for public consumption comes originates in the news media, popular media, and the rumor mill. None of these sources can be considered credible and definitely not generalizable as the anecdotal accounts overwhelmingly tend to ignore empirical evidence. Unfortunately, Judith Gans' observation that a steady diet of sensationalized stories recounting immigrant atrocities tend to reinforce the negative image of immigrants in the average lay-person's mind (Archibold 2010). Additional literature relating to objective, empirical evidence driven academic research is critical for a variety of social benefits.

This study serves to help fill the glaring gaps in the literature relating to the relationship between foreign-born populations and their effect on rural crime rates. Indeed, the lack of relevant academic crime literature and the micro-level nature of the anecdotal information illustrates the critical need for this research. Including news media stories on crimes committed by individual immigrants in this literature review merely serves to establish that some immigrants do, in fact, commit crimes in rural areas of the U.S. and to identify some potential crime trends committed by multiple individual immigrants; however, making any conclusion relating to the effect a foreign-born population has on a rural crime rate based on information of crimes committed by individual immigrants is inappropriate. Moreover, excluding news reports of crimes committed by individual immigrants would effectively eliminate the salient part of the literature review.

## SUMMARY

The virtual total absence of any relevant academic literature presented a difficult challenge for this literature review addressing the research question relating to the relationship between foreign-born populations and the crime rate in rural America. The overwhelming bulk of the available literature consists of anecdotal news stories on crimes committed by individual immigrants in rural communities. Such a disconnect in the levels of analysis poses a significant problem to avoid the faulty reasoning of reductionism (Babbie 2011). The lack of academic literature requires a unique approach to this literature review. A cursory examination of the urban immigrant crime literature and the general phenomenon of rural crime are necessary to provide some salient background information despite the topics' apparent irrelevance to answering this study's research question. Similarly, the existing popular criminological theories historically used in research on immigrants and crime are inappropriate to use in this study. The existing theories tend to be either individual-level theories that fail to directly answer this study's research question, or they simply do not translate to crime in rural communities. Consequently, relevant theory literature supporting a unique theoretical framework germane to this research is included in this literature review. Finally, empirical evidence indicating a nexus between immigration and rural crime is discussed, although the literature in this section also tends to focus on individual-level information and does not directly relate to the congregate-level of analysis appropriate for answering the research question. The variety of problems associated with this literature review reinforces the

overwhelming need for this research. This research transcends filling gaps in the literature relating to the effect of foreign-born populations in rural crime rates in America as relevant academic literature is effectively non-existent. Indeed, this research provides a landmark contribution to the literature relating to the relationship between foreign-born populations and crime rates in rural America.

### CHAPTER III

#### THEORETICAL FRAMEWORKS AND HYPOTHESES

A survey of the available criminological theories quickly exposes the sheer inadequacy of each theory despite the plethora from which to choose addressing the relationship between a foreign-born population and county crime rates in rural America. Indeed, the overwhelming majority of studies addressing the immigration-crime relationship restrict the scope of their research to urban neighborhoods. The very select few studies examining the role of immigrants involved in criminal behavior in rural locales typically consider only murders along the U.S.-Mexico border. Moreover, the body of existing research seems to suffer from the myopia of focusing on the requisite individual level of analysis. Viewing the immigrant-crime issue through such a small lens invariably distorts the accurate view of the so-called “big picture” depicting the larger overall condition the authors are attempting to illustrate. Consequently, the scope of this research requires an alternative perspective using theories that transcend the micro-level of analysis to the mezzo-level appropriate for considering county crime rates.

Obviously, individual people may be categorized and labeled into particular groupings enabling scientific research at a higher level of analysis. As Akers and Sellers (2009:4) note “...the two major questions of group and individual behavior are really just subtypes of the same general question: Why do or do not people commit crime and deviance?”



Accordingly, a variety of existing theories typically developed and used to explain why individuals may or may not engage in criminal behavior are used to develop a theoretical framework suitable to apply to this study's research question—What is the relationship between the foreign-born population and county crime rates in rural America? Put differently, how does a foreign-born population affect the county crime rate in rural America? To this end, four competing theoretical frameworks germane to rural areas are proffered to answer this research question.

## THEORETICAL FRAMEWORKS

The first theory suggests a positive connection between a foreign-born population and the county crime rate. The second theory disavows any connection between a foreign-born population and the crime rate. The third theory acknowledges a conditional influence of a foreign-born population on crimes rates, increasing some crime rates, lowering other crime rates, and having no effect on others. Finally, a fourth theory argues that a foreign-born population decreases county crime rates. Each proposed theory will be critically evaluated using criteria including “internal logical consistency, scope and parsimony, testability, empirical validity, and usefulness and policy implications” (Akers and Sellers, 2009:5).

### *Immigration-Crime Affirmative Nexus Theory*

Immigration-crime affirmative nexus theory appeals to a medical model using the analogy that rural counties may be considered as organisms. A foreign-born population that has the effect of increasing a county's crime rate is a cancer in the organism creating

a deleterious condition in the health of the county. Thus, the mere existence of a foreign-born population in a county is a malignant influence that poses a crime threat to the well-being for each county resident and the county as a whole. Such a malignant influence requires the county to enjoy a healthy crime rate for an extended period immediately prior to introducing the foreign-born population to the mix. This proposed immigration-crime affirmative nexus theory exhibits internal logical consistency as it exclusively focuses on foreign-born status as the basis for influencing an increase in the county crime rate. The theory's scope includes the entire range of statutory crimes irrespective of seriousness. As the theory applies only to foreign-born populations, regardless of country-of-origin, establishes the parsimony requirement. It is testable using objective and repeatable empirical evidence obtaining consistent results of a higher county crime rate. However, the theory is also falsifiable, because it may very well be disproved with negative findings. While immigration-crime affirmative nexus theory superficially appears as a logical and valid theory to explain a foreign-born population's influence in increasing the crime rates in the rural county in which they reside, immigration attendant concerns make the proposed theory's validity quite problematic.

This proposed immigration-crime affirmative nexus theory reeks of myriad damning issues. Foremost among the issues is the probability that the positive effect of foreign-born status on the county crime rate is nothing more than a spurious relationship as a host of other factors, or combination of factors, is the likely actual cause for a rising crime rate. Moreover, this superficial theory presupposes that foreign-born persons,

individually and collectively, are somehow inherently criminal in nature. Further, such an immigration-crime affirmative nexus theory attempting to blame a foreign-born population for increased crime in the county evokes many of propositions attempting to validate eugenics as a useful program. Such propositions were typically grounded in emotion rather than on objective empirical evidence. However doubtful, this potential theory may be deemed a valid, useful theory if this and future research obtains objective empirical evidence to support the theory's thesis that foreign-born populations have the effect of increasing the county crime rate in rural communities.

#### *Immigration-Crime Dissociation Theory*

Characteristics among human populations, particularly as the sample size increases, may be assumed a normal distribution allowing scientific findings based on empirical evidence (Healey 2005). According to Fox (2016:110), "Under normality...the least-squares estimators are the most efficient among all unbiased estimators, not just along linear estimators." Further, Gordon (2010:117) establishes that "the normality assumption is commonly used to justify hypothesis testing." If these accepted assumptions are valid, the variable crime may be viewed in the same light as a normal distribution among the population, as a whole, in the same manner as height, intelligence quotient, and a multitude of other variables. Since Shaw and McKay (1942) published their pioneering study examining delinquency rates among Chicago neighborhoods through consistent contemporary research, race and foreign-born status are indefensible variables for explaining the propensity to engage in criminal behavior (Bernard et al.

2010). Persons of all races, ethnicities, and national-origin are just as likely as anyone else to engage in criminal behavior. By extension, the diverse racial, ethnic, and foreign-born populations are effectively equal in their propensity to commit crimes, and relying on such characteristics is a fundamentally flawed proposition as scientific research firmly establishes dissociation between these characteristics and crime. Solely focusing on foreign-born status, immigration-crime dissociation theory provides that a foreign-born population will have no effect—neither positive, nor negative—on the county crime rate.

Determining the internal logical consistency of immigration-crime dissociation theory is a relatively simple process, because it is fundamentally based on nearly a century of abundant research providing consistent results suggesting foreign-born status has no effect on crime. Albeit the bulk of the research has been conducted in urban neighborhoods, the no-effect result is expected to translate to rural areas of the U.S. as well. The gist of immigration-crime dissociation theory simply posits that foreign-born populations have no effect on rural county crime rates. The theory's scope pertains to the entire range of crimes, serious and minor offenses, and the theory's simplicity illustrates its parsimony. Moreover, the theory is easily testable using readily available objective and repeatable empirical data. Although immigration-crime dissociation theory has yet to be subjected to rigorous testing in research to determine its empirical validity, extensive relevant research and the findings in this study indicate this proposed theory's soundness in explaining the relationship between foreign-born populations and crime. Ultimately, immigration-crime dissociation theory facilitates critical understanding of the purely

emotional correlation between foreign-born populations and crime providing a mechanism to debunk media and political rhetoric that has effectively inculcated the popular belief that foreign-born populations are inordinately responsible for crime. Using mass-media as a vehicle, people tend to believe a lie that is repeated (Goebbels 2016). The danger affiliated with the layperson erroneously perceiving foreign-born populations are somehow inherently criminal is found in the Thomas Theorem, “Things that men perceive as real are real in their consequences” (Thomas and Thomas 1928:572). A cursory examination of discrimination and scapegoating throughout the history of mankind exposes the insidious social problems associated with wrongly accusing foreign-born populations as innately criminal.

#### *Immigration-Crime Conditional Nexus Theory*

Closely related to the concepts and propositions comprising immigration-crime dissociation theory, but with some salient variations further establishing that foreign-born populations mirror the native-born population when it comes to engaging in criminal activity is the immigration-crime conditional nexus theory. There are certain behaviors that virtually every culture holds as deviant and are considered so inherently evil as to make the behavior a serious crime against society. These crimes are termed *mala in se* crimes. Conversely, *mala prohibita* crimes are those behaviors that are considered a crime in certain jurisdictions merely because the particular society defines the behavior as a violation of the law (Barkan 2012). *Mala prohibita* crimes tend to be relatively minor offenses and typically constitute public order crimes. As Turk (1964) posits that every

human behavior, whether a *mala in se* or *mala prohibita* crime, has been at least tolerated by some culture at some point in the history. Turk's thesis effectively recognizes every crime, *mala in se* and *mala prohibita*, is a social construct within differential jurisdictions. However, in the instant globalization environment general knowledge of what behavior constitutes *mala in se* crimes permeates every culture. Universal knowledge of *Mala prohibita* offenses, on the other hand, tends to be quite parochial. While the axiom, ignorance of the law is no defense, may be technically true, the reality is that many minor laws are broken by mistake. Until the stranger becomes operationally socialized in his or her new society, an occasional Pygmalion *faux pas* will inevitably occur. This immigration-crime conditional nexus theory applies to all migrant groups, in every meaning of the term, whether the migrant group is a foreign-born population, migrants from urban to rural communities (or vice versa), or crossing social stratification lines.

The proposition of immigration-crime conditional nexus theory differs from David Matza's (1964) drift theory that posits adolescents, and all people by extension, tend to conform to the law on a day-to-day basis but occasionally "drift" into violating a law. Drift theory seems to imply that occasionally drifting into committing a crime is an intentional act as some form of release from the built-up tension associated with maintaining a crime-free lifestyle. On the contrary, immigration-crime conditional nexus theory recognizes that all persons are human, whether native-born or foreign-born, and making occasional well-intentioned mistakes is just part of human nature (More and

Miller 2015). Moreover, culture and experience definitely affect perception on which people base their responses to stimuli (Bernstein et al. 2003). Fundamentally, this proposed immigration-crime conditional nexus theory falls under the symbolic interaction paradigm as people make decisions based on the culmination of stimuli they inculcate, arguably, since conception. Consequently, much criminal behavior may be considered situational offensive behavior.

Immigration-crime conditional nexus theory shares the same internal logical consistency as immigration-crime dissociation theory with the added-value provided by its association with the symbolic interaction paradigm. Immigration-crime conditional nexus theory recognizes that a foreign-born population may have some negative effect on county crime rates whereas immigration-crime dissociation theory posits that there is no relationship between a foreign-born population and any crime rate in the county. Moreover, immigration-crime conditional nexus theory asserts that if a foreign-born population is related to a higher county crime rate, the particular crime will tend to be a minor crime rather than a serious crime. Further, the foreign-born population effect on the county crime rate will manifest on a lower crime rate for serious crimes, or there will be no relationship between the foreign-born population and the county crime rate for serious crimes. Similar to immigration-crime dissociation theory, immigration-crime conditional nexus theory's scope also covers the entire range of crimes, serious and minor offenses, and the theory's relative simplicity illustrates its parsimony. Sufficient objective and repeatable empirical evidence is available for testing the theory easily

achievable through future relevant research. The theory's empirical validity is indicated by its affiliation with the symbolic interaction paradigm, but will be further determined in future similar research. The value of immigration-crime conditional nexus theory lies in the potential usefulness and positive influence on policy implications. In addition to the benefits proffered in immigration-crime dissociation theory, immigration-crime conditional nexus theory further provides important understanding of the actual comprehensive nature of crime at the county level. Understanding promotes tolerance crucial to peace and harmony within a community.

#### *Immigration-Crime Inverse Nexus Theory*

Simply stated, immigration-crime inverse nexus theory is the antithesis of immigration-crime affirmative nexus theory. The essence of immigration-crime inverse nexus theory posits that the presence of an identifiable group, such as a foreign-born population, residing within the county will provide the beneficial effect manifesting in lower county crime rates among the entire spectrum of criminal offenses. This theory requires the group have some unique constituent quality serving as the basis for their collective positive contribution to the county crime rate. A critical analysis of foreign-born populations reveals such a potential desirable quality in the general nature of immigrants to the U.S.

The decision to migrate may be as subtle as an unsettled feeling, or it may be a strong, irresistible urge to move depending on the combined strength of the push and pull factors falling at some point along a continuum. When the combined push and pull stimuli reach



the critical point, the potential migrant has the motive to relocate. All that is needed at that point is the means and opportunity then migration will occur. Migrants are thus self-selected as their decisions to come to the U.S. have the common goal of increasing their subjective well-being (Kubrin and Ishizawa, 2012).

Tonry (1997) perceptively captures migrants' avenue to achieving subjective well-being, saying, "Many immigrants come to the U.S. to pursue economic and educational opportunities not available in their home countries and to build better lives for themselves and their families. Most are hardworking, ready to defer gratification in the interest of longer-term advancement, and therefore likely to be conformists and to behave" (p. 21). Moreover, migrants bring their Old World values with them and, to a large extent, those values dictate their conforming behavior. For those migrants who come to the U.S. primarily to earn money, they are often responsible to help support their family remaining in their homeland. The decision to engage in certain behaviors, whether to migrate or commit a crime, is a cognitive decision motivated by one or more stimuli factoring in the hedonistic calculus evaluating alternate paths toward subjective well-being. Accordingly, foreign-born persons are especially careful to comply with the law in their host community in an effort to avoid deportation and the attendant condemnation from their family, friends, and community.

While the pursuit of happiness provides a rational motive supporting a decision to migrate, it remains insufficient to fully capture the concept of subjective well-being, or happiness. Granted, subjective well-being is determined individually in the mind of the

beholder expressing a variety of desires which serve to make the individual happy, or at least, satisfied (Liu 1975). Yet, the essence of what provides the motivation for migration remains elusive. However, Abraham Maslow provides the key to unlocking this conundrum.

While Maslow's hierarchy of needs was developed as a micro-level theory explaining individual motivation based on their particular need (Ewen 1988), his self-actualization theory may be generalized over a group's collective personality. As each progressive step in the hierarchy toward self-actualization proportionally shifts from a viscerogenic to a psychogenic emphasis, there is a congruent shift in the propensity for committing criminal acts. Individual persons, gangs, or entire populations mired in the viscerogenic basic human needs effectively have nothing to lose in resorting to criminal behaviors. As the individual, group, or population progresses to higher levels in the hierarchy of needs, the likelihood of engaging in deviant or criminal behavior diminishes. For migrants, individually and collectively, moving higher in the hierarchy of needs realizes a greater sense of subjective well-being. Just as frustration breeds hostility, gratification fosters friendliness, conformity, and a general sense of well-being (Maslow 1948). Reaching the self-actualization level, lying almost entirely in the psychogenic realm, provides the ultimate symbol of success in achieving the good life.

The internal logical consistency is evident in immigration-crime inverse nexus theory as it simply provides that identifiable groups of people living in a particular jurisdiction, such as a county, will tend to influence uniform and consistent lower crime rates. Similar

to other proposed theories previously discussed, immigration-crime inverse nexus theory's scope includes the entire spectrum of crimes, serious and minor offenses, and the theory's relative simplicity illustrates its parsimony. The theory is conducive to testing using readily available objective and repeatable empirical evidence. Its empirical validity is contingent on the results of this study and future similar research. The theory's potential value is evident as it may provide scientific evidence of the important value foreign-born populations can provide to the communities in which they live.

Considering the totality-of-the-circumstances, immigration-crime inverse nexus theory is the favored theory framework applicable to the hypotheses pertinent to this research. Foremost among reasons supporting this contention is the underlying difference between rural communities and their urban counterparts as well as the apparent universal objective luring foreign-born persons, and many native-born persons, to migrate to rural communities. The pastoral way-of-life rural communities offer, free from the incessant noise, hectic pace, and perpetual threat of crime intrinsic to urban jungle, offers an attractive oasis equated with achieving the state of well-being, or happiness. Moreover, the nature of the foreign-born population that gravitates to rural communities are overwhelmingly hardworking, family oriented, and bring with them an intense desire to succeed in their new home. Indeed, foreign-born persons living in rural areas tend to have a strong sense of community and will avoid any behaviors that may result in damaging their objectives in life, both as individual persons and collective identifiable segment of the population.

## HYPOTHESES

To answer the research question of what is the relationship between the foreign-born population and the county crime rate in rural America, this study proposes a general hypothesis, 16 specific hypotheses for the 16 specific categories or types of crimes, and a hypothesis about the effect of interaction between foreign-born population and poverty on crime. The general hypothesis of this study is that controlling for other factors, counties with a higher percentage of foreign-born residents are more likely to have a lower crime rate than counties with a lower percentage of foreign-born residents. Put differently, holding other variables constant, there is an inverse relationship between percentage of foreign-born population and crime rate across rural counties in Iowa. Note that this hypothesis aligns with immigration-crime inverse nexus theory. This hypothesis is grounded on several considerations. Virtually all immigrants choose to live in the U.S. to better their life. This universal purpose often includes improving their family's lot in life who remains behind in the particular immigrant's homeland. Rarely do immigrants come to the U.S. as an individual without having a family that is depending on the immigrant maintaining continued employment in the U.S. Foreign-born persons share a salient fundamental objective in life—the pursuit of happiness. Whether immigrating into the U.S. to take advantage of the myriad opportunities and paths to happiness the U.S. facilitates or merely to earn money they may send home to support relatives, both purposes effectively serve to improve their happiness, or subjective well-being.

Immigrants, especially unauthorized immigrants, in the U.S. are well aware that if they are convicted and sometimes even being suspected of committing a crime, they are subject to deportation. Consequently, the immigrant's family provides a significant informal social control mechanism for discouraging criminal behavior. Similarly, members of immigrant enclaves within a community discourage their members from committing criminal or deviant acts that may bring unwanted law enforcement attention onto the immigrant community. Moreover, immigrants are wary of law enforcement and tend to address their group members' misbehavior informally within their own immigrant community. And, immigrants know that their mere appearance may make them an attractive target for arrest and drawing them into the criminal justice system.

Again, based on the research findings in urban neighborhoods and the lack of empirical evidence to the contrary, rural Iowa counties having a notable immigrant population should realize lower rates in serious and minor crimes. Moreover, the phenomenon contradicting the popularly-held myth that immigrants are responsible for a disproportionate amount of crime is explained by the argument that some immigrants coming to the United States are "better educated than the average native-born American" and immigrants tend to avoid behaviors that may harm their opportunity for a better life (Ousey and Kubrin 2014).

This study divides rural Iowa county crime rates into three classifications. The first classification includes the counties' total crime rate, the violent crime rate, and property crime rate. The second classification includes 10 serious crimes including aggravated

assault, burglary, drug abuse, forcible rape, larceny, motor vehicle theft, murder, robbery, simple assault, and weapons violations. The third classification includes the three minor offenses of disorderly conduct, drunkenness, and driving while intoxicated. It is hypothesized that the inverse relationship between percent foreign-born and crime rate will hold for the total crime rate and the other 15 categorical and specific crime rates. Hence, this study will test the following 17 specific hypotheses. Considering the extensive research suggesting immigrants lower crime rates in urban neighborhoods, the lack of empirical evidence to suggest immigrants living in rural communities are more likely to engage in criminal behavior than are their urban counterparts, and the several reasons provided herein, the data is expected to indicate a foreign-born population influences a lower crime rate among all 16 categorical and specific crimes in the county where they live.

The first hypothesis posits that:

H1: Controlling for other factors, as a county's foreign-born population percentage increases, the county's total crime rate is more likely to decrease.

Accounting for the fundamental difference between violent and property crimes, this study will test the following two hypotheses:

H2: Controlling for other factors, as a county's foreign-born population percentage increases, the county's violent crime rate is more likely to decrease.

H3: Controlling for other factors, as a county's foreign-born population percentage increases, the county's property crime rate is more likely to decrease.

Further, in an effort to fully explore the impact of immigration on serious crime in rural areas, hypotheses 4 through 13 will test the relationship between counties' percentage of foreign-born population and the respective county's crime rate for 10 serious offenses.

H4: Controlling for other factors, as a county's foreign-born population percentage increases, the county's aggravated assault crime rate is more likely to decrease.

H5: Controlling for other factors, as a county's foreign-born population percentage increases, the county's burglary crime rate is more likely to decrease.

H6: Controlling for other factors, as a county's foreign-born population percentage increases, the county's drug abuse crime rate is more likely to decrease.

H7: Controlling for other factors, as a county's foreign-born population percentage increases, the county's forcible rape crime rate is more likely to decrease.

H8: Controlling for other factors, as a county's foreign-born population percentage increases, the county's larceny crime rate is more likely to decrease.

H9: Controlling for other factors, as a county's foreign-born population percentage increases, the county's motor vehicle theft crime rate is more likely to decrease.

H10: Controlling for other factors, as a county's foreign-born population percentage increases, the county's murder crime rate is more likely to decrease.

H11: Controlling for other factors, as a county's foreign-born population percentage increases, the county's robbery crime rate is more likely to decrease.

H12: Controlling for other factors, as a county's foreign-born population percentage increases, the county's simple assault crime rate is more likely to decrease.

H13: Controlling for other factors, as a county's foreign-born population percentage increases, the county's weapons violation crime rate is more likely to decrease.

Hypotheses 14 through 16 will test the relationship between immigration and county crime rates for each of minor offense which tend to consist of public order type of crimes.

H14: Controlling for other factors, as a county's foreign-born population percentage increases, the county's disorderly conduct crime rate is more likely to decrease.

H15: Controlling for other factors, as a county's foreign-born population percentage increases, the county's drunkenness crime rate is more likely to decrease.

H16: Controlling for other factors, as a county's foreign-born population percentage increases, the county's driving under the influence crime rate is more likely to decrease.

The final hypothesis considers the interaction term %Foreign-Born X Poverty Rate to test the moderating effect the foreign-born population percentage and poverty rate on the crime rates in rural counties. Hence,

H17: The effect of percent foreign-born on county crime rate is moderated significantly by poverty rate.

This last hypothesis suggests that percent foreign-born affects crime rate differently depending on the rates of poverty. Coleman and Kerbo (2006:217) posit "that poverty traps poor people psychologically, as well as economically and socially." Indeed, poverty limits the opportunity to lead a fulfilling life and pursue true happiness (Lauer



and Lauer 2008). The strain that affects foreign-born populations' ability to achieve their desired economic, social, and subjective well-being is relative to the poverty rate for the jurisdiction in which they reside that is ultimately reflected in the crime rate.

## SUMMARY

This study's unique scope requires the development of a theoretical framework to adequately explain a foreign-born population's effect on rural county crime rates. Existing research on immigration and crime is urban centered and exclusively employs social disorganization as the theory of choice. While a suitable theory for explaining crime in urban neighborhoods, social disorganization theory fails to translate well to rural settings. By the same token, a survey of other existing criminological theories indicates each is likewise insufficient for explaining rural crime. Criminological theories tend to focus on urban neighborhoods, are individual-level theories that fail to answer the research question, and some are, quite frankly, weak in their explanation of crime.

Foreign-born populations are fully expected to lower each rural county crime rate tested in the 16 hypotheses included in this study. In keeping with the hypotheses, an immigration-crime inverse nexus theoretical framework is offered to explain the phenomenon of foreign-born populations lowering the rates across all crimes in rural counties. Three additional theoretical frameworks are developed in case of an unanticipated data analysis results rejecting one or more of the 16 hypotheses. An immigration-crime affirmative nexus theoretical framework relates to a data analysis suggesting a foreign-born population actually increases all 16 crime rates. In the unlikely

event data suggests there is no relationship between the foreign-born population and all the rural county crime rates, an immigration-crime dissociation theoretical framework has been developed to explain such a possibility. Similarly, an immigration-crime conditional nexus theoretical framework explains data suggesting differential results showing a foreign-born population may increase, decrease, or have no effect on particular rural crime rates among the 16 hypotheses.

The 16 hypotheses germane to this research are divided into the three classifications, category crimes, serious crimes, and minor crimes, facilitating a more nuanced examination of the data analysis results. Several specific crimes are excluded from this study, because these excluded crimes have inordinately low incidents reported to the police. The crime classifications will indicate a possible differential of foreign-born populations' effect on crime categories, serious crimes, and minor crimes. As the same results are expected for all 16 hypotheses, the underlying justifications, likewise, universally apply across all of the hypotheses. This study's unique character provides salient theoretical frameworks and tests a variety of important hypotheses that will confirm or dispel popularly held beliefs among a large segment of native-born American residents and future similar research.

## CHAPTER IV

### DATA AND METHODS

The innovative nature of this study requires a congruent variety of data and methods conducive to precisely investigate the effect a foreign-born population exerts on rural county crime rates. To that end, this chapter discusses the specific data sources underpinning the strength of the findings obtained in this research. Further, the information contained herein serves to conceptualize the variables thus maximizing understanding the relationships this research explores. Finally, this chapter discusses the methods of analysis this study employs to demonstrate the appropriate approach for testing the hypotheses. Such a coherent presentation of the data and methods establishes the core integrity of this research.

#### DATA

In a perfect world research data would come from one comprehensive source. Unfortunately, such a single source is unavailable for this study exploring the effect of a foreign-born population on the crime rates in rural Iowa counties. The data for the dependent variables on 16 serious and minor crimes come from the State of Iowa, and the information about the demographic, economic, and social control predictor variables is obtained from the U.S. Census Bureau. In the State of Iowa, the Department of Public Safety has been tasked with collecting crime data from all state, county, and local law

enforcement agencies across the state (IUCR 2009). Supplementing the Iowa Department of Public Safety and other state agencies in their duty to collect, analyze, and disseminate data is the Iowa Community Indicators Program (ICIP) affiliated with Iowa State University (ICIP 2015). Two federal programs that provide critical demographic and economic data and operating under the U.S. Census Bureau umbrella are the American Community Survey (ACS) and the Small Area Income and Poverty Estimates (SAIPE).

Since the 1930s, the United States Federal Bureau of Investigation (FBI) has collected a variety of crime data from over 18,000 law enforcement agencies across the United States and annually published the compiled data in the Uniform Crime Report (UCR) (UCR 2015). The FBI's UCR program is divided into two parts (FBI 2011). Part I crimes are comprised of eight serious crimes that are reported to the police. Only arrest information is reported in the UCR for the 21 Part II offenses. Participation in the UCR program is voluntary, but virtually all law enforcement agencies across the nation participate in the monthly report of crimes occurring within their respective jurisdictions. A 1974 state law requires all Iowa law enforcement agencies to participate in the state and federal UCR program by submitting reports of crimes reported to the police and arrests occurring within their respective jurisdictions to the Iowa Department of Public Safety Program Services Bureau (IUCR 2014). Typically, county and local law enforcement agencies report their UCR data to a state-level criminal justice agency, which then compiles the data and forwards the information to the FBI. More than 200

Iowa state, county, and local law enforcement agencies submit their crime data to the Program Services Bureau of the Iowa Department of Public Safety, which then forwards the data to the FBI for inclusion in the national UCR program (IUCR 2014).

The crime data was ultimately obtained from the Iowa Department of Public Safety Program Services Bureau and Iowa State University's ICIP since their data is exactly the same data the FBI maintains in its UCR database. Crime data and law enforcement strength data for the rural Iowa counties for each calendar year covering the three years 2007 through 2009 was obtained from the Iowa Department of Public Safety Program Services Bureau. Crime data and law enforcement strength data for the years 2010 and 2011 were provided by Iowa State University ICIP. The 16 crimes and crime categories for which data was obtained include total (index) crime, violent crime, property crime, murder, burglary, robbery, forcible rape, aggravated assault, larceny, motor vehicle theft, disorderly conduct, driving under the influence, drunkenness, drug abuse, weapons violations, and simple assault.

Demographic and economic data sources for this research are the two U.S. Census Bureau programs and State of Iowa agencies and organizations. The premier source for demographic data is the U.S. Census Bureau's ACS. Supplementing the decennial census, the ACS annually provides one-year demographic and economic estimates for geographic areas having a population of at least 65,000 persons. The annual estimate reports cover a three-year period for geographic areas having a population of 20,000 or more persons, and for geographic areas having a population of less than 20,000 persons,

the annual estimate reports cover a five-year period (ACS 2014). As the scope of this research considers rural counties having a population less than 50,000 persons, the five-year estimate covering the calendar years 2006 through 2010 are used. The demographic data obtained from the ACS include foreign-born population, race, sex, median age, educational attainment, and county population.

The SAIPE program is the other U.S. Census Bureau data source providing economic information. The primary mission of the SAIPE program is to provide “annual estimates of income and poverty statistics for all school districts, counties, and states...for the administration of federal programs and the allocation of federal funds to local jurisdictions” (SAIPE 2015). However, the U.S. Census Bureau makes SAIPE data publicly available online for a multitude of uses. Accordingly, county median household income and poverty rate data was provided by the SAIPE program. The Iowa Workforce Development state agency provided the unemployment rate data for each rural Iowa county.

Ninety-nine counties cover the state of Iowa, 20 of which are designated as urban metropolitan statistical areas (MSAs) by the U.S. Office of Management and Budget (OMB) and are excluded from this research. Only the 79 rural counties falling outside of the federal MSA designation are included in this study. While the number of cases is fewer than desired, considering the rural scope of the research, including all of Iowa’s rural counties effectively constitutes a census sample. Fundamentally, focusing on only rural counties creates an inherent limitation relating to sample size, but broadening the

sample to include urban counties, as well, would irreparably damage the purpose of this research. Consequently, while the sample size may be less than optimum for a robust statistical analysis, the sample is best available considering the nature of the research.

## VARIABLES AND MEASURES

*Dependent Variables.* The dependent variables for this study are crime rates. Crime rates for each specific crime and crime category are measured as the total number of crimes per 100,000 population reported to the police for each rural Iowa county. County crime rates include crimes reported to incorporated municipal police departments having jurisdiction within the county. Each crime rate is calculated by taking the total number of crime incidents reported to the police within the county, dividing by the county total population, and multiplying that quotient by 100,000. Iowa's Group A crime category includes essentially the same list of offenses as the FBI UCR Part I crimes which include only those crimes reported to the police. Similarly, Iowa's Group B offense category mirrors the FBI UCR Part II offenses which reports only arrests for these particular offenses. Iowa's Group A crimes include arson, assault offenses, bribery (except sports bribery), burglary/breaking and entering, counterfeiting/forgery, destruction/damage of property (except arson), drug/narcotics offenses (except driving under the influence), embezzlement, extortion/blackmail, fraud offenses (except counterfeiting/forgery and bad checks), gambling offenses, homicide offenses, kidnapping/abduction, larceny/theft offenses, motor vehicle theft, pornography/obscene material, prostitution offenses, robbery, sex offenses (forcible), sex offenses (non-forcible), stolen property offenses, and

weapon law violations. The Group B offenses are bad checks, curfew/loitering/vagrancy violations, disorderly conduct, driving under the influence, drunkenness, family offenses (non-violent), liquor law violations, peeping Tom, runaway, trespass of real property, and all other offenses. Some Group A crimes and Group B offenses were omitted as dependent variables in this research, because their number of occurrences among the rural counties was inordinately low, thus making a statistical analysis virtually impossible. A cursory analysis of comprehensive state-wide crime rates suggests that urban counties and the larger cities account for much of these state-wide crime rates.

The crime data covers the five-year period 2007 through 2011 to coincide with the ACS five-year estimate data, and 2011 was the most recent year for which crime data was reasonably available for use in this research. The crime data five-year period is one year newer than the ACS data, because the statistical analysis examines the effect the independent variables, derived mostly from the ACS, have on the dependent crime rate variables. All of the dependent variable crimes are measured as rates per 100,000 population with the exception of the crime of murder which is measured as the actual number of murders reported in each rural county, because most counties reported zero murders in their jurisdiction over the five-year period. Those counties that reported murders during the period overwhelmingly have inordinately low numbers of murders occurring in their county. The following crime definitions are provided substantially verbatim (IDPS 2009), as indicated, in the interest of accuracy and to minimize any unintentional change in meaning.



*Total Crime Rate (TCR).* A crime rate category combining all Iowa Group A crimes reported to the police including some individual crimes that are excluded from this research. Some individual crimes included in this study have slightly different labels; the specific Group A crimes included in this category are arson, aggravated assault, bribery (except sports bribery), burglary, counterfeiting/forgery, destruction/damage of property (except arson), drug abuse, embezzlement, extortion/blackmail, fraud offenses (except counterfeiting/forgery and bad checks), gambling offenses, kidnapping/abduction, larceny, motor vehicle theft, murder, pornography/obscene material, prostitution offenses, robbery, forcible rape, sex offenses (non-forcible), stolen property offenses, and weapon law violations. This total crime category tends to provide a quantitative indicator of the overall crime phenomenon in the various jurisdictions.

*Violent Crime Rate (VCR).* A crime category combining the rates for aggravated assault, forcible rape, murder, and robbery. The crimes included in this category tend to be universally recognized as crimes involving violence and are often the most feared crimes within society (Gaines and Miller 2007).

*Property Crime Rate (PCR).* The purpose of property crimes is to “obtain money, property, or some other benefit, e.g. robbery, bribery, burglary” (IDPS 2009:1). This crime category combines the individual offenses of arson, bribery, burglary, counterfeiting/forgery, embezzlement, extortion/blackmail, fraud, larceny, motor vehicle theft, robbery, stolen property, and vandalism.

*Aggravated Assault Crime Rate (AACR).* “An unlawful attack by one person upon another wherein the offender uses a weapon or displays it in a threatening manner, or the victim suffers obvious severe or aggravated bodily injury involving apparent broken bones, loss of teeth, possible internal injury, severe laceration, or loss of consciousness” (IDPS 2009:1).

*Burglary Crime Rate (BCR).* “The unlawful entry into a building or other structure with the intent to commit a felony or theft” (IDPS 2009:1). For the purposes of the crime of burglary, the term “structure is considered to include, but not be limited to, the following: apartment, barn, cabin, church, condominium, dwelling house, factory, garage, housetrailer or houseboat (used as permanent dwelling), mill, office, other building, outbuilding, public building, railroad car, room, school, stable, vessel (ship), or warehouse” (IDPS 2009:2).

*Drug Abuse Crime Rate (DACR).* “The violation of laws prohibiting the production, distribution, and/or use of certain controlled substances and the equipment or devices utilized in their preparation and/or use. The definition of drug abuse includes “the unlawful cultivation, manufacture, distribution, sale, purchase, use, possession, transportation, or importation of any controlled drug or narcotic substance” (IDPS 2009:2).

*Forcible Rape Crime Rate (FRCR).* “The carnal knowledge of a person, forcibly and/or against that person’s will; or, not forcibly or against the person’s will where the victim is incapable of giving consent because of his/her temporary or permanent mental

or physical incapacity. This offense includes the forcible rape of both males and females. In cases where several offenders rape one person, one count of forcible rape is reported (number of offenders are not counted). At least one offender must be of the opposite sex” (IDPS 2009:8).

*Larceny Crime Rate (LCR).* “The unlawful taking, carrying, leading, or riding away of property from the possession, or constructive possession, of another person” (IDPS 2009:5).

*Motor Vehicle Theft Crime Rate (MVTCR).* “The theft of a motor vehicle. A ‘motor vehicle’ is a self propelled vehicle that runs on the surface of land and not on rails, and which fits one of the following property descriptions: automobiles, buses, recreational vehicles, trucks, other motor vehicles (motorcycles, motor scooters, trail bikes, mopeds, snowmobiles, golf carts, etc., whose primary purpose is to transport people)” (IDPS 2009:7).

*Murder Crime Rate (MCR).* “The [illegal] willful (nonnegligent) killing of one human being by another” (IDPS 2009:5) The definition excludes negligent manslaughter defined as “the killing of another person through negligence” and justifiable homicide defined as “the killing of a perpetrator of a serious criminal offense by a peace officer in the line of duty; or the killing, during the commission of a serious criminal offense, of the perpetrator by a private individual” (IDPS 2009:5). Murder is measured as the actual number of murders reported in each county during the five-year reporting period.

*Robbery Crime Rate (RCR).* “The taking, or attempting to take, anything of value under confrontational circumstances from the control, custody, or care of another person by force or threat of force or violence and/or by putting the victim in fear of immediate harm. Robbery involves the offender taking or attempting to take something of value from a victim, aggravated by the element of force or threat of force” (IDPS 2009:7).

*Simple Assault Crime Rate (SACR).* “An unlawful physical attack by one person upon another where neither the offender displays a weapon, nor the victim suffers obvious severe or aggravated bodily injury involving apparent broken bones, loss of teeth, possible internal injury, severe laceration, or loss of consciousness” (IDPS 2009:1).

*Weapon Violation Crime Rate (WVCR).* “The violation of laws or ordinances prohibiting the manufacture, sale, purchase, transportation, possession, concealment, or use of firearms, cutting instruments, explosives, incendiary devices, or other deadly weapons” (IDPS 2009:9).

*Disorderly Conduct Crime Rate (DCCR).* “Any behavior that tends to disturb the public peace or decorum, scandalize the community, or shock the public sense of morality” (IDPS 2009:9).

*Drunkenness Crime Rate (DCR).* “To drink alcoholic beverages to the extent that one’s mental faculties and physical coordination are substantially impaired” (IDPS 2009:10).

*Driving Under the Influence Crime Rate (DUICR).* “Driving or operating a motor vehicle or common carrier while mentally or physically impaired as the result of consuming an alcoholic beverage or using a drug or narcotic” (IDPS 2009:10).

Data for the 16 categorized and individual crimes are employed in an effort to conduct a comprehensive analysis of the effect a foreign-born population has on the county crime rate. The categorized crimes include total crimes, violent crimes, and property crimes. Individual crimes may be classified as either felony or misdemeanors. Those individual crimes that comprise the felony classification are murder, forcible rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. Conversely, driving under the influence, drunkenness, drug abuse, weapons violations, and simple assault constitute the misdemeanor level offenses.

*Independent Variable.* The independent variable for this dissertation is the percentage of foreign-born population in the county. The ACS (2014) 5-year estimate, for the 2006 through 2010 period, reports the percentage of each county’s population who reported to be foreign-born and is defined as “anyone who was not a U.S. citizen at birth” (ACS 2014). The percentage of the foreign-born population is calculated by dividing the number of persons in each county who identified as foreign-born by the county’s total population, and multiplying by a factor of 100.

*Control Variables.* The control variables data come from the 2006 through 2010 ACS 5-year estimates and SAIPE data covering the same 5-year period from the other data sources. Control variables include demographic, economic, and social control variables

at the county level. The demographic variables are the percent of black population, percent males, median age, and the percent of the population that is at least a high school graduate or equivalent (general education diploma), and the county total population. The data for the control variables covering the calendar years 2006 through 2010 is 1 year behind the 2007 through 2011 5-year period for the crime data, because the statistical analysis considers the effect of the control variables on the crime rates—dependent variables. For the economic control variables median income and poverty rate come from the SAIPE, and the Iowa Workforce Development state agency provides the unemployment rates for each county. The Iowa State University ICIP provided the social control variable police strength data. The data for economic and social control variables cover the same 5-year 2006 through 2010 period as the demographic variables provided by the ACS.

*Percent Black.* The percentage of the county population who self-identify as being racially black or African American. The ACS reports the black or African American population as a number and as a percentage of each county's population. Preliminary correlation analysis indicates that black or African American was the only racial category that has a statistically significant correlation. Therefore, black is the only race considered in the statistical analysis relating to this research. The percentage of black population is determined by dividing the number of persons who self-identify as racially black or African American in the county by the total county population and multiplying by 100.

*Percent Male.* The percentage of the county population that self-identifies as being a male. The ACS reports the male population as a number and as a percentage of each county's population. The percentage of males for each county is calculated by dividing the number of persons identifying as being male by the total county population, and multiply by 100.

*Median Age.* The median age is the middle age of considering all county residents. Healey (2005:81) provides the formula for finding the median as:

$$Md [age] = rll + ((N(.50) - cfb) / f)i$$

where rll = real lower limit of the interval containing the median

cfb = cumulative frequency below the interval containing the median

$f$  = number of cases in the interval containing the median

$i$  = interval width

*Percent High School Graduates and beyond.* The percentage of the county's population, age 18 or older, who are at least high school graduates. The ACS disaggregates educational attainment for county residents as less than high school graduate, high school graduate (includes equivalency), some college or associate's degree, and bachelor's degree or higher. The ACS also provides the number and the percentage of the county's total population for each category. This variable, as used in this research, transforms the variable into a dichotomous variable having the 2 categories less than high school graduate and high school graduate or higher. The calculation for the percent high school graduates variable involves summing the number of persons who

reported in the ACS as high school graduate (includes equivalency), some college or associate's degree, and bachelor's degree or higher, taking that sum and divide by the total county population, and multiply by 100.

*Population.* The county's total population. The ACS provides the 5-year population estimate for all counties, and that figure is used throughout this dissertation to maintain consistency among the variety of calculations associated with this research. The population value for each county was log transformed because of the variable's skewed distribution.

*Median Income.* The median household income for all households in the county. The data for this economic control variable come from the SAIPE program. To obtain the value for this variable, sum the median income numbers for each county for each year 2006 through 2010, divide by 5 and round to the nearest whole dollar to obtain the 5-year average median household income for each county. To facilitate a valid statistical analysis, the median income values for each county were divided by 1,000.

*Poverty Rate.* The percentage of county residents who are living below the poverty threshold as determined by the Office of Management and Budget (OMB) Statistical Policy Directive 14 (U.S. Census Bureau 2016). The data for this economic control variable was also obtained from the SAIPE program. The calculation for this variable required summing the reported poverty rates for each county for each year 2006 through 2010, divide by 5 and round to the nearest tenth to obtain the 5-year average poverty rate for each county. As a multicollinearity problem was detected with the values of this



variable, the variable values were centered giving the variable a mean of 0, thus resolving the multicollinearity problem (Tabachnick and Fidell 2007).

*Unemployment Rate.* The proportion of county residents who have filed for unemployment benefits. The rate is calculated by taking the number of persons who have filed for unemployment benefits divided by the total labor force number. The rate used in this research is calculated by summing the annual unemployment rate values for each county, as provided by the Iowa Workforce Development agency, over the 2006 through 2010 period, divide by 5, and round to the nearest tenth to obtain the average unemployment rate.

*Police Strength.* The average number of law enforcement officers employed in the county. The calculation to obtain the variable values sums the number of law enforcement officers for each county as reported in the agencies' annual UCR for the years 2006 through 2010, divided by 5 to determine the average number of law enforcement officers over the 5-year period, then divided by the county total population, and multiplied by a factor of 100,000 for the rate per 100,000 population. The values for each county are then centered to resolve a multicollinearity problem.

#### LIMITATIONS OF DATA

The limitations associated with the demographic data used in this research is indicative of the importance the federal government considers rural issues. While the U.S. Census Bureau annually collects and publishes a variety of demographic and economic data through the American Community Survey (ACS) for urban jurisdictions,

the ACS provides only 5 year estimate data for rural areas including rural Iowa counties—the focus of this research (ACS 2014). If annual data were available for rural counties, as it is available for urban centers, the data set could have been expanded to cover 10 years thus conceivably increasing the sample size to 790 cases rather than the 79 cases covering 1, 5-year estimate data set used in this study. Although the ACS data used in this research incorporates substantial flaws it is nonetheless the best data source available for use in this study.

As the crime data used in this research comes from essentially the same source as UCR data, it likewise suffers the same limitations many authors have recognized since the inception of the UCR in 1930 (Gaines and Miller 2013). Primary among these limitations is the dark figure of crime, the underreporting of crimes by the public and victims for a variety of reasons. Citizens often are unaware that a crime has occurred. Others may want to avoid becoming involved with a criminal investigation or contact with the police. And, victims sometimes are too embarrassed to report a crime or may think the crime is too trivial to pursue. As this research focuses on rural areas of the state, law enforcement tends to have a closer relationship with the citizens they serve. Consequently, officers exercise their discretion to informally handle perpetrators of some crimes rather than use the criminal justice system as would be the case in urban areas. Rural communities typically have much lower incidents of crime thereby eliminating several crimes from this study, because these crimes simply do not happen. Finally,

depending on the totality of the circumstances relating to it, an illicit behavior may fit the definition of more than one crime.

## METHODS OF DATA ANALYSIS AND ANALYTICAL STRATEGIES

The analysis associated with this research examines two salient questions: (1) Does immigration affect crime in rural areas? (2) If so, how does immigration influence crime in rural America? With the one exception for the crime of murder, ordinary least squares (OLS) regression is used to address these questions. As Healey (2005) notes, “the least-squares multiple regression [technique] is used to isolate the separate effects of the independents and to predict scores on the dependent variable” (p. 469). In the case of murder, the number of murders in each county is universally inordinately low among rural Iowa counties, and negative binomial regression is the appropriate statistical technique for analyzing the effect of the foreign-born population on the county murder rates. Overdispersion is a common problem inherent to low count data, such as exists in the number of murders in rural Iowa counties, calling for the use of negative-binomial regression as the preferred statistical technique to use in analyzing murder count data (Fox 2016). The statistical analysis of the independent and control variables’ effect on rural county crime rates in Iowa is accomplished by using five analytical models.

Model 1 only considers the bivariate effect the percentage of foreign-born population has on the crime rate. While Model 1 provides a convenient snapshot of the influence the foreign-born population exerts on the crime rate, it is nonetheless a myopic perspective as

other predictor variables may actually have a greater effect on the crime rate than does the foreign-born population alone.

Model 2 adds 5 demographic control variables, percent black, percent male, median age, percent high school graduates, and the county's total population, to test how the demographic variables affect the relationship between percent foreign-born population and the county crime rates. While race is a salient factor in crime rates (Barkan 2012), the percentage of the county population that identifies as black or African American is the only racial category that has a statistically significant correlation with crime rates. Gender has long been recognized as "the best single predictor of criminality" (Schmallegger 2006; Brown, Esbensen, and Geis 1996), and its inclusion in this research is virtually obligatory. Similarly, research has established a strong relationship between age and crime with the focus on late-teenagers and adults in their early 20s accounting for the majority of crime, then offenders tend to age-out of engaging in criminal activity upon reaching their mid-20s as they tend to marry, have children, and become more responsible adults (Thio and Taylor 2012). According to Eitzen and Zinn (2003), "the bulk of the people processed by the criminal justice system for committing street crimes are the undereducated..." (p. 341), thus demanding an examination of the effect being a high school graduate or equivalent has on crime rates. Finally, the county's total population is controlled because population is an essential predictor of the crime rates in rural Iowa counties.

Model 3 adds 3 economic control variables to determine how they influence the relationship between percent foreign-born population and crime rates in rural Iowa. Walsh (2000), in his discussion of economic justice, links economic disparities to a variety of social problems, including by extension, crime rates. The 3 economic control variables added in Model 3 are median income, poverty rate, and unemployment rate. Not only does the level of median income influence the propensity of criminality as strain theories argue (Bernard et al. 2010), but being poor also relates to the likelihood of becoming a crime victim (Lauer and Lauer 2008). Both of these conditions directly affect the crime rate within a jurisdiction. Persons living in poverty often express their frustration, “hostility, and anger in [committing] violent crime” (Coleman and Kerbo 2006), thus poverty rate is an important control variable integral to the statistical analysis of the rural crime rates. Lastly, among the economic control variables, Neubeck, Neubeck, and Glasberg (2007) note the connection between unemployment and crime. Moreover, unemployment is a prime factor in the prison recidivism rate (Champion 2008). Consequently, the unemployment rate is a crucial control variable for comprehensively examining the factors that affect the rural crime rate.

Model 4 adds one social control variable in the form of police strength. The police are the primary formal form of social control tasked “to maintain the peace, safety, and order of the community” (Archbold 2013). Considering the sparsely populated rural character of the county unit of analysis where informal forms of social control are often absent or inconsistent, the police in rural areas routinely transcend the formal social control

function, as exemplified by their urban counterparts, treading into sources of informal social control. This phenomenon of rural police blurring the lines between their traditional formal social control duties with discretionary informal social control methods of handling miscreant behavior is based in the police being more likely to be personally familiar with the population the law enforcement agency serves (Sims 1988).

Considering the police provide important formal and informal social control functions within rural areas, police strength is an ideal control variable to consider the social control effect on rural county crime rates.

Finally, Model 5 adds the interaction term percent foreign-born X poverty rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the crime rates. Gordon (2010:249) states that interactions are "situations in which the relationship between a predictor variable and the outcome variable differs depending on the level of another predictor variable." Capturing the purpose of considering an interaction term in the statistical analysis, Jaccard, Turrisi, and Wan (1990:10) pose 3 salient questions "when evaluating a moderated relationship: (1) Based on sample data, can we infer that an interaction effect exists in the population, (2) if so, what is the strength of the effect, and (3) if so, what is the nature of the effect?"

Answering these 3 questions will indicate the moderating effect that the foreign-born population and poverty rate have on crime rates in rural Iowa counties. The poverty rate, over all other predictor variables, combined with the percentage of counties' foreign-born population, provides the most revealing results.

These 5 models provide a comprehensive analysis of the factors that affect crime rates in rural Iowa counties. With the exception of the crime of murder, OLS regression is the appropriate statistical technique to test the effect the independent and control variables have on Iowa's rural county crime rates. Considering the inordinately low numbers of murders committed in rural Iowa, the negative-binomial regression technique is used to test the effects of the independent and control variables' effect on the murder crime rates.

## CHAPTER V

### FINDINGS

This chapter presents the results of the statistical analyses of the relationship between percent foreign-born population and rural county crime rates. The chapter begins with a discussion on the descriptive statistics and continues with the correlational analyses. The bulk of the chapter focuses on the results of regression analyses for all of the crime rates included in this research.

#### DESCRIPTIVE ANALYSIS

##### *Dependent Variables*

Descriptive statistics for the 16 crime rate dependent variables, shown in Table 1, include information on the minimum and maximum values as reported by the 79 rural Iowa counties. The 13 serious crime rates may have a 0 minimum value, because 1 or more counties may have reported 0 incidents to the police for a particular crime over the 2007-2011 5-year period included in this study. Crimes may actually have occurred, but in accordance with the UCR guidelines, unless the crime is reported to the police or discovered by a reporting police agency, the crime would go unreported in the UCR. Moreover, excepting the crime of murder, the range and mean values are the number of crimes per 100,000 population rather than the actual number of crimes.



Table 1. Descriptive Statistics of Crime Rates Per 100,000 population; and Demographic, Economic, and Social Control Variables, Iowa Rural Counties

	<u>Mean</u>	<u>SD</u>	<u>Range</u>	
			<u>Minimum</u>	<u>Maximum</u>
Dependent variables				
Total Crime Rate	1,494.4	1,180.0	0.0	4,646.6
Violent Crime Rate	135.1	26.0	0.0	550.7
Property Crime Rate	1,336.5	1,053.6	0.0	4,148.3
Aggravated Assault Crime Rate	114.1	107.2	0.0	484.6
Burglary Crime Rate	323.2	228.0	0.0	1,059.4
Drug Abuse Crime Rate	202.5	143.8	0.0	671.5
Forcible Rape Crime Rate	13.8	14.4	0.0	85.6
Larceny Crime Rate	778.7	640.1	0.0	2,832.9
Motor Vehicle Theft Crime Rate	63.5	50.6	0.0	292.0
Murders, Numbers of (actual)	1.0	1.3	0	6
Robbery Crime Rate	6.2	12.7	0.0	74.0
Simple Assault Crime Rate	333.1	251.9	0.0	1,005.0
Weapons Violation Crime Rate	9.5	9.1	0.0	34.7
Disorderly Conduct Crime Rate	115.3	141.2	0.0	594.8
Drunkenness Crime Rate	184.0	220.1	0.0	1,472.5
Driving Under the Influence Crime Rate	341.7	167.3	3.9	798.0
Independent variables				
Demographic variables				
Percentage foreign-born	2.5	2.8	0.2	15.3
Percentage black	1.1	1.1	0.0	6.0
Percent male	49.5	0.7	48.3	52.0
Median age	42.5	2.7	32.7	47.5
Percent w/HS diploma or beyond	88.4	3.0	79.0	93.3
Population	16,844	10,339.9	4,127	49,274
Economic variables				
Median income	46,060.1	5424.0	34,689	60,043
Poverty rate	11.5	2.4	7.2	19.7
Unemployment rate	5.1	.9	3.0	7.7
Formal social control				
Police strength	122.8	30.8	45.2	200.2

(N = 79)

Rural Iowa experiences an inordinately low number of murders; therefore, the actual number of murders is used in the statistical analysis. The 3 minor crimes—disorderly conduct, drunkenness, and driving under the influence—are reported in the UCR as the

number of arrests for these offenses. Consequently, a county may report a 0 total crime rate that includes only reported serious crimes, yet report arrests for 1 or more of the minor crimes that are excluded from the total crime rate calculation. The maximum value in the range indicates the rate per 100,000 population rather than the actual number of reported crimes. Accordingly, a rural county having a small population and a relatively large number of a reported serious crime may have a rather large crime rate.

The range for the total crime rate among rural Iowa counties was from a minimum of 0 reported crimes to a maximum of 4,646.6 total reported crimes per 100,000 population. Accordingly, 1 or more rural Iowa counties reported 0 serious crimes over the period included in this research. As shown in Table 1, the mean total crime rate among the 79 rural counties was 1,494.4 reported serious crimes per 100,000 population. The large standard deviation value (1,180) indicated great variation in total crime rate.

As in all of the serious crimes, 1 or more rural Iowa counties reported 0 categorical violent crimes to the police over the 5 years under this study. The mean combined property crime rate was 1,336 per 100,000 population with a standard deviation of 1,053.6 and a range of 0 to 4,148.3 in rate. The maximum violent crime rate was 550.7 with a mean of 135.1 and a standard deviation of 26.

For individual serious crimes, also shown in Table 1, the mean aggravated assault crime rate among Iowa's rural counties was 114.1 per 100,000 population. The standard deviation was 107.2. The relatively large maximum burglary crime rate is congruent with the cumulative total and property crime rates. The mean burglary crime rate was

323.2 reported burglaries per 100,000 population. The standard deviation was 228, and the maximum burglary crime rate was 1,059.4 per 100,000 population. The drug abuse crime rate had a mean of 202.5 per 100,000 population, and a 143.8 standard deviation. Comparatively, the forcible rape crime rate among the 79 rural Iowa counties is quite low with a 13.8 mean and a 14.4 standard deviation. Conversely, the larceny crime rate mean was 778.7 per 100,000 population. The larceny crime rate standard deviation was 640 with a range from 0 to 2,832.9 reported larcenies per 100,000 population. Iowa's rural motor vehicle theft crime rate was much lower than anticipated with a mean rate of 63.5 per 100,000 population and a 50.6 standard deviation. The murder rate reports the actual number of reported murders rather than the rate per 100,000 population, because the plurality of rural Iowa counties simply experienced 0 reported murders over the 5-year period. Accordingly, the mean number of murders among Iowa's rural counties was 1.0 with a 1.3 standard deviation. Most counties reported 0 murders, and 1 county reported only 6 murders over the 5-year period. Similarly, robbery is a relatively rare occurrence in rural Iowa. The mean robbery rate was 6.3 per 100,000 population. The standard deviation was 12.7, and the range was from 0 to 74 per 100,000 population. Conversely, the simple assault crime rate was surprisingly high. The mean simple assault crime rate was 333.1 per 100,000 population with a 251.9 standard deviation. Except for the murder crime rate, the weapons violation crime rate was the lowest. The mean weapons violation crime rate was 9.5 per 100,000 population. The standard deviation was 9.1, and the maximum reported weapons violation crime rate was 34.7 per 100,000 population.

The 3 minor offense crime rates are based on the number of arrests for the particular crime as each county reports in the UCR. The mean disorderly conduct crime rate was 115.3 per 100,000 population, and 141.2 was the standard deviation. The drunkenness crime rate was surprisingly quite large with a mean of 184 per 100,000 population, and the standard deviation was 220. The range was from 0 to a maximum of 1,472.5 per 100,000 drunkenness crime rate. Finally, the driving under the influence crime rate mean was 341.7 per 100,000 population and a 167 standard deviation. This crime rate is unique among all of the crime rates examined in this study as every rural Iowa county reported at least 1 driving under the influence arrest during the 5-year period. The driving under the influence crime rate ranged from 3.9 to 798.0 per 100,000 population.

#### *Independent and Control Variables*

Percent foreign-born is the independent variable, and the control variables embody the 3 categories demographic, economic, and formal social control variables. Among the rural Iowa counties, the county with the highest percentage of foreign-born population was 15.3 percent, and the county with the lowest percentage of foreign-born population was 0.2 percent. The mean percentage is 2.5 with a standard deviation of 2.8 percent. Among the demographic control variables, the minimum black population among the rural counties is 0 percent while the maximum is 6.0 percent. The mean black percentage of the population among the counties is 1.1 percent with a 1.1 standard deviation. The minimum and maximum percentage of males in any rural Iowa county is 48.3 and 52.0, respectively. The mean percentage of males making up the county populations is 49.5

with a 0.7 standard deviation. The median age minimum of 32.7 years and the maximum of 47.5 with a mean value of 42.5 years indicates the median age is a bit skewed to an older population. The median age has a 2.7 standard deviation value. The minimum percent of the population among the rural counties who have earned a high school diploma or more is 79.0 percent and the maximum value is 93.3 percent. The mean percentage value is 88.4, and the standard deviation is 3.0. The final demographic control variable, the total county population, has a minimum 4,127 population would be the smallest county in terms of population, and the maximum population of 49,274 persons indicates the most populous rural Iowa county. The mean population is 16,844 persons among the rural counties with a 10,339.9 standard deviation.

The economic control variables include the median income, poverty rate, and unemployment rate among the rural Iowa counties. The minimum median income among Iowa's rural counties is \$34,689, and \$60,043 is the maximum median income. The average median income is 46,060.1, and 5,424.0 is the standard deviation. The county enjoying the lowest poverty rate has the minimum 7.2 percent rate while 19.7 percent is the highest poverty rate. The mean poverty rate is 11.5 with a 2.4 standard deviation. Similarly, the rural county having the lowest unemployment rate over the 2007-2011 period is 3.0 percent, and the rural county maximum unemployment rate is 7.7 percent. The mean unemployment rate is 5.1 with a 0.9 standard deviation.

The only formal social control variable, police strength, indicates the number of police officers per 100,000 population. The 100,000 population rate is used to mirror the crime

rates using the same 100,000 population standard. The standard police strength indicator uses the number of police officers per 1,000 population. The minimum police strength used in this study is 45.2 police officers per 100,000 population. This minimum value translates to 0.5 police officers per 1,000 population. The maximum value, 200.2 per 100,000 population equates to 2.0 police officers per 1,000 population. The mean number of officers, 122.8 per 100,000 population is equal to 1.3 police officers per 1,000 population. The standard deviation, 30.8 is the same for both population rates.

#### CORRELATIONAL ANALYSIS

Correlations among the predictor variables and the crime rates across rural Iowa counties are shown in Table 2. Percent foreign-born is significantly and positively correlated with the TCR, but the association is weak ( $r = .204$ ). As expected, percent black and the county population each have a highly significant and strong positive correlation with the TCR. Consistent with the hypotheses, poverty rate and unemployment rate each have a moderate positive correlation with the TCR at the .01 level or beyond. As hypothesized, median age and median income each has a weak percent of population with a high school diploma or beyond do not have a correlation with TCR. The correlation matrix for all crime rates shows no multicollinearity among the predictors. However, the correlation matrix only displays the bivariate relationships between the predictors and the TCR. To ascertain their true relationships, multiple regression holding other variables constant is required.

Table 2. Correlation Matrix for Variables Used in the Analysis

	TCR	VCR	PCR	AACR	BCR	DACR	FRCR
TCR	1.000						
VCR	.848***	1.000					
PCR	.997***	.806***	1.000				
AACR	.821***	.994***	.777***	1.000			
BCR	.948***	.778***	.949***	.758***	1.000		
DACR	.766***	.611***	.769***	.581***	.720***	1.000	
FRCR	.596***	.704***	.567***	.652***	.528***	.492***	1.000
LCR	.989***	.789***	.993***	.757***	.910***	.773***	.561***
MVTCR	.935***	.796***	.932***	.769***	.872***	.646***	.516***
MCR	.545***	.519***	.536***	.475***	.418***	.335***	.417***
RCR	.749***	.666***	.742***	.617***	.664***	.566***	.337***
SACR	.845***	.667***	.850***	.642***	.812***	.806***	.509***
WVCR	.679***	.623***	.670***	.618***	.670***	.733***	.402***
DCCR	.765***	.746***	.750***	.719***	.689***	.688***	.623***
DCR	.578***	.524***	.572***	.517***	.535***	.640***	.427***
DUICR	.597***	.466***	.601***	.448***	.578***	.740***	.447***
Foreign Born	.204*	.191*	.201*	.195*	.177	.287**	.129
Black	.753***	.705***	.742***	.675***	.628***	.613***	.459***
Male	-.030	.040	-.039	.054	-.076	-.160	.047
Median Age	-.267*	-.335***	-.251*	-.318**	-.184	-.252*	-.342***
HS Grad	-.026	-.134	-.010	-.143	-.019	-.007	-.084
and Beyond							
Population	.666***	.632***	.655***	.591***	.531***	.550***	.564***
Median Income	-.221*	-.145	-.227*	-.155	-.273**	-.096	.029
Poverty Rate	.361***	.326**	.358***	.324**	.362***	.171	.170
Unemployment	.303**	.303**	.296**	.299**	.277**	.229*	.185
Rate							
Police Strength	.564**	.564***	.567***	.423***	.524***	.565***	.322**

\*p≤.05      \*\*p≤.01      \*\*\*p≤.001 (1-tailed test)

N = 79

Source: U.S. Census Bureau and State of Iowa

Table 2 Continued. Correlation Matrix for Variables Used in the Analysis

	LCR	MVTCR	MCR	RCR	SACR	WVCR	DCCR
TCR							
VCR							
PCR							
AACR							
BCR							
DACR							
FRCR							
LCR	1.000						
MVTCR	.920***	1.000					
MCR	.557***	.573***	1.000				
RCR	.749***	.757***	.564***	1.000			
SACR	.844***	.754***	.401***	.585***	1.000		
WVCR	.653***	.582***	.253*	.462***	.685***	1.000	
DCCR	.757***	.648***	.524***	.609***	.771***	.640***	1.000
DCR	.580***	.388***	.316**	.331***	.686***	.596***	.770***
DUICR	.593***	.465***	.271**	.329**	.672***	.623***	.612***
Foreign Born	.212*	.112	-.012	.185	.262**	.243**	.436***
Black	.762***	.736***	.481***	.748***	.641***	.478***	.645***
Male	-.038	-.004	-.007	-.066	-.018	-.020	-.023
Median Age	-.254*	-.277**	-.225*	-.261**	-.253*	-.280*	-.369***
HS Grad	-.007	-.047	-.062	-.091	-.109	-.226*	-.309**
and Beyond							
Population	.681***	.598***	.674***	.597***	.494***	.366***	.627***
Median Income	-.209*	-.224*	-.055	-.127	-.213*	-.141	-.185
Poverty Rate	.345***	.383***	.154	.291**	.326**	.278**	.357***
Unemployment	.295**	.289**	.217*	.172	.298**	.296**	.311**
Rate							
Police Strength	.577***	.482***	.287**	.396***	.583***	.384***	.518***

\*p≤.05      \*\*p≤.01      \*\*\*p≤.001 (1-tailed test)

N = 79

Source: U.S. Census Bureau and State of Iowa



Table 2 Continued. Correlation Matrix for Variables Used in the Analysis

	DCR	DUICR	Foreign Born	Black	Male	Median Age	HS Grad Beyond
TCR							
VCR							
PCR							
AACR							
BCR							
DACR							
FRCR							
LCR							
MVTCR							
MCR							
RCR							
SACR							
WVCR							
DCCR							
DCR	1.000						
DUICR	.599***	1.000					
Foreign Born	.518***	.291**	1.000				
Black	.459***	.422***	.253*	1.000			
Male	-.030	.061	.269**	.147	1.000		
Median Age	-.348***	-.316**	-.412***	-.332***	-.338***	1.000	
HS Grad and Beyond	-.280**	-.107	-.550***	-.079	-.267**	.433***	1.000
Population	.508***	.446***	.207*	.656***	.091	-.506***	.040
Median Income	-.100	-.006	.080	-.096	.216*	-.462***	.052
Poverty Rate	.184	.031	.179	.279**	-.032	-.010	-.394***
Unemployment Rate	.129	.128	.003	.280**	.169	.027	-.080
Police Strength	.440***	.462***	.244*	.414***	-.101	-.144	-.083

\*p≤.05      \*\*p≤.01      \*\*\*p≤.001 (1-tailed test)

N = 79

Source: U.S. Census Bureau and State of Iowa

Table 2 Continued. Correlation Matrix for Variables Used in the Analysis

	Population	Median Income	Poverty Rate	Unemployment Rate	Police Strength
TCR					
TCR					
VCR					
PCR					
AACR					
BCR					
DACR					
FRCR					
LCR					
MVTCR					
MCR					
RCR					
SACR					
WVCR					
DCCR					
DCR					
DUICR					
Foreign Born					
Black					
Male					
Median Age					
HS Grad and Beyond					
Population	1.000				
Median Income	.189*	1.000			
Poverty Rate	.001	-.501***	1.000		
Unemployment Rate	.183	-.282**	.463***	1.000	
Police Strength	.334***	-.145	.163	.162	1.000

\*p≤.05      \*\*p≤.01      \*\*\*p≤.001 (1-tailed test)

N = 79

Source: U.S. Census Bureau and State of Iowa

Percent foreign-born remains significantly and positively correlated with the VCR, but as with the TCR, the association is weak ( $r = .191$ ). Also, as expected and similar to the TCR correlations, percent black and the county population each have a highly significant

negative correlation with the TCR. Contrary to the hypothesis, police strength is moderately and positively associated with the TCR. Percent of male population and and strong positive correlation with the VCR. Poverty rate and police strength have a moderate positive correlation with the VCR at the .01 level or beyond. Unemployment rate has a significant and weak positive correlation with the VCR. Median age has a highly significant and moderate negative correlation with the VCR. Percent of male population, percent of population with a high school diploma or beyond, and median income do not have a correlation with the VCR.

As in the TCR and VCR correlations, percent foreign-born is once again significant with a weak positive association ( $r = .201$ ) with the PCR. Also as in previous correlations, percent black, population, poverty rate, and police strength are highly significant. Percent black and population each have a strong positive correlation while poverty rate and police strength have a moderate positive association. Unemployment rate has a significant and moderate positive correlation. Median age and median income both have a significant and weak negative association with the PCR. Percent male and percent of population with a high school diploma or beyond do not have a correlation with the PCR.

Consistent with the previous correlations, percent foreign-born is yet again significant and has a weak positive correlation ( $r = .195$ ) with the AACR. Percent black, population, and police strength each have a highly significant and positive correlation. The percent black correlation is strong while population and police strength are both moderate

correlations with the AACR. Median age, poverty rate, and unemployment rate all have a significant correlation. The median age has a moderate negative correlation, poverty rate has a moderate positive correlation, and unemployment rate has a weak positive correlation. There is no statistically significant correlation between the AACR and percent male, percent high school graduates and beyond, and median income.

For the first time the percent foreign-born has no statistically significant correlation with the crime rate. For the BCR, percent black, population, poverty rate, and police strength all have a highly significant and positive correlation. Percent black has a strong correlation while population, poverty rate, and police strength each have a moderate correlation with the BCR. Median income and unemployment rate have a significant and weak correlation. The median income correlation is negative and unemployment rate is a positive correlation. In addition to percent foreign-born, the predictors percent male, median age, and percent high school graduates and beyond all have no correlation with the BCR.

Percent foreign-born again becomes statistically significant with a weak positive correlation with the DACR. Consistent with prior crime rates, percent black, population, and police strength are highly significant and positive correlations. Percent black is strong while population and police strength are moderate correlations with the DACR. Median age has a significant and weak negative correlation, but unemployment rate has a significant and weak positive correlation with the DACR. Percent male, percent high

school graduates and beyond, median income, and poverty rate all have no statistically significant correlation with the DACR.

The correlation matrix indicates there is no statistically significant correlation between percent foreign-born and the FRCR. Percent black and population both have a highly significant and moderate positive correlation with the FRCR. Median age is also highly significant, but the correlation is a moderate negative association with the FRCR. Police strength has a significant and moderate positive association with the FRCR. Percent male, percent high school graduates and beyond, median income, poverty rate, and unemployment all have no correlation with the FRCR.

Percent foreign-born has a significant and weak positive association with the rural county LCR in Iowa. Percent black and population are both highly significant and have a strong positive correlation. Police strength and poverty rate are also highly significant, but the association is moderate and positive. Median age and median income both have significant and weak negative correlation with the LCR. Unemployment rate has a significant and weak positive association. There is no correlation between the LCR and the predictors, percent male and percent high school graduates and beyond.

Interestingly, percent foreign-born has no association with the MVTCR. The predictor variables having a highly significant correlation include percent black, population, poverty rate, and police strength, and all are positive associations. Percent black is a strong association while population, poverty rate, and police strength each have a moderate correlation with the MVTCR. Median age, median income, and

unemployment rate have a significant and weak correlation; however, median age and median income have a negative association while unemployment rate has a positive correlation. Again, percent male and percent high school graduates and beyond do not have a statistically significant association with the rural MVTCR.

Percent foreign-born has no statistically significant association with the rural MCR in Iowa. Percent black and population both are highly significant and positive correlations. The percent black association is moderate, and the population correlation is strong. Unemployment rate and police strength each have a significant and positive, but weak, association with the MCR. Median age has a significant and weak negative association with MCR. Percent male, median age, percent high school graduates and beyond, median income, and poverty rate all do not have a statistically significant correlation with the rural Iowa MCR.

There is not a statistically significant association between percent foreign-born and the RCR. Percent black, population, and police strength are highly significant and positive. The correlation for percent black is strong while both population and police strength are a moderate association. Median age has a significant and weak negative association, and poverty rate has a significant and weak positive correlation with the RCR. There is no statistically significant association between the RCR and the predictors percent male, percent high school graduates and beyond, median income, and unemployment rate.

Contrary to the hypothesis, percent foreign-born has a significant and weak positive association with the SACR. Consistent with previous crime rates, percent black,

population, and police strength are highly significant and positive associations. Percent black is strong while population and police strength have moderate correlations with the SACR. Poverty rate and unemployment rate have significant and positive correlations. The poverty rate association is moderate, and the unemployment correlation is weak. Median age and median income both have a significant and weak negative correlation with the SACR. There is no statistically significant correlation between percent male and percent high school graduates and beyond with the SACR.

Finishing the predictor variables' association among the serious crime rates, percent foreign-born, the focus of this study, has a significant and weak positive association with the WVCR. Among the other predictor variables, percent black, population, and police strength are each highly significant and moderate positive correlations with the WVCR. Median age, percent high school graduates and beyond, poverty rate, and unemployment rate are all statistically significant. Median age, percent high school graduates and beyond, poverty rate and unemployment rate are all weak associations. Moreover, poverty rate and unemployment rate correlations are positive, but median age and percent high school graduates and beyond are negative associations. Neither percent male nor median income has a statistically significant correlation with the WVCR.

Beginning the correlations for the three minor crimes and contradicting the hypothesis, percent foreign-born is highly significant and moderate positive correlated with the DCCR. Also highly significant are percent black, median age, population, poverty rate, and police strength. The percent black and population associations are

strong and positive; poverty rate and police strength are moderate and positive; median age is a moderate and negative correlation. Unemployment rate has a significant and moderate positive association while percent high school graduates and beyond has a significant and moderate negative correlation with the DCCR. Neither percent male, nor median income has a statistically significant association with the DCCR.

Again, contradicting the hypothesis, percent foreign-born has a highly significant and moderate positive association with the DCR. Percent black, median age, population, and police strength are also highly significant correlations; however, percent black, population, and police strength have a moderate positive association while median age has a moderate and negative correlation with the DCR. Percent high school graduates and beyond has a significant and weak negative association. Percent male, median income, poverty rate, and unemployment rate all have a statistically insignificant correlation with the DCR in rural Iowa.

Finally, once again, contradicting the hypothesis, percent foreign-born has a significant and a positive correlation with the DUICR, but the association is weak. As observed in several previous crime rates, percent black, population, and police strength are all highly significant with moderate positive correlations with the DUICR. Median age is the only other significant correlation with a moderate negative association. Percent male, percent high school and beyond, median income, poverty rate, and unemployment rate are all statistically insignificant and have no correlation with the DUICR in rural Iowa.



## REGRESSION ANALYSES

OLS regression results are presented in separate tables, 3 through 18 inclusive, for each of the 3 aggregated and 13 individual crimes. Five models test the effect of percent foreign-born population on the county crime rate for each of the 16 crimes or crime categories. Model 1 tests the effect of percentage of foreign-born population on crime rate. Model 2 adds demographic variables to Model 1 to consider the influence of 5 demographic control variables including percent black, percentage of males, median age, percentage of high school graduates and beyond, and total county population. Model 3 adds 3 economic control variables to Model 2 including county median income, poverty rate, and unemployment rate. In Model 4 the effect of police strength is added to the predictor variables in Model 3. Finally, Model 5 adds the interaction term to Model 4 to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the crime rates.

### *Crime Categories*

*Total crime rate.* Considering the OLS regression model predicting the TCR in rural Iowa counties in Table 3, Model 5 is the best fitting model as this model has the highest  $R^2$  value providing that 73 percent of the variation in the TCR is explained by the predictor variables. Hence, Model 5 is the focus of the interpretation. Model 1 considers only the effect of the county foreign-born population on the crime rate. Only 3 percent of the variance in the TCR is explained by the county percentage of foreign-born population in Model 1. However, while not the best fitting model, Model 1 is the only model that

the effect of foreign-born persons is significant. According to Model 1, as the foreign-born population increases by 1 percent, on average, Iowa's rural county TCR increases 72.9 per 100,000 population. This result in Model 1 suggests that the foreign-born population has a deleterious effect on the rural county crime rate which is counter to the expectation that foreign-born residents have a positive effect on Iowa rural counties' overall crime rate. However, this bivariate result could be spurious because many other factors have not been taken into account. To ascertain the real impact of foreign-born population, multiple regression is called for.

Table 3. OLS Regression Estimates Predicting the Total Crime Rate (TCR), Iowa Rural Counties 2007-2011.

Predictor	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>		<u>Model 5</u>	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	1119.935*** (148.590)		7531.648 (6787.487)		2415.529 (6795.689)		-1666.989 (6369.682)		541.083 (6171.214)	
% Foreign Born	72.851* (39.741)	.204	7.596 (32.641)	.021	13.570 (30.465)	.038	-6.000 (28.620)	-.017	-54.437 (33.136)	-.153
% Black			567.862*** (84.326)	.616	420.342*** (86.270)	.456	344.481*** (82.300)	.374	366.217*** (79.421)	.397
% Male			-227.800* (110.884)	-.159	-155.213 (108.235)	-.108	-73.564 (102.365)	-.051	-47.739 (98.737)	-.033
Median Age			28.745 (39.523)	.077	-28.906 (41.889)	-.077	-21.615 (38.694)	-.058	-49.026 (38.589)	-.131
% HS Graduates			-21.554 (34.615)	-.063	32.248 (34.841)	.095	31.133 (32.142)	.091	17.359 (31.294)	-.051
Population			1222.020* (471.343)	.292	1489.353** (458.280)	.356	1440.008*** (422.974)	.344	1213.684** (415.072)	.290
Median Income					-37.037* (17.414)	-.200	-30.172* (16.176)	-.163	-34.403 (15.608)	-.186
Poverty Rate					81.024* (40.650)	.194	90.018* (37.581)	.216	-10.441 (52.714)	-.025
Unemployment Rate					-7.551 (88.734)	-.007	-35.583 (82.222)	-.033	-19.951 (79.136)	-.019
Police Strength							8.342*** (2.306)	.256	9.192*** (2.237)	.282
% Foreign Born X Poverty Rate									39.727* (15.203)	.291
Adjusted R <sup>2</sup>	.029		.598		.658		.709		.732	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
Note: Standard errors in parentheses.  
Source: U.S. Census and State of Iowa

In Model 2, the 5 demographic control variables are added to investigate their influence on the rural county TCR. The substantially increased  $R^2$  value for Model 2 to .598 suggests that the variables explain about 60 percent of the variation in TCR. Interestingly, the addition of these control variables renders the percent of foreign-born population in the rural county population to be statistically insignificant at the .05 level. Model 2 indicates that holding other variables constant, the effect of percent foreign-born population on TCR is trivial as the foreign-born population increases by 1 percent, on average, the TCR only increases 7.6 per 100,000 population. Apparently, 3 demographic predictors show much greater effects on the TCR: percent black, percent males, and total population. According to the results, taking the other variables into account, as the percentage of blacks increases, on average, rural Iowa counties' TCR also increases, and this effect is highly significant at the .001 level. Also statistically significant, as the county population increases, on average, so does the rural Iowa county TCR. Conversely, as the male population increases, on average, rural Iowa counties' TCR actually decreases. The other two remaining control variables in Model 2, median age and the percentage of residents who have at least a high school diploma and beyond, have no significant effect on the TCR in rural Iowa counties as each is not statistically significant.

In Model 3, after 3 economic control variables are added, the  $R^2$  value increases to .658, indicating that the variables explain about 66 percent of the variation in TCR. As in Model 2, with the addition of these economic control variables the percentage of foreign-

born persons among the rural county population remains statistically insignificant. Two of the 3 economic variables have significant effects on TCR with median county income having a positive effect on TCR and the poverty rate having a negative effect. Taking the other variables into account, as county median income increases, on average, the TCR decreases. On the other hand, as the poverty rate increases, on average, the TCR also increases. Contrary to conventional wisdom, unemployment rate does not have a statistically significant effect. Two demographic variables remain statistically significant—percent black at the .001 level and population at the .01 level. As the percentage of blacks increases, on average, the TCR increases. Similarly, as the county population increases, on average, the TCR increases. The remaining predictor variables, percent male, median age, percent high school graduates and beyond, and the unemployment rate are statistically insignificant.

Model 4 is the full model as the social control variable for rural county police strength is added to the model. The  $R^2$  value for Model 4 again increases to .709 providing that the variables account for about 71 percent of the variation in TCR. As in Model 2 and Model 3 adding the police strength predictor variable keeps the effect of percent foreign-born variable on TCR statistically insignificant. Actually, the sign of percent foreign-born becomes negative, suggesting that as foreign-born population increases, the TCR decreases. This negative relationship is consistent with Hypothesis 1 (H1), but the effect is not statistically significant at the .05 level. Thus, we have evidence that the significant

positive effect of percent foreign-born on the TCR in Model 1 is spurious. Further, the results support the immigration-crime dissociation theory.

Regarding the effect of police strength on the county TCR, controlling for other variables, for each additional police officer, on average, the county TCR increases 8.3 per 100,000 population, and this effect is highly significant at the .001 level. Conventional wisdom dictates that more police officers should result in a decrease in crime within a particular jurisdiction. However, as the renowned Kansas City Preventative Patrol Experiment, conducted in the early 1970s, suggests, merely increasing or decreasing the number of police officers in a jurisdiction has no effective impact on crime (Lyman, 2010). Rather, it is the individual police officer's function that affects the crime rate. In this instance, it is reasonable to deduce that additional police officers will likely detect more criminal activity and arrest the offender, thus increasing the crime rate for the jurisdiction. The belief that the mere presence of a police officer will deter crime is a popular myth that the evidence fails to support in reality.

Once again, taking the other variables into account, as the percentage of county black residents increase, on average, the TCR is predicted to increase. Notice that the effect decreases after all variables are controlled for. As expected, county population size is positively associated with the TCR. Taking the other variables into account, as the county population increases, on average, the TCR also increases. On the other hand, controlling for other variables, as the county median income increases, on average, the total crime rate decreases. Holding other variables constant, as county poverty rate

increases, on average, there is a corresponding increase in the TCR. The results for percent black and population are highly statistically significant at the .001 level, and the predictor variables median income and poverty rate are significant at the .05 level. The control variables that the data are not statistically significant in Model 4 include the percentage of males in the county population, median age, the percent of residents who have earned at least a high school diploma and beyond, and the county unemployment rate.

Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the TCR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the TCR is predicted to decrease 169.2 per 100,000 population. This result is statistically significant at the .05 level and supports Hypothesis 17 (H17) that the effect of percent foreign-born on TCR is moderated significantly by poverty rate. Even though the percent foreign-born population remains statistically insignificant in Model 5, the addition of the interaction term in the model suggests that the foreign-born population alone substantially decreases the TCR. The effects of the percent black and police strength variables remain highly statistically significant, and the population variable is significant, but the remaining predictors, likewise, remain statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the TCR

increases 366.2 per 100,000 population, and this result is highly statistically significant at the .001 level. Taking the other variables into account, for every 1,000 increase in the county population, on average, the TCR increases 1.1 per 100,000 population, and this result is statistically significant at the .01 level. Taking the other variables into account, for every additional police officer, the TCR increases 9.2 per 100,000 population, and this result is highly significant at the .001 level.

*Violent crime rate.* Comparing the OLS regression models predicting the VCR in Table 4 indicates that Model 5 having the highest  $R^2$  value is the best fitting model to interpret with 56 percent of the variation in VCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, less than 3 percent of the variance in VCR is explained by the foreign-born population variable. Albeit not the best fitting model, the effect of percent foreign-born on VCR is statistically significant as the foreign-born population increases by 1 percent, on average, the VCR in rural Iowa increases 8.5 per 100,000 population. As with TCR, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 4. OLS Regression Estimates Predicting the Violent Crime Rate (VCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	113.970*** (18.667)		1172.722 (938.466)		831.691 (999.988)		546.018 (1004.662)		820.267 (992.023)	
% Foreign Born	8.526* (4.993)	.191	-3.723 (4.513)	-.083	-2.914 (4.483)	-.065	-4.283 (4.514)	-.096	-10.299* (5.327)	-.231
% Black			66.643*** (11.659)	.577	53.696*** (12.695)	.465	48.387*** (12.981)	.419	51.087*** (12.767)	.443
% Male			-19.333 (15.331)	-.108	-14.879 (15.927)	-.083	-9.166 (16.146)	-.051	-5.958 (15.872)	-.033
Median Age			-.136 (5.465)	-.003	-5.651 (6.164)	-.120	-5.141 (6.103)	-.109	-8.545 (6.203)	-.182
% HS Graduates			-7.708 (4.786)	-.181	-2.914 (5.127)	-.068	-2.992 (5.070)	-.070	-4.703 (5.031)	-.110
Population			130.406* (65.170)	.249	145.872* (67.436)	.278	142.419* (66.714)	.272	114.309* (66.723)	.218
Median Income					-3.174 (2.562)	-.137	-2.694 (2.551)	-.116	-3.220 (2.509)	-.139
Poverty Rate					6.114 (5.982)	.117	6.743 (5.928)	.129	-5.734 (8.474)	-.110
Unemployment Rate					4.938 (13.057)	.037	2.976 (12.968)	.022	4.918 (12.721)	.037
Police Strength							.548 (.364)	.143	.689* (.360)	.169
% Foreign Born X Poverty Rate									4.934* (2.444)	.288
Adjusted R <sup>2</sup>	.024		.511		.529		.539		.559	
N	79		79		79		79		79	

\* $\leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ 

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the R<sup>2</sup> value indicating that the variables explain about 51 percent of the variation in VCR. Similar to their effect in TCR, adding these control variables makes the percent of foreign-born population to be statistically insignificant at the .05 level. However, in Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, the VCR decreases 3.7 per 100,000 population. Again, as in TCR, the evidence indicates the favorable effect of percent foreign-born on VCR in Model 1 is spurious.



Interestingly, taking the other variables into account, as the percent black population increases, the VCR also increases, and this result is highly significant. Also, taking the other variables into account, as the county population increases, on average, the VCR increases, and this result is statistically significant, as well.

The  $R^2$  value in Model 3 increases to .53 indicating that the variables explain about 53 percent of the variation in VCR. Once again, the addition of these variables suggests the foreign-born population reduces the VCR, but the effect is not statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, the VCR decreases 2.9 per 100,000 population. Highly significant is the effect of the percent of the black population. Holding the other variables constant, as the percent of black population increases, on average, the VCR also increases, and the effect is highly statistically significant. Similar to Model 1, taking the other variables into account, as the county population increases, on average, the VCR increases, and the result is statistically significant. None of the economic variables added in Model 3 are statistically significant at the .05 level.

In Model 4, the  $R^2$  value increases to .54 indicating the variables in Model 4 explain about 54 percent of the variation in VCR. Model 4 includes the variable police strength to Model 3. As in the previous models, the foreign-born population is inversely associated with the VCR. Taking the other variables into account, as the foreign-born population increases by 1 percent, the VCR decreases 4.3 per 100,000 population. While this negative relationship supports Hypothesis 2 (H2), the effect is not statistically

significant at the .05 level. This result is also consistent with the immigration-crime dissociation theory. As in previous models, only the effects of percent black and population are statistically significant. Holding the other variables constant, as the percent black population increases, on average, the VCR increases, and this result is highly significant. Taking the other variables into account, as the county population increases, on average, the VCR also increases. As in Model 3, none of the economic variables as well as the police strength variable added in Model 4 is statistically significant at the .05 level.

In Model 5, the  $R^2$  value again increases to .56 indicating that the variables explain 56 percent of the variation in VCR, and Model 5 is the best fitting model to interpret. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the VCR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the VCR is predicted to decrease 61.7 per 100,000 population. This result is statistically significant at the .05 level and supports Hypothesis 17 (H17).

The effects of the percent black remains highly statistically significant, and the population and police strength variables are significant, but the remaining predictors, likewise, remain statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the VCR increases 51.1

per 100,000 population, and this result is highly statistically significant at the .001 level. Taking the other variables into account, for every 1,000 increase in the county population, on average, the VCR increases 1.0 per 100,000 population, and this result is statistically significant at the .01 level. Taking the other variables into account, for every additional police officer, the VCR increases 0.7 per 100,000 population, and this result is highly significant at the .001 level.

*Property crime rate.* Table 5 provides the OLS regression models predicting the PCR. Model 5, having the highest  $R^2$  value of .721, is the best fitting model to interpret with 72 percent of the variation in PCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, less than 3 percent of the variance in PCR is explained by the percent foreign-born variable. As the foreign-born population increases by 1 percent, on average, the PCR in rural Iowa increases 64.3 per 100,000 population. Although the effect is statistically significant, this result is contrary to the expected result that the foreign-born population has a beneficial effect on the PCR. However, as with TCR and VCR, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 5. OLS Regression Estimates Predicting the Property Crime Rate (PCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	1005.965*** (133.255)		6358.926 (6201.432)		1583.837 (6211.069)		-2213.007 (5801.830)		-279.183 (5642.636)	
% Foreign Born	64.325* (35.639)	.201	11.319 (29.822)	.035	16.484 (27.845)	.052	-1.717 (26.068)	-.005	-44.138 (30.298)	-.138
% Black			501.219*** (77.045)	.607	366.647*** (78.849)	.444	296.094*** (74.963)	.359	315.130*** (72.619)	.382
% Male			-208.467* (101.310)	-.163	-140.334 (98.924)	-.109	-64.398 (93.239)	-.050	-41.780 (90.280)	-.033
Median Age			28.881 (36.110)	.086	-23.255 (38.285)	-.069	-16.474 (35.245)	-.049	-40.481 (35.284)	-.120
% HS Graduates			-13.846 (31.626)	-.181	35.162 (31.844)	.115	34.125 (29.277)	.112	22.062 (28.614)	.072
Population			1091.613* (430.645)	.291	1343.481** (418.855)	.358	1297.589*** (385.267)	.346	1099.376** (379.521)	.293
Median Income					-33.863* (15.916)	-.204	-27.478* (14.734)	-.165	-31.184* (14.271)	-.188
Poverty Rate					74.910* (37.153)	.200	83.275* (34.231)	.223	-4.707 (48.199)	-.013
Unemployment Rate					-12.489 (81.101)	-.013	-38.559 (74.892)	-.040	-24.869 (72.358)	-.026
Police Strength							7.758*** (2.101)	.265	8.502*** (2.045)	.291
% Foreign Born X Poverty Rate									34.793* (13.901)	.284
Adjusted R <sup>2</sup>	.028		.582		.645		.700		.721	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
 Note: Standard errors in parentheses.  
 Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables in Model 2 increases the  $R^2$  value to .582 indicating that the variables explain about 58 percent of the variation in PCR. In Model 2, holding the other variables constant, as the foreign-born population increases by 1 percent, the PCR increases 11.3 per 100,000 population, but the effect is not statistically significant. Also, as found in the TCR and VCR, as the percent black population increases, there is a corresponding increase in the PCR, and this effect is highly significant at the .001 level. However, contrary to the expected effect, as the male

population increases, on average, the PCR actually decreases. Speculating a reason to explain the apparent inverted effect the male population has on the PCR requires understanding the predominant lifestyle in rural areas. Virtually all working age males, especially young, single males, living in rural communities tend to spend more of their time working and do not enjoy the amount of free time as their urban counterparts. Moreover, males who may get into legal trouble in rural areas are more likely than urban males to be subject to informal social control mechanisms rather than entering into the formal criminal justice system. As expected, as the county population increases, on the average, the PCR likewise increases. While percent male and population are statistically significant, all other predictor variables are statistically insignificant at the .05 level.

The  $R^2$  value in Model 3 increases to .645 indicating that the variables explain about 65 percent of the variation in PCR, and this model adds 3 economic predictor variables. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the PCR, likewise, increases 16.5 per 100,000 population, but this result is not statistically significant at the .05 level. When percent black increases, on average, so does the PCR, and this result is highly significant at the .001 level. Similarly, as the county population increases, on average, the PCR increases. Understandably, as median income increases, on average, the PCR decreases. Conversely, as the poverty rate increases, on average, the PCR also increases. The variables population, median income, and poverty rate are statistically significant, but all other predictor variables in Model 3 are statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value again increases to .700 providing that the variables explain 70 percent of the variation in PCR. The addition of the social control variable, police strength, suggests the foreign-born population has a beneficial effect on the PCR, but it is not statistically significant at the .05 level. In this full model, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the PCR decreases 1.7 per 100,000 population. Again the inverse relationship tends to support Hypothesis 3 (H3), but as the effect is not statistically significant at the .05 level, the results coincide with the immigration-dissociation theory. Similar to previous models, as the percent black increases, on average, the PCR also increases, and the result is, again, highly significant. Also highly statistically significant, as the county population increases, on average, the PCR increases. Among the economic variables, however, as median income increases, on average, the PCR decreases. But, as the poverty rate increases, on average, the PCR increases. Again contrary to popular belief, as police strength increases, the PCR also increases, and this effect is highly significant at the .001 level. All other predictor variables in Model 4 are statistically insignificant at the .05 level.

In Model 5, the  $R^2$  value increases to .721 indicating that the variables explain 72 percent of the variation in PCR. Adding the interaction term %Foreign-Born X Poverty Rate in Model 5 tests the moderating effect of rural counties' foreign-born population percentage and poverty rate on the PCR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5

percent in rural Iowa counties, for each percent increase in the foreign-born population the PCR is predicted to decrease 107.5 per 100,000 population. This result is statistically significant at the .05 level and is in keeping with Hypothesis 17 (H17). The effects of the percent black and police strength variables remain highly statistically significant, and the population and median income variables are significant, but the remaining predictors remain statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the PCR increases 315.1 per 100,000 population. Likewise, for every 1,000 increase in the county population, on average, the PCR increases 1.1 per 100,000 population. Similarly, for every \$1,000 increase in median income, on average, the PCR decreases 31.2 per 100,000 population. Finally, for the reason previously discussed, for every additional police officer, on average, the PCR increases 8.5 per 100,000 population.

### *Serious Crimes*

*Aggravated assault crime rate.* The AACR OLS regression models are shown on Table 6. Having the highest  $R^2$  value of .496, Model 5 is the best fitting model to interpret with about 50 percent of the variation in AACR explained by the predictor variables. Once again, Model 1 tests only the effect of percent foreign-born. In Model 1, only about 3 percent of the variance in AACR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent, on average, the AACR in rural Iowa increases 7.4 per 100,000 population. This result is statistically significant at the .05 level. However, consistent with several other crime rate dependent

variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 6. OLS Regression Estimates Predicting the Aggravated Assault Crime Rate (AACR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	95.779*** (15.867)		898.180 (844.259)		656.105 (901.935)		417.842 (908.635)		642.519 (902.089)	
% Foreign Born	7.417* (4.244)	.195	-2.604 (4.060)	-.069	-1.828 (4.043)	-.048	-2.970 (4.083)	-.078	-7.898 (4.844)	-.208
% Black			55.436*** (10.489)	.565	44.350*** (11.450)	.452	39.922*** (11.740)	.407	42.134*** (11.610)	.429
% Male			-13.446 (13.792)	-.088	-10.123 (14.365)	-.066	-5.358 (14.602)	-.035	-2.731 (14.433)	-.018
Median Age			-.003 (4.916)	.000	-5.053 (5.560)	-.126	-4.628 (5.520)	-.116	-7.417 (5.641)	-.185
% HS Graduates			-6.379 (4.306)	-.176	-2.280 (4.624)	-.063	-2.345 (4.585)	-.065	-3.747 (4.574)	-.103
Population			94.004 (58.628)	.211	104.835* (60.824)	.235	101.955* (60.337)	.229	78.926 (60.674)	.177
Median Income					-2.919 (2.311)	-.148	-2.519 (2.307)	-.127	-2.949 (2.282)	-.149
Poverty Rate					4.543 (5.395)	.102	5.068 (5.361)	.114	-5.154 (7.706)	-.116
Unemployment Rate					5.781 (11.777)	.051	4.145 (11.729)	.036	5.736 (11.568)	.050
Police Strength							.487 (.329)	.140	.573* (.327)	.165
% Foreign Born X Poverty Rate									4.042* (2.222)	.277
Adjusted R <sup>2</sup>	.026		.453		.470		.479		.496	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
 Note: Standard errors in parentheses.  
 Source: U.S. Census and State of Iowa

Model 2 adds the 5 demographic control variables increasing the R<sup>2</sup> value to .453 indicating that the variables explain about 45 percent of the variation in AACR. The addition of the demographic variables in Model 2 suggests the percent foreign-born population produces an advantageous effect on the AACR. In Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, on average,



the AACR actually decreases about 2.6 per 100,000 population, but this result is not statistically significant at the .05 level. The only predictor variable that is statistically significant in Model 2 is percent black, providing that as the black population increases, on average, the AACR also increases. This effect is highly statistically significant at the .001 level. The other predictor variables—percent male, median age, percent high school graduates and beyond, and population—have no significant effect on the AACR as each is statistically insignificant at the .05 level.

The  $R^2$  value in Model 3 again increases to .470 indicating that the variables explain about 47 percent of the variation in AACR. Once again, adding the economic variables suggests the foreign-born population still has a beneficial effect on the AACR although it is not statistically significant at the .05 level. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the AACR decreases 1.8 per 100,000 population. The only 2 statistically significant variables in Model 3 are percent black and the county population. An increase in the black population, on average, also increases the AACR, and this effect is highly statistically significant at the .001 level. Likewise, as the county population increases, on average, the AACR increases. And, this effect is statistically significant at the .05 level. All other predictor variables in Model 3 have no significant effect on the AACR as each is statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value slightly increases to .479 providing that the variables explain about 48 percent of the variation in AACR. Model 4 adds the variable police strength to

the demographic and economic predictors in Model 3. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the AACR decreases to 3.0 per 100,000 population. While the result suggest the county's percent foreign-born population benefits the county's crime rate and supports Hypothesis 4 (H4), the effect is not statistically significant at the .05 level. Accordingly, the result is consistent with the immigration-crime dissociation theory. As in Model 3, the only statistically significant variables are percent black and the county population. As in previous models, when the black population increases, on average, the AACR also increases, and this effect is highly statistically significant at the .001 level. Similar to the percent black effect, as the county population increases, on average, the AACR also increases, and the effect is statistically significant at the .05 level. All other predictor variables in Model 4—percent male, median age, percent high school graduates, median income, poverty rate, unemployment rate, and police strength—have no significant effect on the AACR.

The Model 5  $R^2$  value slightly increases to .496 which indicates that the variables explain 50 percent of the variation in AACR. Again, Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the AACR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the AACR is predicted to decrease 44.3 per 100,000 population.

This effect is statistically significant at the .05 level and supports Hypothesis 17 (H17) providing the effect of percent foreign-born on county crime rate is moderated significantly by poverty rate. The effect of the percent black is the only variable that remains highly statistically significant at the .001 level, and the police strength variable becomes statistically significant at the .05 level, but the remaining predictors are statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the AACR increases 42.1 per 100,000 population. Again, as previously explained, for every additional police officer, on average, the AACR increases 0.6 per 100,000 population.

*Burglary crime rate.* The OLS regression models predicting the BCR in rural Iowa counties, as reflected in Table 7, indicates that Model 5 is the best fitting model to interpret as this model has the highest  $R^2$  value providing that 53 percent of the variation in BCR is explained by the predictor variables. In Model 1, considering only the effect of the county foreign-born population on the crime rate, less than 2 percent of the variance in the BCR is explained by the county percentage of foreign-born population. According to Model 1, as the foreign-born population increases by 1 percent, on average, Iowa's rural county BCR increases 14.3 per 100,000 population. While this effect in Model 1 suggests that the foreign-born population has a harmful effect on the rural county crime rate, as in several other dependent variable analyses, which is counter to the expectation that foreign-born residents have a positive effect on Iowa rural counties' overall crime rate, the effect is not statistically significant. Moreover, as suspected in prior dependent

variable analyses, this bivariate result is attributable to a spurious relationship because many other factors have not been taken into account.

Table 7. OLS Regression Estimates Predicting the Burglary Crime Rate (BCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	287.987*** (33.866)		2322.329 (1879.153)		1171.857 (1916.167)		227.346 (1851.650)		553.590 (1860.521)	
% Foreign Born	14.255 (9.057)	.177	3.873 (9.037)	.048	5.508 (8.590)	.068	.980 (8.320)	.012	-6.176 (9.990)	-.076
% Black			113.174*** (23.346)	.542	76.150** (24.325)	.365	58.599* (23.924)	.281	61.811** (23.944)	.296
% Male			-59.230* (30.699)	-.183	-41.602 (30.519)	-.128	-22.712 (29.757)	-.070	-18.897 (29.768)	-.058
Median Age			7.741 (10.942)	.091	-7.821 (11.811)	-.092	-6.134 (11.248)	-.072	-10.184 (11.634)	-.120
% HS Graduates			-4.155 (9.583)	-.054	9.256 (9.824)	.120	8.998 (9.344)	.116	6.963 (9.435)	.090
Population			201.054 (130.494)	.212	264.065* (129.220)	.279	252.649* (122.958)	.266	219.210* (125.138)	.231
Median Income					-10.268* (4.910)	-.244	-8.679* (4.702)	-.207	-9.304* (4.706)	-.221
Poverty Rate					18.058 (11.462)	.191	20.139* (10.925)	.213	5.296 (15.893)	-.056
Unemployment Rate					.350 (25.020)	.001	-6.135 (23.902)	-.025	-3.826 (23.858)	-.016
Police Strength							1.930** (.670)	.261	2.055** (.674)	.278
% Foreign Born X Poverty Rate									5.870 (4.583)	.189
Adjusted R <sup>2</sup>	.019		.401		.471		.522		.526	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
 Note: Standard errors in parentheses.  
 Source: U.S. Census and State of Iowa

In Model 2, the substantially increased R<sup>2</sup> value to .401 suggests that the variables explain about 40 percent of the variation in BCR. The addition of the demographic control variables keeps the percent of foreign-born population in the rural county population statistically insignificant at the .05 level. Model 2 indicates that holding other variables constant, the effect of percent foreign-born population on BCR is minor,

because as the foreign-born population increases by 1 percent, on average, the BCR only increases 3.9 per 100,000 population. The only demographic predictors that have a statistically significant effect on the BCR are percent black and percent male. As the percentage of black county residents increases, on average, the rural Iowa counties' BCR also increases, and the effect is highly significant at the .001 level. Conversely, based on the previously suspected reason, as the percentage of males in the county increases, on average, the BCR actually decreases. The remaining demographic control variables in Model 2 are statistically insignificant at the .05 level.

After adding the 3 economic control variables in Model 3, the  $R^2$  value increases to .471 indicating the variables explain about 47 percent of the variation in BCR. As in Model 2, the addition of these economic control variables keeps the percentage of foreign-born persons among the rural county population effect statistically insignificant. Taking the other variables into account, as the percent foreign-born population increases by 1 percent, on average, the BCR increases by only 5.5 per 100,000 population. Among the statistically significant predictors is the percent black. As the county black population increases, on average, the BCR is also predicted to increase. Similarly, an increase in the county population, on average, tends to increase the BCR. To the contrary, however, an increase in the county median income, on average, decreases the BCR. While percent black, population, and median income are statistically significant, the remaining predictor variables are statistically insignificant.

Model 4 is the full model as the social control variable for rural county police strength is added in Model 4. The  $R^2$  value for Model 4 again increases, to .522, providing that the predictor variables account for about 52 percent of the variation in BCR. As in Model 2 and Model 3 adding the police strength predictor variable, the percent foreign-born variable effect on BCR remains statistically insignificant. Taking the other variables into account, as the foreign-born population increases, the BCR barely increases by 1.0 per 100,000 population. The negligible positive relationship rejects Hypothesis 5 (H5), although the result is statistically insignificant. The result also corresponds with the immigration-crime dissociation theory. Considering the statistically significant predictor variables, as the county's black population increases, on average, the BCR also increases. Similarly, an increase in the county's total population has the effect of increasing the BCR. On the other hand, as the county median income increases, on average, the BCR actually decreases. As expected, however, as the county's poverty rate increases, on average, the BCR also increases. Finally for Model 4, the BCR increases in conjunction with an increase in police strength. The other predictor variables—percent male, median age, percent of high school graduates and beyond, and the unemployment rate—are statistically insignificant at the .05 level.

Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the BCR; however, the effect of percent foreign-born does not vary across poverty rates as this effect is statistically insignificant. The results fail to support Hypothesis 17

(H17). The  $R^2$  value for this model again increases to .526 indicating that the variables explain about 53 percent of the variation in BCR. The effects of the percent black, county population, median income, and police strength variables remain statistically significant, but the remaining predictors remain statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the BCR increases 61.8 per 100,000 population. For every 1,000 increase in the county population, on average, the TCR increases 1.0 per 100,000 population.

Alternatively, for every \$1,000 increase in median income, on average, the BCR decreases 9.3 per 100,000 population. Again, as found in other crime rate dependent variables, for every additional police officer, on average, the BCR increases 2.1 per 100,000 population.

*Drug abuse crime rate.* The OLS regression models predicting the DACR are shown on Table 8. Model 5 has the highest  $R^2$  value and is the best fitting model to interpret with about 55 percent of the variation in DACR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$  value of .071 indicates that only about 7 percent of the variance in DACR is explained by the percent foreign-born variable. Rejecting the hypothesis that the percentage of foreign-born residents is inversely associated with the county drug abuse crime rate, the data analysis suggests, as the foreign-born population increases by 1 percent, on average, the DACR in rural Iowa increases 14.6 per 100,000 population, and this effect is statistically significant at the .01

level. However, as with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 8. OLS Regression Estimates Predicting the Drug Abuse Crime Rate (DACR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	166.344*** (20.794)		2516.899* (1106.986)		2930.370* (1197.768)		2303.128* (1148.326)		2596.291* (1138.195)	
% Foreign Born	14.638** (5.561)	.287	11.923* (5.323)	.234	13.390* (5.370)	.263	10.383* (5.160)	.204	3.952 (6.112)	.078
% Black			62.824*** (13.753)	.477	57.135*** (15.205)	.434	45.480** (14.837)	.345	48.365** (14.648)	.367
% Male			-63.826*** (18.084)	-.312	-68.796*** (19.077)	-.336	-56.251** (18.454)	-.275	-52.823** (18.211)	-.258
Median Age			-1.521 (6.446)	-.028	-7.233 (7.383)	-.135	-6.112 (6.976)	-.114	-9.752 (7.117)	-.182
% HS Graduates			3.580 (5.645)	.073	5.749 (6.141)	.118	5.578 (5.795)	.114	3.749 (5.772)	.077
Population			118.553 (76.872)	.198	93.646 (80.774)	.157	86.065 (76.254)	.144	56.016 (76.554)	.094
Median Income					-2.836 (3.069)	-.107	-1.781 (2.916)	-.067	-2.343 (2.879)	-.088
Poverty Rate					-4.315 (7.165)	-.072	-2.933 (6.775)	-.049	-16.271* (9.722)	-.273
Unemployment Rate					23.312 (15.640)	.152	19.005 (14.823)	.124	21.080 (14.596)	.138
Police Strength							1.282** (.416)	.275	1.394*** (.413)	.299
% Foreign Born X Poverty Rate									5.274* (2.804)	.270
Adjusted R <sup>2</sup>	.071		.477		.481		.538		.555	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the R<sup>2</sup> value to .477 indicating that the variables explain about 48 percent of the variation in DACR. In Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DACR increases 11.9 per 100,000 population. Again, this effect is statistically significant at the .05 level again rejecting the hypothesis that a



foreign-born population has the effect of lowering the DACR. The percent black and percent male predictor variables are the only other statistically significant predictor variables. All other demographic predictor variables have no effect on DACR as they are statistically insignificant at the .05 level in Model 2. For the percent black variable, as the county black population increases, on average, the DACR also increases. But, as the male population increases, on average, the DACR again decreases.

Although the  $R^2$  value in Model 3 slightly increases to .481, it still indicates that the variables explain about 48 percent of the variation in the DACR. The addition of economic variables also suggests the foreign-born population has a detrimental effect on the DACR, thus violating the hypothesis that foreign-born populations have a valuable effect on the DACR. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DACR increases 13.4 per 100,000 population, and this result is statistically significant at the .05 level. Similar to Model 2, percent black and percent male are the only 2 predictor variables that are statistically significant in Model 3, and both are highly statistically significant. Once again, as the county black population increases, on average, the DACR also increases. However, as indicated in previous dependent variables, as the county's male population increases, on average, the DACR actually decreases. All other predictor variables in Model 3 have no significant effect on the DACR as each is statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value rises to .538 providing that the variables explain about 54 percent of the variation in the DACR. Model 4, as in the other dependent variable tables,

adds the variable police strength to the predictor variables in Model 3. After adding police strength, the effect of percent foreign-born continues statistically significant at the .05 level. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the DACR increases 10.4 per 100,000 population which is in opposition to Hypothesis 6 (H6) that expected a foreign-born population to exert a desirable effect on the DACR. Moreover, the result supports the immigration-crime affirmative nexus theory. Among the other predictor variables, the 3 statistically significant predictor variables in Model 4 include percent black, percent male, and police strength. As the black population increases, on average, the DACR also increases. Likewise, an increase in police strength, on average, results in an increase in the DACR. Conversely, as in several other dependent variable analyses, an increase in the male population, on average, has the effect of decreasing the DACR. The remaining predictor variables in Model 4 have no significant effect on the DACR as each is statistically insignificant at the .05 level.

In Model 5, the  $R^2$  value increases to its largest value of .555 indicating that the variables explain 56 percent of the variation in DACR and is the most fitting model to interpret. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the DACR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the DACR is predicted

to increase 106.1 per 100,000 population. This effect is statistically significant at the .05 level, and is consistent with Hypothesis 17 (H17). Among the predictor variables the effect of the police strength variable is the only highly statistically significant variable at the .001 level. The effects of the percent black and percent male variables are statistically significant at the .01 level. All other predictors are statistically insignificant. Taking the other variables into account, for every additional police officer, on average, the DACR increases 1.4 per 100,000 population. In same manner, for each percentage increase in county black residents, on average, the DACR increases 48.4 per 100,000 population. However, as observed in other analyses, for each percentage increase in the male population, on average, the DACR decreases 52.8 per 100,000 population. The surprising effect the poverty rate bears on the DACR may be attributable to impoverished persons living in rural Iowa work hard to earn what income they are able to obtain, and they avoid any behavior, including substance abuse, that may aggravate their fiscal woes. Moreover, the fundamental difference in the rural environment versus the urban milieu may account for rural residents' disinclination to engage in abusing drugs. Obviously, this explanation is purely based on speculation as it lies outside the scope of this study.

*Forcible rape crime rate.* The FRCR OLS regression models are found on Table 9. The FRCR model having the highest  $R^2$  value of .292 is Model 5, thus it is the best fitting model to interpret with 29 percent of the variation in RCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, less than 1 percent of the variance in FRCR is explained by the foreign-born population variable, and the

effect of percent foreign-born on FRCR is statistically insignificant. As with Model 1 in previous dependent variable analyses, the relationship between percent foreign-born and the FRCR is likely a spurious relationship. When the foreign-born population increases by 1 percent, on average, the FRCR in rural Iowa increases a mere .7 per 100,000 population. But, the other models illustrate that factors other than percent foreign-born actually account for the FRCR.

Table 9. OLS Regression Estimates Predicting Forcible Rape Crime Rate (FRCR), Iowa Rural Counties 2007-2011.

Predictor	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>		<u>Model 5</u>	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	12.201*** (2.160)		59.070 (130.167)		8.768 (142.647)		-24.292 (144.238)		6.716 (144.060)	
% Foreign Born	.657 (.578)	.129	-.566 (.626)	-.111	-.534 (.639)	-.104	-.692 (.648)	-.135	-1.372* (.774)	-.268
% Black			2.812* (1.617)	.213	1.835 (1.811)	.139	1.221 (1.864)	.092	1.526 (1.854)	.115
% Male			-1.521 (2.126)	-.074	-1.045 (2.272)	-.051	-.384 (2.318)	-.019	-.021 (2.305)	-.001
Median Age			-.211 (.758)	-.039	-.436 (.879)	-.081	-.376 (.876)	-.070	-.761 (.901)	-.141
% HS Graduates			-.800 (.664)	-.164	-.425 (.731)	-.087	-.434 (.728)	-.089	-.627 (.731)	-.128
Population			24.987** (9.039)	.433	28.007** (9.620)	.467	27.608** (9.578)	.460	24.429* (9.689)	.407
Median Income					-.079 (.366)	-.030	-.024 (.366)	-.009	-.083 (.364)	-.031
Poverty Rate					.862 (.853)	.144	.935 (.851)	.156	-.476 (1.231)	-.080
Unemployment Rate					-.123 (1.863)	-.008	-.350 (1.862)	-.023	-.131 (1.847)	-.009
Police Strength							.068 (.052)	.144	.079 (.052)	.170
% Foreign Born X Poverty Rate									.558 (.355)	.284
Adjusted R <sup>2</sup>	.004		.282		.269		.276		.292	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables in Model 2 increases the  $R^2$  value to .282 indicating that the variables explain about 28 percent of the variation in FRCR. In this model, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the FRCR actually decreases about .6 per 100,000 population; however, the effect is not statistically significant. As found over the models in several other dependent variables, as the black population increases, on average, the FRCR increases. This effect is statistically significant at the .05 level. Similarly, an increase in the county population, on average, also increases the FRCR. And, this effect is statistically significant at the .01 level. The other demographic predictor variables have no significant effect on the FRCR as each is statistically insignificant at the .05 level.

The  $R^2$  value in Model 3 slightly decreases to .269 indicating that the variables explain about 27 percent of the variation in FRCR. Once again, the addition of these economic variables suggests the foreign-born population has a beneficial effect on the FRCR although it is not statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the FRCR decreases .5 per 100,000 population. The only statistically significant variable in Model 3 is the county population. Thus, holding the other variables constant, as the county population increases, on average, the FRCR tends to increase. This effect is statistically significant at the .01 level. All other demographic and economic predictor variables in Model 3 have no significant effect on the FRCR as each is statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value slightly increases to .276 providing that the variables explain about 28 percent of the variation in FRCR. Model 4 adds the variable police strength to the predictor variables in Model 3 which suggests a further advantageous effect percent foreign-born has on the FRCR, but the percent foreign-born variable remains statistically insignificant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the FRCR barely decreases .7 per 100,000 population. This negative effect is consistent with Hypothesis 7 (H7), but the result is statistically insignificant. Accordingly, the results support the immigration-crime dissociation theory. As in Model 3, the only statistically significant variable is the county population. When the county population increases, on average, the FRCR also increases, and the effect is statistically significant at the .01 level. All other predictor variables in Model 4 have no significant effect on the FRCR as each is statistically insignificant at the .05 level.

In Model 5, the  $R^2$  value increases to .292 providing that the variables explain 29 percent of the variation in FRCR. Although Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the FRCR, the effect of percent foreign-born does not vary across poverty rates. Accordingly, evidence does not support Hypothesis 17 (H17). However, percent foreign-born, alone, is statistically significant at the .05 level suggesting that, holding the other variables constant, for every percent increase in the foreign-born population, on average, the county FRCR decreases 1.4 per 100,000 population. This result supports the hypothesis that the foreign-born population has an

inverse relationship with the FRCR. The only other statistically significant predictor in Model 5, at the .05 level, is county population. Holding the other variables constant, for every 1,000 increase in the county population, on average, the FRCR increases 1.0 per 100,000 population. All other variables are statistically insignificant at the .05 level.

*Larceny crime rate.* The OLS regression models predicting the LCR, as shown in Table 10, indicates that Model 5 is the best fitting model to interpret as it has the highest  $R^2$  value at .757 with about 76 percent of the variation in RCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, only about 3 percent of the variance in LCR is explained by the foreign-born population variable, but the effect of percent foreign-born on the LCR is statistically significant at the .05 level. As the foreign-born population increases by 1 percent, on average, the LCR in rural Iowa rather shockingly increases 48.0 per 100,000 population. This effect contradicts the hypothesis that the foreign-born population has an inverse relationship with the LCR, but consistent with several other dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 10. OLS Regression Estimates Predicting the Larceny Crime Rate (LCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	660.198*** (94.424)		4065.875 (4179.150)		887.690 (4225.052)		-1823.166 (3906.232)		-338.897 (3745.463)	
% Foreign Born	47.955* (25.254)	.212	10.020 (20.097)	.044	13.308 (18.941)	.059	.313 (17.551)	.001	-32.246 (20.111)	-.142
% Black			360.216*** (51.920)	.614	273.218*** (53.636)	.466	222.845*** (50.471)	.380	237.456*** (48.203)	.405
% Male			-149.123* (68.273)	-.164	-105.022 (67.293)	-.115	-50.806 (62.776)	-.056	-33.446 (59.926)	-.037
Median Age			24.522 (24.335)	.103	-8.332 (26.043)	-.035	-3.491 (23.729)	-.015	-21.917 (23.420)	-.092
% HS Graduates			-10.060 (21.313)	-.046	21.722 (21.662)	.100	20.981 (19.711)	.097	11.723 (18.993)	.054
Population			846.123** (290.212)	.318	1010.602*** (284.924)	.380	977.837*** (259.391)	.367	825.702** (251.918)	.310
Median Income					-21.019* (10.827)	-.178	-16.460 (9.920)	-.139	-19.305* (9.473)	-.164
Poverty Rate					50.186* (25.273)	.189	56.158* (23.047)	.212	-11.370 (31.994)	-.043
Unemployment Rate					-8.692 (55.168)	-.013	-27.305 (50.423)	-.040	-16.798 (48.030)	-.025
Police Strength							5.539*** (1.414)	.267	6.110*** (1.358)	.294
% Foreign Born X Poverty Rate									26.704** (9.227)	.307
Adjusted R <sup>2</sup>	.032		.624		.674		.730		.757	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ 

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .624, indicating that the variables explain about 62 percent of the variation in the LCR. Further, the addition of the demographic control variables lessen the effect of percent foreign-born on the LCR, but the effect is statistically insignificant at the .05 level. In Model 2, holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the LCR increases 10.0 per 100,000 population. There are 3 statistically significant predictor variables in Model 2—percent black, percent male, and



the county population. Percent black is highly statistically significant at the .001 level, the county population predictor is statistically significant at the .01 level, and the percent male predictor is statistically significant at the .05 level. An increase in the black population and, as expected, an increase in the county population, on average, has the effect of increasing the LCR. Surprisingly, however, as the male population increases, the LCR unexpectedly decreases. The other predictor variables have no significant effect on the LCR as each is statistically insignificant at the .05 level.

The  $R^2$  value in Model 3 again increases to .674, indicating that the variables explain about 67 percent of the variation in LCR. The addition of these economic variables to the demographic predictor variables suggests the foreign-born population, again, has a harmful effect on the LCR although the effect is not statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the LCR increases 13.3 per 100,000 population. Four variables in Model 3—percent black, the county population, median income, and poverty rate—are all statistically significant with percent black highly statistically significant. As the county black population, the county population, and the county poverty rate each increases, on average, the LCR tends to increase. Understandably, an increase in the county's median income effectively decreases the LCR. All other predictor variables in Model 3 have no significant effect on the LCR as each is statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value rises to .730 providing that the variables explain about 73 percent of the variation in LCR. Model 4 adds the variable police strength to the predictor variables in Model 3, but the effect of percent foreign-born on the LCR remains statistically insignificant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the LCR increases a mere .3 per 100,000 population. This result rejects Hypothesis 8 (H8), but, again, the results are statistically insignificant. The result, therefore, supports the immigration-crime dissociation theory. The 4 statistically significant predictor variables in Model 4 are percent black, the county population, poverty rate, and police strength. Percent black, population, and police strength are highly statistically significant at the .001 level, and poverty rate is statistically significant at the .05 level. According to the data, as each statistically significant predictor variable in Model 4—percent black, population, poverty rate, and police strength—increases, on average, the LCR increases. Interestingly, median income has no effect on the LCR as it is not statistically significant at the .05 level in Model 4 as are the other remaining predictor variables.

In Model 5, the  $R^2$  value increases to .757 indicating the variables explain 76 percent of the variation in the LCR. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the LCR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the LCR is

predicted to decrease 63.7 per 100,000 population. This result is highly statistically significant at the .001 level. This effect supports Hypothesis 17 (H17) that the effect of percent foreign-born on county crime rate is moderated significantly by poverty rate. The effects of the percent black and police strength variables remain highly statistically significant, the population variable is significant at the .01 level, and the median income variable is statistically significant at the .05 level. The remaining predictors are statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the LCR increases 237.5 per 100,000 population. Similarly, for every 1,000 increase in the county population, on average, the LCR increases 1.1 per 100,000 population. On the other hand, as expected, for every \$1,000 increase in the county's median income, on average, the LCR decreases 19.3 per 100,000 population. Also in keeping with other dependent variables, for every additional police officer, the LCR increases 6.1 per 100,000 population.

*Motor vehicle theft crime rate.* Table 11 compares the OLS regression models predicting the MVTCR. Model 5 having the highest  $R^2$  value of .654 is the best fitting model to interpret with about 65 percent of the variation in the MVTCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$  value of .000 indicates that 0 percent of the variance in the MVTCR is explained by the foreign-born population variable. Neither is this variable statistically significant at the .05 level. As the foreign-born population increases by 1 percent, on average, the MVTCR in rural Iowa increases 2.0 per 100,000 population. As with previous dependent

variables, considering the  $R^2$  value, the effect is statistically insignificant, and other predictor variables shown to be relevant factors in other dependent variable analyses, this unanticipated bivariate result is likely a spurious relationship.

Table 11. OLS Regression Estimates Predicting the Motor Vehicle Theft Crime Rate (MVTCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	58.506*** (7.583)		483.002 (362.883)		178.512 (366.175)		21.324 (359.017)		126.146 (352.944)	
% Foreign Born	2.009 (2.028)	.112	-2.278 (1.745)	-.127	-2.055 (1.642)	-.115	-2.808* (1.613)	-.157	-5.108** (1.895)	-.285
% Black			30.697*** (4.508)	.663	23.094*** (4.649)	.499	20.173*** (4.639)	.436	21.205*** (4.542)	.458
% Male			-8.973 (5.928)	-.125	-4.695 (5.832)	-.065	-1.552 (5.770)	-.022	-.326 (5.647)	-.005
Median Age			-.027 (2.113)	-.001	-2.770 (2.257)	-.147	-2.489 (2.181)	-.132	-3.791* (2.207)	-.201
% HS Graduates			-1.909 (1.851)	-.111	.856 (1.877)	.050	.813 (1.812)	.047	.160 (1.790)	.009
Population			39.973 (25.200)	.190	56.161* (24.694)	.267	54.261* (23.840)	.258	43.517* (23.739)	.207
Median Income					-1.825* (.938)	-.196	-1.561* (.912)	-.167	-1.762* (.893)	-.189
Poverty Rate					4.663* (2.190)	.222	5.009* (2.118)	.239	.240 (3.015)	.011
Unemployment Rate					-2.012 (4.781)	-.037	-3.091 (4.634)	-.057	-2.349 (4.526)	-.044
Police Strength							.321* (.130)	.196	.362** (.128)	.221
% Foreign Born X Poverty Rate									1.886* (.869)	.274
Adjusted $R^2$	.000		.546		.608		.635		.654	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .546 indicating that the variables explain about 55 percent of the variation in the MVTCR. The effect of percent foreign-born remains statistically insignificant in Model 2, but notice that the coefficient sign changes to a negative supporting the suspicion that the

variable has a spurious relationship with the MVTCR. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the MVTCR decreases 2.3 per 100,000 population. The only statistically significant predictor variable in Model 2 is percent black, and it is highly statistically significant at the .001 level. As the county black population increases, on average, the MVTCR likewise increases. The other demographic predictor variables have no significant effect on the LCR as each is statistically insignificant at the .05 level.

The  $R^2$  value in Model 3 again increases, to .608, indicating that the variables explain about 61 percent of the variation in the MVTCR. The addition of these economic variables suggests the foreign-born population has a favorable effect on the MVTCR, but again the effect remains statistically insignificant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the MVTCR decreases 2.1 per 100,000 population. Four variables in Model 3—percent black, population, median income, and poverty rate—are statistically significant. Percent black is statistically significant at the .001 level while population, median income, and poverty rate are statistically significant at the .05 level. Among the statistically significant predictor variables, percent black, population, and poverty rate, as each increases, on average, the MVTCR increases. Conversely, as the county's median income increases, the MVTCR decreases. All other predictor variables have no significant effect on the MVTCR as each is statistically insignificant at the .05 level in Model 3.

In Model 4, the  $R^2$  value rises to .635 providing that the variables explain about 64 percent of the variation in the MVTCR. Model 4 adds the variable police strength to the predictor variables in Model 3, and the effect of percent foreign-born becomes statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the MVTCR decreases 2.8 per 100,000 population. This result is consistent with Hypothesis 9 (H9) and supports the immigration-crime inverse nexus theory. Similar to Model 3, percent black is highly statistically significant at the .001 level while population, median income, poverty rate, and police strength are all statistically significant at the .05 level. Also similar to Model 3, as the percent black, population, poverty rate, and police strength each increases, on average, the MVTCR increases, but an increase in the county's median income, decreases the MVTCR. The remaining predictor variables have no significant effect on the MVTCR as each is statistically insignificant at the .05 level.

In Model 5, the  $R^2$  value increases to .654 indicating that the variables explain 65 percent of the variation in the MVTCR. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the MVTCR. The effect of percent foreign-born varies significantly across the categories of poverty rate. Given an average poverty rate of 11.5 percent in rural Iowa counties, for each percent increase in the foreign-born population the MVTCR is predicted to decrease 37.1 per 100,000 population. This result is statistically significant at the .05 level. Consequently, this result supports Hypothesis

17 (H17). Among the other predictor variables, the effects of the percent black variable remains highly statistically significant at the .001 level, the police strength variable is statistically significant at the .01 level, while the median age variable, the population variable, and the median income variable are statistically significant at the .05 level. The remaining predictors are all statistically insignificant. Taking the other variables into account, for each percentage increase in county black residents, on average, the MVTCR increases 21.2 per 100,000 population. Conversely, for every year increase in the county median age, on average, the MVTCR decreases 3.8 per 100,000 population. The aging-out effect, in all likelihood, accounts for the favorable effect age has on the MVTCR. Unsurprisingly, for every 1,000 increase in the county population, on average, the MVTCR increases 1.0 per 100,000 population. Also, understandably, for each \$1,000 increase in the county median income, on average, the MVTCR decreases 1.8 per 100,000 population as persons who can afford to purchase their own transportation are unlikely to steal a car. Finally, as indicated in other dependent variable analyses, for every additional police officer, the MVTCR increases 0.4 per 100,000 population.

*Murder crime rate.* The vast majority of murders in Iowa occur in urban areas and are a definite anomaly in rural counties. Considering the extremely low number of murders recorded in the rural counties, negative binomial regression (NBR) rather than OLS regression is the appropriate statistical technique for predicting the MCR. Table 12 shows the NBR models predicting the MCR. Model 5 has the highest likelihood ratio chi-square value of 44.163 and is the best fitting model to interpret. In Model 1, with the

predictor percent foreign-born only, the effect of percent foreign-born on the MCR (RRR=.994) is statistically insignificant. This result suggests that for every percent increase in the foreign-born population, on average, the incidence rate of the MCR is predicted to decrease 0.6 percent ( $.994 - 1 = -.006$ ), a trivial effect.

Table 12. Negative Binomial Regression Estimates Predicting the Murder Crime Rate (MCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	IRR	B	IRR	B	IRR	B	IRR	B	IRR
Constant	.051 (.194)	1.053	7.908 (9.647)	2717.829	7.466 (11.900)	1748.121	6.548 (12.182)	698.114	6.333 (11.922)	562.663
% Foreign Born	-.006 (.053)	.994	-.127 (.059)	.881	-.126* (.060)	.882	-.131* (.062)	.878	-.172* (.067)	.842
% Black			-.022 (.106)	.978	-.050 (.120)	.951	-.063 (.127)	.939	-.035 (.129)	.965
% Male			.003 (.154)	1.003	.016 (.178)	1.017	.035 (.185)	1.035	.072 (.184)	1.075
Median Age			.048 (.062)	1.049	.028 (.076)	1.028	.025 (.076)	1.025	.007 (.079)	1.007
% HS Graduates			-.126* (.054)	.882	-.112* (.064)	.894	-.113* (.064)	.894	-.113* (.063)	.893
Population			.068*** (.013)	1.071	.069*** (.014)	1.071	.067*** (.015)	1.070	.062*** (.015)	1.064
Median Income					-.014 (.034)	.986	-.014 (.034)	.987	-.011 (.034)	.989
Poverty Rate					.010 (.081)	1.010	.010 (.081)	1.010	-.091 (.109)	.913
Unemployment Rate					-.004 (.154)	.996	-.006 (.154)	.994	.012 (.154)	1.012
Police Strength							.002 (.005)	1.002	.004 (.005)	1.004
% Foreign Born X Poverty Rate									.040 (.029)	1.040
Log likelihood	-111.148		-90.246		-90.089		-90.032		-89.072	
Likelihood ratio $\chi^2$	.012		41.815***		42.129***		42.242***		44.163***	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the likelihood ratio  $\chi^2$  value to 41.815. In this Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the incidence rate of the



MCR (RRR=.881) is expected to decrease 12 percent ( $.88 - 1 = -.12$ ). Interestingly, the only 2 statistically significant demographic predictor variables are percent high school graduates and beyond and the total county population. Holding the other variables constant, as the percentage of high school graduates and beyond increases, on average, the incidence rate in the MCR decreases. Conversely, as the county population increases, on average, the MCR incidence rate also increases. The other predictor variables have no significant effect on the MCR as each is statistically insignificant.

The likelihood ratio  $\chi^2$  in Model 3 increases to 42.129 from the Model 2 likelihood ratio  $\chi^2$  value. Once again, the addition of these economic variables suggests the foreign-born population has a beneficial effect on the MCR, and the effect is statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the incidence rate of the MCR (RRR=.882) is expected to again decrease 12 percent ( $.88 - 1 = -.12$ ). As in Model 2, percent high school graduates and beyond and the total county population are the only other 2 statistically significant predictor variables. As the percent of high school graduates and beyond increases, on average, the MCR incidence rate decreases. However, as the county population increases, on average, the MCR incidence rate increases.

In Model 4, the 42.242 likelihood ratio  $\chi^2$  is again a slight increase in value from the likelihood ratio  $\chi^2$  value in Model 3. Model 4 adds the variable police strength to the predictor variables in Model 3, and the percent foreign-born maintains a statistically

significant effect on the MCR. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the incidence rate of the MCR (RRR=.878) is once again expected to decrease 12 percent ( $.88 - 1 = -.12$ ). This result is consistent with Hypothesis 10 (H10). The results further support the immigration-crime inverse nexus theory. Also similar to Models 2 and 3, percent high school graduates and beyond and county population are the only other predictor variables that are statistically significant. Holding the other variables constant, as the percent of high school graduates and beyond increases, on average, the MCR incidence rate decreases. On the other hand, as the county population increases, on average, the MCR incidence rate also increases. All other predictor variables in Model 4 are statistically insignificant.

The Model 5 likelihood ratio  $\chi^2$  value of 44.163 is the highest value among the 5 models and is the best fitting model to interpret. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the MCR; however, the effect of percent foreign-born does not vary across poverty rates. Consequently, the results reject Hypothesis 17 (H17). The only other statistically significant predictor variables in Model 5 are the percent of high school graduates and the county population. Taking the other variables into account, for each percent increase in foreign-born residents, on average, the incidence rate of the MCR (RRR=.893) is expected to decrease 11 percent ( $.89 - 1 = -.11$ ). Conversely, holding the other variables constant, for every 1,000 increase in the county population, on average, the incidence rate of the MCR (RRR=1.064) is expected

to increase 6 percent ( $1.064 - 1 = .06$ ). All other variables remain statistically insignificant.

*Robbery crime rate.* Table 13 examines the OLS regression models predicting the RCR. Model 2 has the highest  $R^2$  value of .580 and is the best fitting model to interpret with 58 percent of the variation in RCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, a mere 2 percent of the variance in the RCR is explained by the foreign-born population variable. The effect of percent foreign-born on the RCR is statistically insignificant. As the foreign-born population increases by 1 percent, on average, the RCR in rural Iowa increases a mere .8 per 100,000 population. As with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 13. OLS Regression Estimates Predicting the Robbery Crime Rate (RCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	4.185* (1.889)		191.589* (87.829)		141.112 (95.928)		128.450 (97.801)		144.462 (98.434)	
% Foreign Born	.832 (.505)	.185	-.160 (.422)	-.036	-.204 (.430)	-.045	-.265 (.439)	-.059	-.616 (.529)	-.137
% Black			7.942*** (1.091)	.681	7.384*** (1.218)	.633	7.149*** (1.264)	.613	7.307*** (1.267)	.626
% Male			-3.768* (1.435)	-.208	-3.072* (1.528)	-.170	-2.818* (1.572)	-.156	-2.631* (1.575)	-.145
Median Age			.179 (.511)	.038	.131 (.591)	.028	.153 (.594)	.032	-.045 (.616)	-.010
% HS Graduates			-.615 (.448)	-.142	-.419 (.492)	-.097	-.422 (.494)	-.098	-.522 (.499)	-.121
Population			9.509 (6.099)	.180	12.400* (6.469)	.234	12.247* (6.494)	.231	10.606 (6.621)	.200
Median Income					-.084 (.246)	-.036	-.063 (.248)	-.027	-.093 (.249)	-.040
Poverty Rate					.670 (.574)	.127	.698 (.577)	.132	-.030 (.841)	-.006
Unemployment Rate					-1.301 (1.253)	-.096	-1.388 (1.262)	-.102	-1.275 (1.262)	-.094
Police Strength							.026 (.035)	.063	.032 (.036)	.078
% Foreign Born X Poverty Rate									.288 (.242)	.166
Adjusted R <sup>2</sup>	.022		.580		.575		.573		.575	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ 

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .580 indicating that the variables explain about 58 percent of the variation in RCR. In Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, the RCR actually decreases about .2 per 100,000 population; however, the effect is not statistically significant. As has been the case consistently across most models in virtually all other dependent variable analyses, holding the other variables constant, for each percent increase in the black population, on average, the RCR increases 7.9 per

100,000 population, and this result is highly significant. Contrary to popular belief, taking the other variables into account, for each percent of males increase, the RCR decreases 3.8 per 100,000 population, and this effect is statistically significant at the .05 level. The other predictor variables are statistically insignificant.

The  $R^2$  value in Model 3 slightly decreases to .575 but still essentially indicates that the variables explain about 58 percent of the variation in the RCR. Once again, the addition of these economic variables suggests the foreign-born population has a beneficial effect on the RCR although the effect is not statistically significant. Taking the other variables into account, as the foreign-born population increases by 1 percent, the RCR decreases .2 per 100,000 population. Highly significant, however, is the effect of an increase in the county's black population that holds a parallel increase in the RCR. Likewise, as the county population increases, on average, the RCR increases. But, as the percent male population increases, the RCR decreases. All other predictor variables in Model 3 are statistically insignificant at the .05 level.

In Model 4, the  $R^2$  value once again slightly decreases to .573 providing that the variables explain 57 percent of the variation in RCR. Model 4 adds the variable police strength to the predictor variables in Model 3. In Model 4, taking the other variables into account, as the foreign-born population increases by 1 percent, the RCR again decreases .3 per 100,000 population. Consequently, the negative relationship is consistent with Hypothesis 11 (H11), but the effect is not statistically significant. Accordingly, the results are in agreement with the immigration-crime dissociation theory. Similar to

Model 3, percent black is statistically significant at the .001 level while percent male and population are statistically significant at the .05 level. As the county's black population and the total population each increases, on average, the RCR increases. But, consistent with several models among the dependent variables, an increase in the male population effectively decreases the RCR. All other predictor variables in Model 4 are statistically insignificant.

The  $R^2$  value increases a bit in Model 5 to .575 which indicates the variables explain 58 percent of the variation in the RCR. Model 5 also adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the RCR, but the effect of percent foreign-born does not vary across poverty rates. Accordingly, the results reject Hypothesis 17 (H17). Only the effects of the percent black remains highly statistically significant, and the percent male population is statistically significant at the .05 level while the county's population effect on the RCR becomes statistically insignificant as are the remaining predictor variables. Taking the other variables into account, as the county black population increases, on average, the RCR increases. Once again, as the county male population increases, on average, the RCR decreases.

*Simple assault crime rate.* The OLS regression models predicting the SACR are found in Table 14. Model 5 having the highest  $R^2$  value of .534 is the best fitting model to interpret with about 53 percent of the variation in the SACR is explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$

value of .056 indicates that only about 6 percent of the variance in SACR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent, on average, the SACR in rural Iowa increases 23.4 per 100,000 population, and this result is statistically significant at the .05 level. However, as with previous dependent variables, this unanticipated bivariate result that violates the hypothesis may be spurious as other relevant factors are not considered in Model 1.

Table 14. OLS Regression Estimates Predicting the Simple Assault Crime Rate (SACR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	275.316*** (36.694)		2600.126 (2050.327)		2206.946 (2158.681)		905.230 (2021.888)		1198.539 (2039.568)	
% Foreign Born	23.363* (9.814)	.262	8.404 (9.860)	.094	10.855 (9.677)	.122	4.615 (9.085)	.052	-1.819 (10.951)	-.020
% Black			122.884*** (25.473)	.532	92.799*** (27.404)	.402	68.610* (26.124)	.297	71.498** (26.248)	.310
% Male			-56.353* (33.495)	-.157	-49.135 (34.381)	-.137	-23.101 (32.493)	-.064	-19.671 (32.632)	-.055
Median Age			5.386 (11.939)	.057	-10.289 (13.306)	-.109	-7.964 (12.283)	-.085	-11.605 (12.753)	-.123
% HS Graduates			-8.270 (10.456)	-.097	2.733 (11.068)	.032	2.377 (10.203)	.028	.548 (10.343)	.006
Population			208.703 (142.703)	.199	227.968 (145.575)	.218	212.234 (134.262)	.203	182.171 (137.180)	.174
Median Income					-9.463* (5.532)	-.204	-7.273 (5.135)	-.157	-7.836 (5.158)	-.169
Poverty Rate					8.202 (12.913)	.079	11.070 (11.929)	.106	-2.274 (17.422)	-.022
Unemployment Rate					21.786 (28.187)	.081	12.847 (26.099)	.048	14.924 (26.154)	.056
Police Strength							2.660*** (.732)	.326	2.773*** (.739)	.339
% Foreign Born X Poverty Rate									5.277 (5.025)	.154
Adjusted R <sup>2</sup>	.056		.416		.451		.533		.534	
N	79		79		79		79		79	

\* $\leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .416 indicating that the variables explain about 42 percent of the variation in the SACR. In Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the SACR increases 8.4 per 100,000 population, but this result is statistically insignificant. The percent black predictor variable is highly significant at the .001 level, and the only other statistically significant predictor variable is percent male at the .05 level. Consistent across the analyses, as the county black population increases, on average, the SACR increases. Also, consistent with other analyses, as the county male population increases, the SACR decreases. All remaining demographic predictor variables have no effect on SACR as they are statistically insignificant.

The  $R^2$  value in Model 3 increases to .451 indicating that the variables explain about 45 percent of the variation in the SACR. The addition of the economic predictor variables keeps the effect of percent foreign-born statistically insignificant. Only percent black is highly statistically significant at the .001 level, and median income is statistically significant at the .05 level. All other predictor variables in Model 3 are statistically insignificant. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the SACR increases 10.9 per 100,000 population, again, violating the hypothesis. As the black population increases, on average, the SACR increases, but as the county's median income increases, the SACR decreases.

In Model 4, the  $R^2$  value rises to .533 providing that adding the police strength predictor, the variables explain about 53 percent of the variation in the SACR. The effect



of percent foreign-born on the SACR suggests a positive relationship which rejects Hypothesis 12 (H12), but the results are statistically insignificant. The results also support the immigration-crime dissociation theory. The effect of the police strength predictor variable is highly statistically significant, and percent black is the only other statistically significant variable at the .05 level. The other variables have no effect on the SACR as each is statistically insignificant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the SACR increases 4.6 per 100,000 population. As the county's black population and the police strength each increase, on average, the SACR increases.

Model 5 with a slightly increased  $R^2$  value to .534 still indicates that the variables explain 53 percent of the variation in the SACR and is the best model to interpret. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the SACR, but the effect of percent foreign-born does not vary across poverty rates. Thus, this result fails to support Hypothesis 17 (H17). Similar to Model 4, the effect of the police strength variable is statistically highly significant, and the effect of the percent black population variable is statistically significant at the .01 level. All other predictor variables are statistically insignificant. Holding the other variables constant, for every additional police officer, on average, the SACR increases 2.8 per 100,000 population. Likewise, taking the other variables into account, for each percentage increase in county black residents, on average, the SACR increases 71.5 per 100,000 population.

*Weapons violation crime rate.* Table 15 provides the OLS regression models predicting the WVCR. Among the WVCR OLS regression models, Model 5 has the highest  $R^2$  value of .283 which indicates it is the best fitting model to interpret with about 28 percent of the variation in the WVCR is explained by the predictor variables. Model 1, testing only the effect of percent foreign-born on the WVCR, has an  $R^2$  value of .047 indicating that only about 5 percent of the variance in the WVCR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent, on average, the WVCR in rural Iowa increases .7 per 100,000 population, and this result is statistically significant at the .05 level. However, as with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 15. OLS Regression Estimates Predicting the Weapons Violation Crime Rate (WVCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	7.526*** (1.331)		169.085* (84.517)		194.596* (90.461)		172.707* (91.369)		192.079* (91.301)	
% Foreign Born	.784* (.356)	.243	.103 (.406)	.032	.237 (.406)	.074	.132 (.411)	.041	-.293 (.490)	-.091
% Black			3.434** (1.050)	.412	2.786* (1.148)	.334	2.379* (1.181)	.286	2.570* (1.175)	.309
% Male			-2.267 (1.381)	-.175	-2.647* (1.441)	-.205	-2.209 (1.468)	-.171	-1.983 (1.461)	-.153
Median Age			-.201 (.492)	-.059	-.702 (.558)	-.207	-.663 (.555)	-.195	-.903 (.571)	-.266
% HS Graduates			-.626 (.431)	-.203	-.373 (.464)	-.121	-.379 (.461)	-.123	-.500 (.463)	-.162
Population			2.988 (5.869)	.079	1.108 (6.100)	.029	.844 (6.067)	.022	-1.142 (6.141)	-.030
Median Income					-.220 (.232)	-.132	-.184 (.232)	-.110	-.221 (.231)	-.132
Poverty Rate					-.177 (.541)	-.047	-.129 (.539)	-.034	-1.010 (.780)	-.268
Unemployment Rate					2.053* (1.181)	.212	1.902 (1.179)	.197	2.039* (1.171)	.211
Police Strength							.045 (.033)	.152	.052 (.033)	.177
% Foreign Born X Poverty Rate									.349 (.225)	.282
Adjusted R <sup>2</sup>	.047		.238		.260		.268		.283	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ 

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .238 indicating that the variables explain about 24 percent of the variation in the WVCR. In Model 2, the effect of percent foreign-born on the WVCR is no longer statistically significant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the WVCR increases a mere .1 per 100,000 population. The only predictor variable that is statistically significant in Model 2 is percent black. As the black population increases, on average, the WVCR increases. All

remaining demographic predictor variables, in Model 2, have no effect on the WVCR as they are statistically insignificant.

The  $R^2$  value in Model 3 increases to .260 indicating that the variables explain about 26 percent of the variation in the WVCR. The addition of these economic variables also suggests the foreign-born population has a minimally detrimental effect on the WVCR, and the variable's effect on the WVCR remains statistically insignificant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the WVCR increases .2 per 100,000 population. The 3 statistically significant predictor variables in Model 3 are percent black, percent male, and unemployment rate, all at the .05 level. As the county's black population increases, and for the first time, as the county's unemployment rate increases, on average, the WVCR increases. But, as in other dependent variable model analyses, as the county male population increases, on average, the WVCR decreases. The other demographic and economic predictor variables in Model 3 have no statistically significant effect on the WVCR.

In Model 4, the  $R^2$  value rises to .268 providing that the variables explain about 27 percent of the variation in the WVCR, but percent black is the only statistically significant predictor variable at the .05 level. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the WVCR barely increases .1 per 100,000 population. The results suggest percent foreign-born effectively increases the WVCR and rejects Hypothesis 13 (H13), but the result is statistically insignificant.

The analysis, therefore, embraces the immigration-crime dissociation theory. As the county's black population increases, on average, the WVCR increases.

In Model 5, the  $R^2$  value increases to .283 indicating that the variables explain 28 percent of the variation in WVCR. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the WVCR, but the effect of percent foreign-born does not vary across poverty rates. Therefore, the results reject Hypothesis 17 (H17). Similar to the results in Model 5 for the SACR, even though the percent foreign-born population remains statistically insignificant in Model 5, the addition of the interaction term in the model suggests that the foreign-born population alone actually decreases the WVCR. In Model 5 the only 2 predictors that are statistically significant are percent black and the unemployment rate variables. Both are statistically significant at the .05 level, but all other predictors are statistically insignificant. Taking the other variables into account, for each percent increase in the county black population, on average, the WVCR increases 2.6 per 100,000 population. Similarly, for each percent increase in the county unemployment rate, on average, the WVCR increases 2.0 per 100,000 population.

#### *Minor Crimes*

*Disorderly conduct crime rate.* The OLS regression models, shown in Table 16, predict the DCCR. Model 4 has the highest  $R^2$  value, at .682, is the best fitting model to interpret with about 68 percent of the variation in DCCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$  value of

.180 indicates that 18 percent of the variance in DCCR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent, on average, the DCCR in rural Iowa increases 21.8 per 100,000 population, and this result is highly statistically significant at the .001 level. However, as with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 16. OLS Regression Estimates Predicting the Disorderly Conduct Crime Rate (DCCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	61.386** (19.174)		2391.910* (925.053)		2293.548* (951.496)		1896.058* (935.111)		1904.107* (950.994)	
% Foreign Born	21.797*** (5.128)	.436	8.202* (4.449)	.164	9.614* (4.266)	.192	7.709* (4.202)	.154	7.532 (5.106)	.151
% Black			49.125*** (11.493)	.380	33.688** (12.079)	.261	26.302* (12.082)	.203	26.381* (12.239)	.204
% Male			-47.080** (15.112)	-.234	-44.235** (15.155)	-.220	-36.286* (15.028)	-.181	-36.192* (15.216)	-.180
Median Age			7.667 (5.386)	.146	-1.102 (5.865)	-.021	-.392 (5.681)	-.007	-.492 (5.947)	-.009
% HS Graduates			-16.733*** (4.718)	-.350	-11.118* (4.878)	-.232	-11.226* (4.719)	-.235	-11.276* (4.822)	-.236
Population			272.394*** (64.238)	.464	277.808*** (64.166)	.473	273.004*** (62.095)	.465	272.179*** (63.963)	.464
Median Income					-5.367* (2.438)	-.206	-4.699* (2.375)	-.181	-4.714* (2.405)	-.181
Poverty Rate					2.682 (5.692)	.046	3.558 (5.517)	.061	3.191 (8.123)	.055
Unemployment Rate					13.974 (12.424)	.093	11.244 (12.071)	.075	11.301 (12.195)	.075
Police Strength							.812* (.339)	.177	.815* (.345)	.178
% Foreign Born X Poverty Rate									.145 (2.343)	.008
Adjusted R <sup>2</sup>	.180		.621		.660		.682		.677	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
Note: Standard errors in parentheses.  
Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .621 indicating that the variables explain about 62 percent of the variation in the DCCR. In Model 2, the effect of percent foreign-born on the DCCR remains statistically significant at the .05 level. In fact, median age is the only statistically insignificant variable. The variables percent black, percent of high school graduates and beyond, and population are highly statistically significant, and percent male is statistically significant at the .01 level. Holding the other variables constant, as the foreign-born population increases by 1 percent, on average, the DCCR increases 8.2 per 100,000 population. As the county's black population and the total population each increases, on average, the DCCR increases. Conversely, however, as county's male population and percent of high school graduates and beyond each increase, on average, the DCCR decreases.

The  $R^2$  value in Model 3 again increases, to .660, indicating that the variables explain about 66 percent of the variation in the DCCR. The addition of these economic variables suggests the foreign-born population has a further detrimental effect on the DCCR, and the result is statistically significant at the .05 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DCCR increases 9.6 per 100,000 population. Five predictor variables in Model 3—percent black, percent male, percent high school graduates and beyond, population, and median income—are statistically significant. Similar to Model 2, as the county's black population and total population each increases, on average, the DCCR also increases. On the other hand, as the county male population, percent of high school graduates and

beyond, and median income each increase, on average, the DCCR decreases. The other predictor variables in Model 3 have no significant effect on the DCCR as each is statistically insignificant.

In Model 4, the  $R^2$  value rises to .682 providing that the variables explain about 68 percent of the variation in the DCCR and is the best fitting model to interpret. Model 4 adds the variable police strength to the predictor variables in Model 3. Taking the other variables into account, for each percent increase in the foreign-born population, on average, the DCCR again increases 7.7 per 100,000 population, and this result is statistically significant at the .05 level. This unexpected effect rejects Hypothesis 14 (H14). The results coincide with the immigration-crime affirmative nexus theory. Likewise, for every 1,000 increase in the county population, on average, the DCCR increases 1.0 per 100,000 population, and this effect is highly statistically significant at the .001 level. Among the other statistically significant predictor variables, each at the .05 level, for each percent increase in the black population, on average, the DCCR increases 33.7 per 100,000 population. Similarly, for every additional police officer, on average, the DCCR increases .8 per 100,000 population. On the contrary, for each percent increase in the county's male population, on average, the DCCR, decreases 36.3 per 100,000 population. Likewise, for each percent increase in county residents who are high school graduates and beyond, on average, the DCCR decreases 11.2 per 100,000 population. Finally, for every \$1,000 increase in the county median income, on average,



the DCCR will decrease 4.7 per 100,000 population. All other predictor variables are statistically insignificant.

In Model 5, the  $R^2$  value slightly decreases to .677 but still indicates that the variables explain 68 percent of the variation in the DCCR. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the DCCR, but the effect of percent foreign-born does not vary across poverty rates. Consequently, the results reject Hypothesis 17 (H17). The effects of the county population variable is highly statistically significant while the percent black, percent male, percent high school graduate and beyond, median income, and police strength are all statistically significant at the .05 level. The remaining predictors are statistically insignificant. Taking the other variables into account, as the county black population, total population, and police strength each increases, on average, the DCCR also increases. Conversely, as the county male population, percent of high school graduates and beyond, and median income each increases, on average, the DCCR decreases.

*Drunkenness crime rate.* Table 17 reflects the OLS regression models predicting the DCR. The model having the highest  $R^2$  value, .489, is Model 5 and is the best fitting model to interpret with about 49 percent of the variation in the DCR explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$  value of .259 indicates that about 26 percent of the variance in DCR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent,

on average, the DCR in rural Iowa increases 40.4 per 100,000 population, and this result is highly statistically significant at the .001 level. However, as with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 17. OLS Regression Estimates Predicting the Drunkenness Crime Rate (DCR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	84.120** (28.400)		3207.570* (1719.148)		3458.494* (1851.123)		2912.652 (1857.472)		3252.119* (1864.635)	
% Foreign Born	40.408*** (7.596)	.518	29.423*** (8.267)	.377	30.308*** (8.299)	.389	27.691*** (8.346)	.355	20.245* (10.012)	.260
% Black			34.807 (21.358)	.173	22.506 (23.500)	.112	12.363 (24.000)	.061	15.705 (23.997)	.078
% Male			-74.349** (28.085)	-.238	-68.791* (29.483)	-.220	-57.874* (29.851)	-.185	-53.904* (29.833)	-.172
Median Age			6.229 (10.010)	.076	-4.869 (11.410)	-.059	-3.894 (11.284)	-.047	-8.109 (11.660)	-.099
% HS Graduates			-13.815 (8.767)	-.185	-10.051 (9.491)	-.135	-10.200 (9.373)	-.137	-12.317 (9.456)	-.165
Population			361.022** (119.022)	.394	370.747** (124.834)	.405	364.149** (123.344)	.398	329.354* (125.414)	.360
Median Income					-9.518* (4.743)	-.235	-8.600* (4.717)	-.212	-9.251* (4.716)	-.228
Poverty Rate					-6.258 (11.073)	-.069	-5.055 (10.959)	-.055	-20.500 (15.928)	-.225
Unemployment Rate					4.198 (24.171)	.018	.450 (23.977)	.002	2.853 (23.911)	.012
Police Strength							1.115 (.672)	.156	1.246* (.676)	.175
% Foreign Born X Poverty Rate									6.108 (4.594)	.204
Adjusted R <sup>2</sup>	.259		.462		.471		.484		.489	
N	79		79		79		79		79	

\* $\leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$   
 Note: Standard errors in parentheses.  
 Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables in Model 2 increases the R<sup>2</sup> value to .462 indicating that the variables explain about 46 percent of the variation in the DCR. In Model 2, holding the other variables constant, as the foreign-born population increases by

1 percent, on average, the DCR increases 29.4 per 100,000 population. Again, this result is highly statistically significant at the .001 level, and violates the hypothesis. Among the other predictor variables, only percent male and population are statistically significant, both at the .01 level. All other predictor variables are statistically insignificant. As the county male population increases, on average, the DCR decreases. But, consistent with many other models among the dependent variable analyses, as the county population increases, on average, the DCR also increases.

The  $R^2$  value of .471 in Model 3 indicates that the variables explain about 47 percent of the variation in the DCR. The addition of these economic variables to the demographic predictor variables in Model 2 also suggests the foreign-born population has a detrimental effect on the DCR. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DCR increases 30.3 per 100,000 population, and this result is highly statistically significant at the .001 level. As in Model 2, percent male and population remain statistically significant, and the median income variable is also statistically significant. As the county male population and the median income each increases, on average, the DCR decreases. Alternatively, as the county population increases, on average, the DCR also increases. The other predictor variables in Model 3 have no significant effect on the DCR as each is statistically insignificant.

In Model 4, the  $R^2$  value rises to .484 providing that the variables explain about 48 percent of the variation in the DCR. Model 4 adds the variable police strength to the predictor variables in Model 3 keeping the effect of percent foreign-born on the DCR

highly statistically significant at the .001 level. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DCR increases 27.7 per 100,000 population. Accordingly, the results reject Hypothesis 15 (H15) and support the immigration-crime affirmative nexus theory. Similar to Model 3, the only statistically significant predictor variables in Model 4 are percent male, population, and median income. As the county male population and median income each increases, on average, the DCR decreases. But, as the county population increases, on average, the DCR likewise increases. The other remaining predictor variables in Model 4 are all statistically insignificant.

In Model 5, the  $R^2$  value slightly increases to .489 indicating that the variables explain 49 percent of the variation in the DCR and is the best fitting model to interpret. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the DCR; however, the effect of percent foreign-born does not vary across poverty rates, and, therefore, rejects Hypothesis 17 (H17) that the effect of percent foreign-born on county crime rate is moderated significantly by poverty rate. In Model 5, the variables percent male, the county population, median income, and police strength are also statistically significant, all at the .05 level. All other predictor variables in Model 5 are statistically insignificant. Taking the other variables into account, for each percentage increase in the male population, on average, the DCR decreases 53.9 per 100,000 population. Also taking the other variables into account, for every 1,000 increase in the county population,

on average, the DCR increases 1.0 per 100,000 population. However, holding the other variables constant, for every \$1,000 increase in the county median income, on average, the DCR decreases 9.3 per 100,000 population. Finally, taking the other variables into account, for every additional police officer, the DCR increases 1.2 per 100,000 population.

*Driving under the influence crime rate.* The OLS regression models included in Table 18 predict the DUICR. In this table, Model 4 has the highest  $R^2$  value (.278) is the best fitting model to interpret with about 28 percent of the variation in the DUICR is explained by the predictor variables. In Model 1, testing only the effect of percent foreign-born, the  $R^2$  value of .073 indicates that only about 7 percent of the variance in the DUICR is explained by the foreign-born population variable. As the foreign-born population increases by 1 percent, on average, the DUICR in rural Iowa increases 17.2 per 100,000 population, and this result is statistically significant at the .01 level. However, as with previous dependent variables, this unanticipated bivariate result may be spurious as other relevant factors are not considered in Model 1.

Table 18. OLS Regression Estimates Predicting the Driving Under the Influence Crime Rate (DUICR), Iowa Rural Counties 2007-2011.

Predictor	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Constant	299.113*** (24.165)		530.052 (1573.052)		1208.514 (1715.671)		416.522 (1670.279)		465.910 (1698.126)	
% Foreign Born	17.230** (6.463)	.291	9.456 (7.565)	.160	10.240 (7.691)	.173	6.444 (7.505)	.109	5.360 (9.118)	.090
% Black			29.958 (19.543)	.195	28.404 (21.780)	.185	13.687 (21.581)	.089	14.173 (21.854)	.092
% Male			-17.808 (25.698)	-.075	-20.087 (27.326)	-.084	-4.247 (26.842)	-.018	-3.669 (27.169)	-.015
Median Age			-1.962 (9.160)	-.031	-8.613 (10.576)	-.138	-7.199 (10.147)	-.115	-7.812 (10.618)	-.125
% HS Graduates			-1.916 (8.022)	-.034	-1.874 (8.796)	-.033	-2.090 (8.428)	-.037	-2.398 (8.611)	-.042
Population			213.639* (109.237)	.307	194.706* (115.699)	.280	185.134* (110.914)	.266	180.071 (114.215)	.259
Median Income					-5.828 (4.396)	-.189	-4.496 (4.242)	-.146	-4.591 (4.295)	-.149
Poverty Rate					-11.725 (10.263)	-.169	-9.980 (9.855)	-.144	-12.227 (14.505)	-.176
Unemployment Rate					11.727 (22.402)	.066	6.289 (21.560)	.035	6.638 (21.776)	.037
Police Strength							1.618** (.605)	.298	1.637** (.616)	.302
% Foreign Born X Poverty Rate									.889 (4.183)	.039
Adjusted R <sup>2</sup>	.073		.220		.214		.278		.268	
N	79		79		79		79		79	

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ 

Note: Standard errors in parentheses.

Source: U.S. Census and State of Iowa

Adding the 5 demographic control variables to Model 2 increases the  $R^2$  value to .220 indicating that the variables explain about 22 percent of the variation in the DUICR. However, the percent foreign-born variable becomes statistically insignificant with the addition of these demographic control variables. In Model 2, taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DUICR increases 9.5 per 100,000 population. The county population variable is the only predictor variable that is statistically significant. As the county population increases, on

average, the DUICR also increases. The remaining predictor variables are statistically insignificant.

The  $R^2$  value in Model 3 decreases to .214 indicating that the variables explain about 21 percent of the variation in the DUICR, and population is, again, the only statistically significant variable in Model 3. The addition of these economic variables to the demographic predictor variables in Model 2 suggests the foreign-born population has a detrimental effect on the DUICR, but the result is statistically insignificant. Taking the other variables into account, as the foreign-born population increases by 1 percent, on average, the DUICR increases 10.2 per 100,000 population. As the county population increases, on average, the DUICR also increases.

In Model 4, the best fitting model to interpret, the  $R^2$  value rises to .278 providing that the variables explain about 28 percent of the variation in the DUICR. Model 4 adds the variable police strength to the predictor variables in Model 3. The analysis suggests percent foreign-born effectively increases the DUICR, but the effect of percent foreign-born on the DUICR is statistically insignificant. Therefore, the results do not support Hypothesis 16 (H16). Consequently, the analysis supports the immigration-crime dissociation theory. The only statistically significant predictor variables in Model 4 are the county population and police strength. For every 1,000 increase in the county population, on average, the DUICR increases 1.0 per 100,000 population. Likewise, for each additional police officer, on average, the DUICR increases 1.6 per 100,000

population. The remaining predictor variables in Model 4 have no significant effect on the DUICR as each is statistically insignificant at the .05 level.

In Model 5, the  $R^2$  value decreases to .268 indicating that the variables explain 27 percent of the variation in the DUICR. Model 5 adds the interaction term %Foreign-Born X Poverty Rate to test the moderating effect of rural counties' foreign-born population percentage and poverty rate on the DUICR, but the effect of percent foreign-born does not vary across poverty rates. Therefore, the results reject Hypothesis 17 (H17). The police strength variable is the only statistically significant variable in Model 5, and all other predictors are statistically insignificant. Taking the other variables into account, as the county's police strength increases, the DUICR also increases.

## SUMMARY

OLS regression is the appropriate statistical technique for analyzing the data in 15 of the 16 dependent variables. Considering the inordinately low number of murders reported among Iowa's rural counties, negative binomial regression using count data is the preferred statistical technique for analyzing the MCR data. In 8 of the crime rates, the data analysis supports the hypotheses that, controlling for other factors, as a county's foreign-born population percentage increases, the county's crime rate is more likely to decrease. Only 2 of the crime rates—murder and motor vehicle theft—were statistically significant and supported the immigration-crime inverse nexus theory. Even though the results indicated a negative relationship, the results were statistically insignificant at the .05 level for total crimes, violent crimes, property crimes, aggravated assault, forcible



rape, and robbery, thus corresponding to the immigration-crime dissociation theory. Also associated with the immigration-crime dissociation theory are the crimes of burglary, larceny, simple assault, weapons violations, and driving under the influence as the results suggest the percentage foreign-born population increases those crime rates, but the results were statistically insignificant. The analyses showed a statistically significant, positive relationship between percent foreign-born and crime rates for drug abuse, disorderly conduct, and drunkenness. These results support the immigration-crime affirmative nexus theory. Finally, the results supported Hypothesis 17 which provides that the effect of percent foreign-born on county crime rate is moderated significantly by poverty rate for the seven crimes including total crime, violent crime, property crime, aggravated assault, drug abuse, larceny, and motor vehicle theft.

## CHAPTER VI

### CONCLUSION

Some 500 years after the first Europeans began to colonize the territory that would become the U.S., immigration remains a contentious political, social, and moral issue. Despite being a nation of immigrants, many people in the U.S. seem to have developed the belief that they have some inherent claim to their U.S. citizenship to the exclusion of all others who were born outside the U.S. The popular rhetorical argument relies on appealing to the emotionally charged nebulous relationship between immigration and crime to rationalize curtailing immigration into the U.S. Sampson's (2008) preeminent research was instrumental in leading the way for a host of subsequent studies that find consistent results based on empirical evidence suggesting a disconnect between immigration and crime in urban neighborhoods. Indeed, a thorough literature review relating to immigration and crime indicates an overwhelming locus on urban centers but effectively excludes research on the effect of immigration on crime rates in rural America. This salient study begins to help fill the immense gap in the literature relating to immigration and crime in rural areas. Specifically, it presents a scientific examination based on empirical evidence of the effect foreign-born populations have on rural county crime rates in Iowa. This concluding chapter summarizes the main findings, examines

theoretical and policy implications of the findings, considers the limitations associated with this research, and identifies directions for future research.

## SUMMARY OF THE FINDINGS

The abject lack of academic literature directly addressing the immigration-crime nexus in rural areas of the U.S. requires this research to approach the topic in a rather unconventional manner. Considering the absence of directly relevant academic literature the logical alternative is to use the copious literature addressing the relationship between immigration and crime in urban neighborhoods. However, the diametrical differences between rural communities and urban neighborhoods exposed the fundamental flaw in attempting to use literature on urban areas as a boilerplate application to investigating the immigration-crime nexus in rural America.

To answer this study's research question of what is the relationship between the foreign-born population and county crime rates in rural America, or how a foreign-born population affects the crime rate in rural America, I develop four competing theoretical frameworks. The immigration-crime affirmative nexus theory suggests a positive connection between a foreign-born population and rural county crime rate. An immigration-crime dissociation theory disavows any connection between a foreign-born population and the rural county crime rate. The immigration-crime conditional nexus theory acknowledges a provisional influence of a foreign-born population on rural county crimes rates, increasing some crime rates, lowering other crime rates, and having no

effect on others. Finally, an immigration-crime inverse nexus theory argues that a foreign-born population decreases rural county crime rates.

Derived from the theoretical frameworks, this study presents 16 hypotheses, divided into three classifications, for testing. The first classification considers the county categorical crime rates for total crimes, violent crimes, and property crimes. The second classification examines 10 serious crimes including aggravated assault, burglary, drug abuse, forcible rape, larceny, motor vehicle theft, murder, robbery, simple assault, and weapons violations. Some crimes are excluded from this research, because these excluded crimes are effectively non-existent in rural Iowa counties. The third classification includes the 3 minor offenses of disorderly conduct, drunkenness, and driving while intoxicated. An additional hypothesis investigates the effect of interaction between percent foreign-born population and poverty rate to test the moderating effect of foreign-born population and poverty rate on the crime rates in rural counties.

Using the crime data from the annual Iowa Uniform Crime Report (UCR), and the demographic and economic data through the ACS from the U.S. Census Bureau for the 79 rural counties in Iowa, this study tests the proposed theoretical frameworks and the 17 hypotheses mainly through OLS regression analyses and negative binomial regression analysis for murder rate. The key findings are summarized below.

For TCR, shown in Table 3, the bivariate OLS regression model indicates a positive relationship between percent foreign-born and TCR. However, this result is spurious. Holding demographic, economic, and social control variables constant, there is a negative

relationship between percent foreign-born and the TCR, but the relationship is statistically insignificant. The direction of the relationship coincides with Hypothesis 1, but the effect size is not large enough to support Hypothesis 1. This result offers support for the immigration-crime dissociation theory. In addition, the addition of the interaction term between percent foreign-born and poverty rate reveals that the effect of percent foreign-born on the TCR varies significantly across the categories of poverty rate. These results support Hypothesis 17 suggesting that the effect of percent foreign-born on the TCR is moderated by poverty rate.

The bivariate OLS regression model for the VCR, in Table 4, suggests percent foreign-born has a detrimental effect on the VCR. Although this result is statistically significant, it is, nonetheless, a spurious relationship. Taking the demographic, economic, and social control variables into account, the effect of percent foreign-born on the VCR becomes a negative relationship, but the result is statistically insignificant. While the negative relationship appears to affirm Hypothesis 2, the influence is too small to support the hypothesis. As in the TCR, this unexpected result also supports the immigration-crime dissociation theory. Adding the interaction term, between percent foreign-born and poverty rate, indicates that the effect of foreign-born on the VCR varies significantly across the categories of poverty rate. Also, as in the TCR, this result lends support to Hypothesis 17.

Consistent with the previous two categorical crime rate analyses, the bivariate OLS regression model for the PCR, in Table 5, shows a large, positive, albeit spurious,

relationship between percent foreign-born and the PCR. Controlling for the demographic, economic, and social control variables in the full model, the results suggest percent foreign-born reduces the PCR, but the effect is, again, statistically insignificant. As this trivial effect rejects Hypothesis 3, the result also supports the immigration-crime dissociation theory. The interaction term analysis indicates that the effect of percent foreign-born on the PCR varies significantly across the categories of poverty rate. This result supports Hypothesis 17 for the PCR.

Beginning the serious crime rate analyses, Table 6 presents the AACR OLS regression models. The bivariate model results suggest that percent foreign-born significantly increases the AACR. But, as in previous analyses, this effect remains spurious. Taking the control variables into account in the full model, percent foreign-born appears to exert a beneficial effect of reducing the AACR, but the effect is small and statistically insignificant. Despite the negative direction of the percent foreign-born coefficient in the full model, the result rejects Hypothesis 4. Concurrently, the full model analysis result supports the immigration-crime dissociation theory. The interaction effect of percent foreign-born and poverty rate indicates that the effect of percent foreign-born on the AACR varies significantly across the categories of poverty rate. Consequently, this result is congruous with Hypothesis 17 for the AACR.

Departing from previous crime rate analysis results, the BCR analysis, in Table 7, provides interesting findings. Percent foreign-born is positive but statistically insignificant in both the bivariate model and the full model. Accordingly, the results

reject Hypothesis 5 and support the immigration-crime dissociation theory. The interactive effect of percent foreign-born and poverty rate is insignificant, suggesting that percent foreign-born does not vary significantly across the categories of poverty rate. Thus, Hypothesis 17 for the BCR is not supported.

Bucking the trend found in previous findings, the DACR analysis, illustrated in Table 8, in all models except for the interaction model foreign-born population has an unhealthy effect of increasing the DACR significantly. These results contradict Hypothesis 6 and support the immigration-crime affirmative nexus theory. The data fails to disaggregate drug abuse according to the specific substances, but marijuana is the most commonly used illicit drug in the U.S. (Thio and Taylor 2012). As a *mala prohibita* crime, some people consider the possession and use of marijuana on the same level as running a stop sign. For some foreign-born populations drug use, especially marijuana, is socially acceptable or they may be unaware that some substances are illegal in the U.S., e.g. khat use among native-Somalis (Siek 2002). The model considering the interaction term, as in previous analyses, indicates the effect of percent foreign-born varies significantly across the categories of poverty rate. This result supports Hypothesis 17 for the DACR.

The results of the FRCR analysis, in Table 9, show that percent foreign-born is statistically insignificant in both the bivariate model and the full model, albeit negative in sign. Hence, Hypothesis 7 is not supported, and the immigration-crime dissociation theory finds supporting evidence. The model that adds the interaction term shows that

the effect of percent foreign-born does not vary significantly across the categories of poverty rate. Therefore, Hypothesis 17 for the FRCR is not supported.

For the LCR, in Table 10, the bivariate model show that percent foreign-born has substantial and positive effect on the LCR. But, in agreement with previous analyses, the bivariate relationship continues to be spurious. The results in the full model suggest percent foreign-born has a insignificant and negligible effect of increasing the LCR, thus rejecting Hypothesis 8. This unexpected result offers support for the immigration-crime dissociation theory. The addition of the interaction term between percent foreign-born and poverty rate indicates that the effect of percent foreign-born on the LCR varies significantly across the categories of poverty rate. This result supports Hypothesis 17 for the LCR.

In Table 11, the full model OLS regression analysis of the MVTCR suggests the percent foreign-born has the significant effect of decreasing the MVTCR. While this effect is rather small, it supports Hypothesis 9 as well as the immigration-crime inverse nexus theory, as expected. The addition of the interaction term indicates the effect of percent foreign-born varies significantly across the categories of poverty rate and supports Hypothesis 17 for the LCR.

Iowa's inordinately low MCR requires using negative binomial regression as the appropriate statistical technique as shown in Table 12. Focusing on the full model, percent foreign-born, as expected, significantly decreases the MCR, but the effect is very minor. Regardless, the results support Hypothesis 10 and the immigration-crime inverse



nexus theory. However, the addition of the interaction term indicates that the effect of percent foreign-born does not vary significantly across the categories of poverty rate, thus rejecting Hypothesis 17 for the MCR.

The RCR OLS regression analysis, reflected in Table 13, reveals some rather unexpected results. The percent foreign-born independent variable is statistically significant in neither the bivariate analysis, nor in the full model. As such, the result does not support Hypothesis 11 and, once again, coincides with the immigration-crime dissociation theory. Further, considering the interaction term, the effect of percent foreign-born does not vary significantly across the categories of poverty rate. Therefore, this result rejects Hypothesis 17 for the RCR.

Table 14 portrays the SACR analysis. The bivariate model indicates a spurious positive relationship between percent foreign-born and the SACR. In the full model percent foreign-born has a much smaller, yet still positive, relationship with the SACR, but the effect is statistically insignificant. Accordingly, Hypothesis 12 is not supported, but immigration-crime dissociation theory is. Analyzing the model adding the interaction term suggests the effect of percent foreign-born does not vary significantly across the categories of poverty rate. This result also rejects Hypothesis 17 that the effect of percent foreign-born on the SACR is moderated by poverty rate.

Finally among the serious crimes, the WVCR analysis, in Table 15, produces similar results to the SACR analysis. Despite the indication in the bivariate model that the percent foreign-born actually increases the WVCR, the relationship is spurious. Percent

foreign-born is statistically insignificant in the full model, thus rejecting Hypothesis 13. The results also lend support to the immigration-crime dissociation theory. The analysis considering the interaction term indicates the effect of percent foreign-born does not vary significantly across the categories of poverty rate. Hence, this result rejects Hypothesis 17 for the WVCR.

Moving to the minor offenses, the unexpected results show percent foreign-born has a consistent detrimental effect of increasing each of the three crime rates. The DCCR analysis, shown in Table 16, illustrates this effect. The bivariate model suggests the foreign-born population has the deleterious effect of substantially increasing the DCCR, and the effect remains significantly at the .05 level in the full model. These unexpected results reject Hypothesis 14 and support the immigration-crime affirmative nexus theory. Adding the interaction term to the predictor variables, the model result indicates the effect of percent foreign-born does not vary significantly across the categories of poverty rate. Again, this result rejects Hypothesis 17 for the DCCR.

Likewise, the DCR analysis, depicted in Table 17, indicates a problematic relationship between the foreign-born population and the DCR. In the bivariate model, percent foreign-born dramatically increases the DCR. In the full model, taking the other variables into account, percent foreign-born still has the effect of considerably increasing the DCR. Consequently, these unanticipated results reject Hypothesis 15 and, once again, support the immigration-crime affirmative nexus theory. The model analyzing the effect of the interaction term indicates percent foreign-born does not vary significantly

across the categories of poverty rate. As in previous similar analyses this result rejects Hypothesis 17 for the DCR.

Finally, the DUICR analysis, as shown in Table 18, found percent foreign-born has the considerable harmful effect of increasing the DUICR. However, this result is spurious as in the full model, percent foreign-born has lost statistical significance, thus rejecting Hypothesis 16. This result also supports the immigration-crime dissociation theory. Consistent with the previous two minor crime rate analyses, the effect of percent foreign-born does not vary significantly across the categories of poverty rate. Therefore, this result rejects Hypothesis 17 that the effect of percent foreign-born on the DCR is moderated by poverty rate.

In summary, my hypotheses about the negative relationship between foreign-born population and crime rate finds support for MVTCR and MCR, and although percent foreign-born is associated with a lower crime rate, controlling for other variables, its effect is not statistically significant for TCR, VCR, PCR, AACR, FRCR, and RCR. Surprisingly, the data contradict my hypotheses for DACR, DCCR, DCR, and DUICR as foreign-born population significantly increases the rates for DACR and all of the 3 minor crimes. Albeit positive, the effect of percent foreign-born is not significant for BCR, LCR, SACR, and WVCR.

The control variables track the 3 categories including demographic, economic, and social control. Among the 3 categories, percent black and population appear to be primary factors providing significant effects influencing the relationship between the

foreign-born population and the crime rates with percent male having random significant relevance. Surprisingly, with just a very few exceptions, median age and high school graduates and beyond were relatively inconsequential to the analysis. Likewise, except for just a few instances, the economic control variables also provided insignificant effects. Conversely, the social control variable, police strength, proved to be a significant effect on the crime rates.

## IMPLICATIONS OF THE FINDINGS

The unfortunate connotation of the term “immigration” in the average native-born American psyche has become synonymous with illegal Mexican immigrant. A seemingly continuous stream of anecdotal news stories highlighting the sensationalized heinous crimes committed by unauthorized immigrants inculcates the pejorative concept of immigrants creating an irrational fear of all foreign-born persons. Evidence supporting this phenomenon in American culture is as near as the evening news and the seemingly incessant political rhetoric. The danger lurking in perpetuating such an inaccurate public perception includes the potential for the passage of immoral laws and knee-jerk governmental policy based purely on an emotional narrative. Sadly, society has a short memory resulting in the tendency to repeat serious mistakes made in the past. This seriously flawed strategy has been the history of U.S. immigration policy for at least the last century.

The results of this research suggest that the relationship between immigration and crime is a much more complicated and nuanced issue than what the media likes to

portray. The relationship is, indeed, considerably more complex than what was initially believed in the initial stages of this study. To fully understand the relationship between immigration and crime in rural America requires a holistic approach rather than the myopic perspective of focusing on individual crimes or one category of crime. Accordingly, this study has significant implications for empirical research as the results suggest some similar findings as reported in the literature on urban immigrant crime, but the results also indicate variation in criminality between urban and rural settings. The literature on urban immigrant crime is consistent in its findings that urban neighborhoods that have significant immigrant populations tend to have lower crime rates, especially for violent crimes, than other neighborhoods inhabited by native-born populations. For instance, this research found that the data suggest a negative relationship between foreign-born populations and the crime rates for motor vehicle theft and murder. The results of this research that contradict the research on the immigrant-crime nexus are the crimes that the data indicate foreign-born populations have no significant effect on the county crime rates. Moreover, the results of this study differ from urban immigrant-crime research in its findings that show foreign-born populations actually increase the crime rate for the four public order offenses. The implications for empirical research this study offers relates to the findings that show variation with the research on urban immigrant-crime and demand further research. The narrow geographic focus of this research is similar to the research focusing on urban immigrant crime. This study considers the phenomenon as it exists in Iowa, and the vast bulk of urban immigrant-

crime research is centered primarily in Chicago with a few ancillary similar studies examining other larger cities. Neither the results of this research, nor the results of the studies examining urban immigrant crime may be generalized beyond each study's relatively narrow scope in terms of geography and the crimes they examine. Conducting robust replication studies in alternate urban and rural jurisdictions will confirm or dispel the findings of this and other research.

As the results of this research suggest mixed findings to the studies on urban immigrant crime the distinction between rural and urban values and way of life must be considered to fully comprehend the apparent different outcomes. For instance, rural police tend to enforce minor offenses more than their large urban counterparts (Sims 1988). This disparity in police discretion is fundamentally based on the difference in the nature of work between rural and urban police agencies. Rural police officers are sensitive to citizen desire for public order maintenance and typically have a much lower workload than police officers serving in an urban jurisdiction (Gaines and Kappeler 2005). Large city police officers, on the other hand, often find themselves going from one call to another and responding to calls for service involving serious crimes. Consequently, dealing with a relatively minor offense is considered a distraction. Thus, the same behavior that lands an offender in jail in a rural jurisdiction is merely released with a warning in the city. Such an offender in a rural community becomes a crime statistic while the miscreant in the city becomes part of the dark figure of crime. This

phenomenon applies to native-born as well as foreign-born populations inhabiting their respective community.

This research is unique in that it considers the effect of several factors for predicting the crime rates in rural communities. In the same manner the existing literature tends to narrowly focus on a particular crime or crime category, the authors also seem to consider an insufficient number of factors to support their findings. This study considered 10 variables and 1 interaction term over 5 models to investigate the nuanced effect of the foreign-born population, alone, on the crime rates and the additive effect of demographic, economic, and social control factors on the crime rates. The percentage of the county's black population, the total county population, and police strength consistently suggested a significant positive effect on the crime rates while the results were mixed with the other predictor variables. A comprehensive consideration of this research results indicates the complex nature of the relationship between immigration and crime in rural America.

The absence of a suitable criminological theory mirror the problems encountered with the absolute lack of academic literature directly relevant to immigration and crime in rural areas. In response four theoretical frameworks were developed to offer competing answers to the research questions with the goal to assess their utility and limitations. To that end, a specific theory corresponds with data analysis results indicating a foreign-born population has the effect of increasing the crime rate, a foreign-born population has no significant effect on the crime rate, or a foreign-born population has the effect of decreasing the crime rate. As this research illustrates, among Iowa's rural counties, the

foreign-born population appears to increase some crime rates, has no significant effect on most crime rates, and reduces a couple crime rates. Choosing a pre-existing criminological theory or developing just one theoretical framework would provide a valid explanation in only a few of the crime rates that were analyzed. Thus, such an approach would have resulted in an incomplete answer to the research questions. However, since every potential finding was anticipated an appropriate theory was available to cover each analytical result.

While this study provides three new theories that foster a more nuanced understanding of the immigration-crime nexus, the locus remains on explaining individual crime rates and fails to consider the requisite totality of the circumstances perspective that provides a holistic consideration of the actual effect foreign-born populations have on multiple crime rates. Thus, the immigration-crime conditional nexus theory was developed to account for a combination of the three potential analytical outcomes. The initial preferred theory, immigration-crime inverse nexus theory, is useful for only those crime rates that the empirical evidence suggests foreign-born populations have the effect of decreasing the crime rate. Accordingly, immigration-crime inverse nexus theory would apply in only 2 crime rates that were analyzed in this study leaving 14 crime rates without a valid theory. While one of the three new theories applies to a specific analysis finding, the immigration-crime conditional nexus theory facilitates considering the findings for all of the crime rates combined. The implications of the findings for the theories lie in their



existence to facilitate future research to further understanding the actual relationship between immigration and crime in rural areas.

The practical implications associated with this research are two-fold. Ideally, the results of this study can be used to educate elected and appointed policymakers about the intrinsic value of foreign-born populations residing in rural communities. Just as empirical evidence fails to support a link between immigration and crime in urban neighborhoods (Martinez 2006), the results of this research suggest a similar dissociation with foreign-born populations in rural areas. The other implication is the value of this research results in educating law enforcement in the cultural variation law enforcement officers may encounter when dealing with foreign-born persons. Rather than myth and innuendo this research uses empirical governmental data for investigating the effect foreign-born populations have on a variety of crime rates among Iowa's rural counties. The data effectively negates the notion that immigrant populations in the U.S. tend to be inherently criminal. In fact, the results suggest that foreign-born populations overwhelmingly obey the laws. Considering the collective nature of foreign-born populations and the elementary reason for immigrating to the U.S. explains why the immigration-crime affirmative nexus theory premise is fundamentally flawed. Engaging in criminal behavior is indicative of persons who tend to live for the moment in search of instant and superficial gratification which is the antithesis of immigrant populations. Indeed, considering the stimuli motivating immigrants to leave their homeland and relocate to in a foreign land as well as the significant challenges such a move presents to

the migrant, intentionally committing crimes in the destination community is an irrational behavior.

The serious crimes in this research may be considered as *mala in se* crimes, those crimes that are universally considered as wrong irrespective of culture. The results in this research indicate that foreign-born populations conform to the law regarding *mala in se* crimes. The minor public-order type offenses, the *mala prohibita* crimes, tend to be culture-specific and such behavior is illegal merely because the particular jurisdiction says the behavior violates the law. When foreign-born persons and the larger foreign-born population tend to commit *mala prohibita* crimes the behavior is likely nothing more than a mere mistake on the offender's part. Castigating such offenders is an unreasonable strict enforcement of the letter of the law and violates the legislature's spirit-and-intent when passing public order laws. Foreign-born populations may retain some of their culturally familiar artifacts, but that practice is a common tradition among all ethnic groups in the U.S. Rather than perpetuating stereotypes, fear, and hostility among the native-born population in their perception of foreign-born populations, the media could be a valuable mechanism to foster understanding, tolerance, and acceptance of foreign-born populations.

#### LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This original research investigating the effect of a foreign-born population on crime rates in rural areas is fraught with limitations dictating the direction for this study.

Initially planned to parallel Sampson's preeminent research into the relationship between

immigrants and crime in urban neighborhoods, several problematic issues quickly became apparent requiring a significant alternate approach. The limitations locus lay primarily in the available data which ultimately drove the statistical techniques used in this study. While Iowa is the perfect focus for this research as it is the epitome of a rural state, is centrally located in the continental U.S., and offers the best data available under the circumstances, Iowa's rural nature and its location as a so-called "fly-over" state degrades the available data quality as the U.S. Census Bureau seems to have the attitude that rural areas of the country are somehow undeserving of receiving the same level of attention given to urban centers.

Foremost among the obstacles the available data presented is the nature of the data the U.S. Census Bureau collects. In addition to data the U.S. Census Bureau collects during the decennial census, the Bureau collects a variety of demographic and economic data on a continuous basis through the American Community Survey (ACS) program. While the ACS collects and disseminates actual data on an annual basis for large cities, it also provides one-year and three-year estimates for mid-size communities, but provides only five-year estimates for sparsely populated and rural communities. The aggregated five-year estimate data fail to provide detailed information available in the data sets relating to larger communities. Further, having only five-year estimated data available rather than annual data significantly restricts the researcher's ability to analyze the data precluding the use of more sophisticated statistical techniques annual data allows. In this study, the type of data that is available effectively reduced the number of cases from 790 or more

using actual data collected annually over a 10-year period to a mere 79 cases using only the 5-year estimated data that was available for the sparsely populated, rural counties.

The definition of foreign-born also presents a particular concern germane to this study as the percent foreign-born population is used as the independent variable in the data analysis. A superficial perspective of the foreign-born definition fails to consider salient characteristics that may create some latent influences in the data analysis results. The mere label “foreign-born” evokes the sense that all foreign-born persons are the same. They were obviously born outside the U.S. territory, but that is where the assumed similarities end. The label cannot indicate if a foreign-born person was born outside the U.S. jurisdiction then immediately, within a few days, brought into the U.S. where the person lived their whole life in the same environment as a native-born citizen. Similarly, the parents of a person born in the U.S. may have immediately taken the child soon after his or her birth to live in a foreign country growing up in a culture very different than had the child spent his or her childhood in the U.S. While this potential problem with the data are considered unlikely or, at least, minimal, the actual influence such a condition may present in the data is unknown.

While technically a limitation affecting this study, rural Iowa enjoys an exceptionally low crime rate among many crimes reported in the UCR. For instance, the murder crime rate was included in this study even though very few murders were reported in Iowa’s rural counties over the five-year period covered in this research. The murder rate was included because it is generally accepted as the most serious crime and, typically, all

murders are reported to law enforcement in some manner. Murders are unlikely to fall into the dark figure of crime. However, several other crimes, both serious and minor offenses, have such low incidence rates as to constitute a non-issue among the rural counties' crime rates. Although performing a statistical analysis on these rare crimes is possible, the findings would be effectively meaningless for these virtually non-existent crime rates.

It is important to emphasize that the results of this study are applicable to Iowa rural counties for the specific years, and cannot and should not be generalized to other jurisdictions or periods as crimes and demographic, economic, and social control characteristics elsewhere and at another time may be significantly different from those found in this research. Nevertheless, the theories and methods of this study could be heuristic for future research.

Despite the often frustrating challenges these limitations present, they also offer stimulating opportunities for future research. Indeed, this pioneering study merely scratches the surface into the effect foreign-born persons have on rural crime. This study takes the momentous first step into thoroughly understanding the nature of the immigration-crime nexus in rural areas of the U.S. complementing the extensive body of research on the relationship between immigration and crime in urban cities. Indeed, this study should serve as a catalyst motivating additional research in rural reaches nationwide. Rather than an inconsequential exercise, such research would provide critical information grounded in empirical evidence serving to confirm or dismiss the

findings in this study. Such scientific information could be used for crafting improved ethical public policy relating to immigration as well as further exposing the fallacies associated with the myths, rumors, and innuendos currently surging through the American media, political arena, and general society.

Four particularly salient opportunities for further research in this vein are apparent. The first and probably the most important direction for additional research is to replicate this research focusing on other states, including the rural counties in states having populous urban cities, such as New York, California, and Missouri. Similar research should ultimately include every state in the U.S. or a study including all rural counties nationwide. Even replication studies that may contradict the findings of this research will provide critical information to identify the demographic, economic, or social control factors, as well as other latent influential stimuli that require attention to improve social conditions in rural communities.

A second opportunity for further research is to include additional crime rates into the research. The crime rates included in this research are specific to Iowa's particular rural cultural environment, but the same conditions cannot be assumed as generalizable across rural communities in every state in the U.S. Undoubtedly, there are certain similarities among all rural areas in the U.S., but many cultural differences exist as well. Rural life in Iowa is, in all likelihood, much different than that found in Alaska or along the U.S.-Mexico border. Including as many crime rates as the data support and identifying those

crime rates that are not conducive to inclusion in the research provides the additional opportunity to compare and contrast the nature of rural areas among the states.

Further testing the validity of the immigration-crime conditional nexus theory provides a third direction for additional research on this topic. The unique aspects integral to this research required the development of, not only one theoretical framework, but 4 theoretical frameworks potentially applicable to the effect of foreign-born populations on rural crime rates. Peculiar to this research focusing on rural Iowa, the immigration-crime conditional nexus theoretical framework presented the most fitting theory of the 4 theoretical frameworks. Depending on the state, its empirical data analysis may suggest different findings that support one of the other 3 theoretical frameworks as a better fitting theory. It is also possible that conditions in other states may find a previously existing criminological theory as the most appropriate for use in research focusing on that state. One of the fundamental elements of determining a theory's validity is subjecting it to falsification based on the empirical evidence. Consequently, only further testing the immigration-crime conditional nexus theory will determine whether or not it is a valid theory.

Finally, the fourth opportunity for further similar research considers specific migrant populations and their particular effect on rural crime rates. This research considers all foreign-born persons as an aggregate in analyzing their effect on rural crime rates. The data used in this dissertation do not provide the critical nuanced information that would facilitate a closer analysis into particular characteristics of the foreign-born population.

However, separating foreign-born persons according to their country of origin and perhaps the conditions under which they migrate as a control variable will provide much more detailed information for formulating public policy and laws. An immigrant population hailing from a modern, industrialized nation largely composed of highly educated individuals who self-select may be very different from a population escaping a war-torn third-world country. Such nuances in the foreign-born population variable in this research are left to speculation, whereas narrowing the focus on the foreign-born variable can provide salient information useful in a variety of applications.

This study provides a mere first step in the long, arduous journey to reach an understanding of the relationship between foreign-born population and the county crime rates in rural America. The novel characteristics inherent in this study, including the topic and the theoretical frameworks development, provide important information based in empirical data that not only serves to begin filling the literature vacuum but also offers an alternative refreshing perspective on the popular concept of immigrant populations living in the U.S. Considering the totality of the circumstances, Iowa was the perfect vehicle for conducting this study. Further similar research will determine whether or not the findings in this study are typical of the relationship between foreign-born populations and rural crime rates or if the nature of immigrants settling in Iowa are unique from the rest of the country.



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APPENDIX  
IRB APPROVAL LETTER



**Institutional Review Board**  
Office of Research and Sponsored Programs  
P.O. Box 425619, Denton, TX 76204-5619  
940-898-3378 FAX 940-898-4416  
e-mail: [IRB@twu.edu](mailto:IRB@twu.edu)

October 9, 2013

Mr. David J. Carrothers

Dear Mr. Carrothers:

*Re: Immigration and Crime in Rural America: The Case of Iowa (Protocol #: 17487)*

The above referenced study has been reviewed by the TWU Institutional Review Board (IRB) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any unanticipated incidents. If you have any questions, please contact the TWU IRB.

Sincerely,

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Dr. Rhonda Buckley, Chair  
Institutional Review Board - Denton