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Immigrant Residential Concentration and Ethnic Economy as Correlates of Violent Crime Rates: Can Ethnic Enclave Theory Help Solve the Immigrant Paradox?

Feodor A. Gostjev
University of Miami, feodor.gostjev@gmail.com

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IMMIGRANT RESIDENTIAL CONCENTRATION AND ETHNIC ECONOMY AS CORRELATES OF VIOLENT CRIME RATES: CAN ETHNIC ENCLAVE THEORY HELP SOLVE THE IMMIGRANT PARADOX?

By

Feodor Alexeiivitch Gostjev

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Feodor Alexeiivitch Gostjev

Approved:

_____   _____
Amie L. Nielsen, Ph.D.   Alejandro Portes, Ph.D.
Associate Professor of Sociology   Research Professor of Sociology

_____   _____
Olena Antonaccio, Ph.D.   Dean of the Graduate School
Associate Professor of Sociology

_____
Ramiro Martinez, Jr., Ph.D.
Professor of Sociology and Criminology and Criminal Justice
Northeastern University

GOSTJEV, FEODOR ALEXEIIVITCH   (Ph.D., Sociology)
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Economy as Correlates of Violent Crime Rates:
Can Ethnic Enclave Theory Help Solve the Immigrant Paradox?

A large number of studies show that immigrant residential concentration is associated with lower crime rates. These findings challenge public opinion which consistently links immigration with higher crime rates and the predictions made by some social scientists regarding the life chances of immigrants in America. The negative association between immigration and crime is often referred to as the immigrant paradox. Recently, immigrant enclave theory has emerged as the key explanation of the immigrant paradox. This theory was originally developed by sociology of immigration scholars. In this dissertation I argue that criminologists have failed to properly integrate immigrant enclave theory into immigration and crime research.

My review of the sociology of immigration literature shows that immigrant enclaves emerge in geographical areas with a large number of ethnic businesses and large co-ethnic immigrant populations. I also argue that, in addition to enclaves, criminologists should consider alternative forms of immigrant community organization such as immigrant employment niches, middleman minority communities, and immigrant ghettos. I draw on social capital and related theories to show that these different forms of immigrant community organization should vary in their capacity to control crime.

I test key assumptions of my theoretical framework using homicide victimization data from the National Vital Statistics System (2002-2004), homicide and robbery incident data from the Uniform Crime Reports (2002-2004), ethnic business ownership statistics from the Survey of Business Owners (2002), and social and demographic information from the 2000 decennial Census of Population and Housing. I focus on Latino immigration because of its current importance in immigration and crime research and because of the availability of reliable data. The results of my dissertation generally support my theoretical framework. Specifically, I found that violent crime rates vary between different forms of immigrant community organization after controlling for important structural predictors of crime. Furthermore, consistent with the theory, immigrant enclaves have the lowest violent crime rates while immigrant ghettos have the highest rates compared to other types of immigrant communities.

In light of these findings, I recommend that future criminological research consider differences between immigrant communities. I also recommend that policy makers recognize the benefits immigration has for crime prevention. I argue that these benefits can be further enhanced by helping immigrants become business owners or gain and maintain employment as salaried workers. The current anti-immigrants policies should be revised and possibly discarded.

To my parents,
Elena, Alexey, and Bill,

to the love of my life,
Erica,

and
to the makers of music – all worlds, all times

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CHAPTER 1

INTRODUCTION

For over a century studies have shown that immigrants in the United States are not more crime prone and may in fact commit fewer crimes than native born individuals. These findings fly in the face of public opinion and political rhetoric, which often depict immigration as a cause of crime (Fernandez-Kelly 2009; Martinez 2006). An image of the criminal immigrant has haunted the imagination of the American public for decades, if not centuries (Lee, Martinez, and Rosenfeld 2001). In recent years, this image was further bolstered by the depiction of "illegal immigration" as a national security issue by the media and politicians, the militarization of the U.S./Mexico border in the 1990s, and the terrorist attacks on the September 11, 2001 (Barry 2011; Massey 2013; Massey and Pren 2012). The recent Boston Marathon bombing orchestrated by two foreign-born men will likely further contribute to the myth of criminal immigrant.

Even social scientists see the negative association between immigration and crime as paradoxical. Early American sociologists thought immigration contributed to social problems. The development of sociology in the United States coincided with the first great wave of migration from European countries to rapidly growing American cities. Immigration was an important topic of research and theory at the Chicago School of sociology (Bursik 2006). Theories guiding the work of Chicago School sociologists by and large linked immigration with urban social problems, including crime and delinquency (Martinez and Lee 2000).

Contrary to these theoretical expectations, a number of early studies showed that immigration was either unrelated or negatively related to crime (e.g., Hourwich 1912;

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Taft 1933). The theorists, however, did not get a chance to react to these findings as by the late 1920s immigration rates began to dramatically decline due to isolationist policies, and scholarly interest in the immigration and crime connection diminished. The scholarly and public concerns with immigration reemerged as immigration rates rose once again in the final decades of the twentieth century, especially following Hart-Cellar Act of 1965 (Bursik 2006). Old theories were rediscovered, and the link between immigration and social problems reemerged in scholarly discussions.

There were again reasons to worry about the life chances of immigrants. As in the past, many new immigrants entered the United States with limited amounts of financial and human capital. They targeted some of the least desirable jobs this country had to offer (Portes and Rumbaut 2014). These immigrants typically settled in inner-city areas which have been negatively affected by depopulation, economic restructuring, and concentration of poverty (Gans 1992; Waldinger 1989; Wilson 1987; 1996).

The dire predictions of politicians and media inspired a new wave of research on immigration-related social problems, at first in public health, and later in criminology. Both disciplines soon discovered what now is known as the *immigrant paradox*. In public health, researchers found that immigrants had better health than native born Americans despite the former having on average fewer economic resources than the latter (Markides and Coreil 1986). Criminologists soon found a similar pattern when looking at criminal behavior across generations since migration, such that immigrants committed fewer crimes than their children and the native born counterparts (Bersani 2014). Most of the criminological theories guiding immigration and crime research were macro-level theories, and, so, many researchers looked to explore this relationship at higher levels of

aggregation. The immigrant paradox was just as apparent at the macro level. In the last two decades, studies found that immigrant communities were not replete with crime despite being exposed to structural disadvantages that would be expected to increase crime and violence rates (Ousey and Kubrin 2009; Sampson 2012; Stowell et al. 2009).

A theoretical explanation for the protective effects of immigrant communities was needed. Specifically, it was important to explore social mechanisms that linked immigration to lower crime rates. In the search for new explanations, criminologists proposed that immigrant residential concentration leads to the formation of immigrant enclaves[1] which foster social networks connecting community residents to each other and to local ethnic organizations. These networks increase the social control capacity of immigrant communities which, in turn, leads to lower crime rates (Ousey and Kubrin 2009).

The use of immigrant enclave theory in criminology was met with great enthusiasm. This explanation fit well with the tenets of systemic theory which modified social disorganization theory by proposing that a neighborhood's capacity to control crime depends on the salience of social ties (Bursik and Grasmick 1993). It drew strength from the explosion in social capital theorizing (Portes 1998). Most importantly, it identified immigration as a force capable of counteracting the urban decline that followed deindustrialization and that could revitalize urban communities (Lee et al. 2001; Martinez 2002).

There were, however, costs to this enthusiasm. In criminology, immigrant enclave became a catchall term. It became associated with everything that made immigrant

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[1] I will use the terms immigrant enclave and ethnic enclave interchangeably throughout the manuscript because they are used in this way in criminology and sociology of immigration literature.

communities safer, such as traditional families, norms against violence, economic and employment opportunities, and supervision of children. In addition, despite its popularity, immigrant enclave theory was not systematically elaborated in criminological research and theory, and its key tenets and propositions remain unclear. Much of what is known about immigrant enclaves and crime is based on theoretical speculation about the underlying processes and factors.

The lack of conceptual clarity and theoretical rigor leaves a number of important questions unanswered. Can all immigrant communities be considered immigrant enclaves? How should immigrant enclaves be operationalized in studies of immigration and crime? What properties of immigrant enclaves are linked with local crime rates? The goal of this dissertation is to conduct a theoretical elaboration of immigrant enclave theory in criminology and to explore new directions in research on immigration and crime.

PROBLEM STATEMENT

Immigrant enclave theory was originally developed in the field of sociology of immigration. While immigrant enclave theory is often invoked as an explanation of the negative relationship between immigrant residential concentration and crime, criminological studies generally fail to draw on the enclave literature in sociology of immigration to more fully understand what this concept entails. This causes many studies in criminology to equate immigrant enclaves with residential concentration of immigrants. In sociology of immigration, this approach to operationalization of immigrant enclaves generated a heated debate (Portes and Jensen 1987; Sanders and Nee 1987; for a review see Zhou 2009).

The outcome of this debate was the rejection of measures of immigrant enclaves based solely on residential concentration of a foreign-born ethnic group (Zhou 2009). Scholars argued that immigrant residential concentration does not always result in the emergence of an enclave (Portes and Jensen 1987; Portes and Manning 1986). In addition to the availability of a co-ethnic labor force and clientele supplied by immigrant concentration,[2] the emergence of an enclave also requires high rates of ethnic business ownership. Hence, enclaves emerge in areas where a large number of immigrant workers are employed in firms owned by their co-ethnics (Portes 1995; Portes and Bach 1985; Portes and Manning 1986).

Criminologists generally ignored the role of ethnic enterprise in operationalizing immigrant enclaves. This creates a serious theoretical problem. If ethnic enterprises and immigrant concentration are both necessary conditions for the emergence of immigrant enclaves, what types of immigrant communities will emerge when one of these factors is absent? What role do the alternative forms of immigrant community organization play in crime control and causation at the macro level? In this dissertation I draw on the theoretical and empirical literatures in criminology, sociology of immigration, economic sociology, and other sociological fields to develop a theoretical framework capable of addressing these questions.

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[2] The concept of residential concentration will be addressed later in this dissertation. One of the arguments in the enclave debate in sociology of immigration is that ethnic concentration is not necessary for the emergence of an enclave. In the enclave debate concentration mostly refers to residential segregation. While I concede that residential segregation type of concentration is not necessary, I argue that the enclave literature suggests that a large co-ethnic labor force must be present in the broader geographic area for an enclave to emerge. In the discussion that follows I focus on immigrant residential concentration and assume that it may or may not result in residential segregation of an ethnic group.

THEORETICAL FRAMEWORK

In developing a new theoretical framework for better understanding the relationship between immigration and crime, I draw from and expand upon several extant elements in the sociology of immigration literature. In sociology of immigration ethnic enclaves are considered under the umbrella term of "ethnic economy" (Zhou 2004; 2009). Ethnic economy is a "neutral designation for every enterprise that is either owned, or supervised, or staffed by racial/ethnic minority group members regardless of size, type, and locational clustering" (Zhou 2004:1043). Besides immigrant enclaves, ethnic economies can emerge in the form of middleman minority enterprises and immigrant employment niches (see also Logan, Alba, and McNulty 1994; Logan et al. 2000).

The development of the theoretical framework in the current study is informed by this typology. Although the ethnic economy framework is more concerned with categorizing immigrant economic activities rather than with categorization of immigrant community types, Zhou (2009) argues that ethnic economies are highly embedded in immigrant communities (see also Bankston 2014). Geographical concentration of ethnic businesses and ethnic groups plays an important role in the ethnic economy research and theory (e.g., Logan et al. 1994; Zhou and Logan 1989). Indeed, my review of sociology of immigration research shows that ethnic economies are both shaped by immigrant settlement patterns and have implications for social organization of immigrant communities. Hence, in the theoretical framework developed here I argue that different forms of ethnic economy produce qualitatively different *forms of immigrant community organization*. The focus on the community context also leads me to focus on macro-level rather than individual-level processes.

I also revise the theoretical assumptions regarding how the emergence of ethnic enclaves affects the immigration and crime relationship. Previous studies have pointed to a number of structural and cultural mechanisms through which ethnic enclaves are thought to affect local crime rates. The framework I propose clarifies the role of social structure and culture and provides a more comprehensive model of crime causation. Like a number of seminal theories in macro-criminology (e.g., Busik and Grasmick 1993), my framework sees social networks of interpersonal and organizational ties as playing an important role in crime causation at the community level.

Consistent with critiques of systemic theory in criminology (Sampson 2012) and with arguments of the dark side of social capital in sociology (Portes 1998), my framework assumes that interpersonal networks can facilitate prosocial outcomes under one set of conditions, but may enhance antisocial outcomes in other circumstances. I argue that the informal social control potential of interpersonal social networks depends on how and whether they are connected to community organization. The connection to for-profit firms is particularly important because these organizations provide resources and incentives needed to control crime.

SCOPE OF RESEARCH

The goal of the current study is to develop and test a theoretical framework that can explain the relationship between immigration and crime at the macro level. While my aim was to develop a general theoretical framework, the scope of my empirical examination in general and the test of the theoretical assumption in particular had to be limited in a number of ways.

First, co-ethnicity plays a key role in the theoretical framework developed here. Hence, it was important to focus my investigation on a particular ethnic group with a large proportion of foreign-born. While my theory should apply to different ethnic groups, in the current study I focus on the Latino[3] pan-ethnic group. The advantages of this strategy include consistency with previous research on immigration and crime and availability of reliable data.

Second, while my theoretical framework should be able to explain the relationship between immigration and most types of street crime, my study examines only violent crime and victimization rates as outcomes. While violent crimes may have some unique patterns and etiologies, their levels should mirror those of other crimes. An added advantage of focusing on violent crime is that these offenses are more likely to produce more valid and reliable records.

RESEARCH PLAN

The theoretical framework developed here was designed to explain crime causation processes at the macro-level. While I draw on neighborhood theories of crime, my review of the sociology of immigration literature shows that ethnic economies are regional phenomena and so should be measured using data describing the larger geographical areas. Hence, in the current study counties are the units of analysis.

I draw on several different sources of county data. Most of the data came from: (1) National Vital Statistics System (NVSS), (2) Uniform Crime Reports (UCR), (3) Survey of Business Owners (SBO), and (4) summary files from the decennial U.S. Census of Population and Housing. I use these data to provide greater insight into the

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[3] The terms Latino and Hispanic will be used interchangeably because they are used this way in the literature I draw on and in the data I use.

social and economic characteristics underlying the different form of immigrant community organization. I also use several multivariate negative binomial regression models predicting violent crime counts to test key assumptions of the theoretical framework. Finally, I perform some additional analyses to investigate the connections between social and economic characteristics of immigrant communities and violent crime rates.

RESEARCH QUESTIONS

I used the data and the analytical techniques described above to answer a number of questions stemming from my theoretical framework as well as questions that were left unanswered or underexplored in previous studies of immigration and crime. The main research questions are:

(1) What are the relationships between different forms of immigrant community organization and county-level violent crime rates?

(2) Do the relationships between different forms of immigrant community organization and violent crime rates persist when important structural variables are taken into account?

(3) Are these relationships consistent across different types of violent crime?

(4) Do different forms of immigrant community organization shape the overall violent victimization rates, or are their effects limited to violent victimization of co-ethnics or co-ethnic immigrants?

I also answer a few additional questions pertaining to how factors underlying different forms of immigrant community organization relate to violent crime.

(5) What is the relationship between Latino immigrant county-level concentration and violent crime?

(6) What is the relationship between Latino immigrant residential segregation and violent crime?

(7) What is the relationship between Latino niche employment and violent crime?

(8) What is the relationship between Latino ethnic enterprise development and violent crime?

RATIONALE AND SIGNIFICANCE

The current study makes several key contributions to the study of immigration and crime. This is the first examination of immigration and crime to develop a detailed theoretical discussion of ethnic enclaves by drawing on the proper conceptualization of this construct developed in sociology of immigration. The theoretical framework developed here also introduces other concepts from the ethnic economy literature and demonstrates how these can shape the social organization of immigrant communities and affect violent crime rates. In doing so, I articulate some of the key mechanisms and processes that may be shaping the immigration and crime relationship at the macro-level. Most of these processes were largely overlooked by criminologists.

This is also the first study to empirically examine if ethnic enclave theory can explain the immigrant paradox in crime. This examination uses measures of key concepts in order to explicitly test whether the protective effects of immigrant communities can be attributed to the ecological impact of ethnic enclaves on crime rates. A number of other mechanisms shaping the immigration and crime relationship are also explored. While many studies speculate about what may be occurring and why, this study advances the

literature by empirically examining the effects of ethnic business ownership, ethnic niche employment, and ethnic residential segregation and concentration on violent crime.

The theoretical framework developed here can be used in future research to answer several important questions that have not yet been resolved by immigration and crime scholars. A number of studies have shown that the effects of immigrant concentration on crime rates vary substantially between traditional and new immigrant destinations (Harris and Feldmeyer 2013; Ramey 2013; Shihadeh and Barranco 2010). Shihadeh and Barranco (2010) speculated that these differences can be attributed to the existence of enclaves in traditional destinations and lack of enclaves in new destinations. By using the theoretical framework developed here, it will be possible to assess whether this variation can indeed be explained by differences in forms of immigrant community organization (including ethnic enclaves) established in traditional and new destinations.

My study will also have important policy implications. The widespread concern regarding criminality of immigrants was heightened by the 9/11 terrorist attacks in 2001 and inspired political rhetoric framing immigration as a national security issue (Barry 2011; Massey 2013; Massey and Pren 2012). The association of immigration with crime in the minds of Americans is likely to have been further bolstered following the Boston Marathon bombing in 2013. Currently, the United States spends billions of dollars each year on immigration enforcement. Scholars argue that current immigration policies are not based on facts and result in a waste of national resources (Barry 2011; Massey and Pren 2012). My study will inform policy makers about the degree of threat presented by the residential concentration of Latino immigrants. More importantly, it will also point to the mechanisms that determine whether Latino immigration contributes to social

problems or to social wellbeing. If my hypotheses are supported, policies that reward

ethnic enterprises and help immigrant gain and maintain employment can be suggested as

a way to maximize the benefits of immigration for American communities.

CHAPTER 2

THEORY AND LITERATURE REVIEW

CHAPTER INTRODUCTION

I begin this chapter with a review of research and theory that examined the relationship between immigration and crime. I focus on the explanations of this relationship at the macro-level. A large number of studies have shown that higher levels of immigrant residential concentration lead to lower crime rates. This relationship persists despite the fact that many immigrants settle in impoverished inner-city areas. I review several theoretical explanations of this finding and show that theorists generally focus on either structural or cultural factors. I point to a number of strengths and weaknesses of these explanations. I also argue that the ethnic enclave explanation is capable of overcoming the theoretical problems I identified since it incorporates both structural and cultural factors.

Many researchers have speculated that at the macro-level ethnic enclaves play an important role in shaping the relationship between immigration and crime. My review indicates that few studies in criminology have provided a detailed overview of ethnic enclave theory. In this chapter I conduct such an overview by drawing on the rich ethnic enclave scholarship in sociology of immigration. My review suggests that in criminology ethnic enclaves have been improperly associated exclusively with immigrant residential concentration. In sociology of immigration, enclaves require a concentration of ethnically owned businesses as well as access to a large co-ethnic immigrant labor force.

I also draw on the ethnic economy typology and show that ethnic enclave is just one of the possible forms of immigrant community organization. In addition to enclaves,

I propose that criminologists should investigate the link between crime and employment niches, middleman minorities, and immigrant ghettos. Such an investigation requires a solid theoretical framework that properly highlights the role of cultural and structural factors. I propose such a theoretical framework by drawing on social capital theory and its recent modifications. I conclude this section by postulating a set of hypotheses derived from my theoretical framework that can be used to empirically test its validity.

IMMIGRATION AND CRIME

At the dawn of the twenty-first century America once again became a country of immigrants. Estimates from the American Community Survey (ACS) suggest that by the year 2010 nearly 40 million people, or 13 percent of the American population, were foreign-born (U.S. Census Bureau 2012). The current immigration levels resemble those observed at the turn of the twentieth century (Hondagneu-Sotelo 2009; Portes and Rumbaut 2014). The past major wave of immigration began around the 1880s and continued until the beginning of WWI (Portes and Bach 1985; Portes and Rumbaut 2014). The inflow of immigrants to the Unites States was stemmed by military action in Europe along with changes in immigration policy in the 1920s and the economic downturn of the 1930s. The current immigration wave stems from policy changes that took place in 1965, including especially the Hart-Cellar Act (Portes and Bach 1985; Portes and Rumbaut 2014). Despite differences in characteristics of immigrants arriving during the early and the more recent immigrant waves, both provoked anxiety in the American public and inspired anti-immigrant rhetoric in political arenas (Fernandez-Kelly 2009; Martinez 2006; Portes and Rumbaut 2014; Stewart 2012; Zatz and Smith 2009).

Among the most salient immigration-related concerns is the association between immigration and crime. At the turn of the twenty-first century nearly two-thirds of General Social Survey (GSS) participants thought that immigration to the United States leads to higher crime rates (Fernandez-Kelly 2009). Conservative politicians framed immigration as a national security issue in political debates at the federal (Barry 2011; Massey and Pren 2012; Sampson 2008) and state levels (Lee et al. 2001; Stewart 2012). Politicians' assertions that immigration will lead to higher crime rates were further bolstered by conservative media pundits who focused their attention on incidents of disturbing crimes perpetrated by undocumented immigrants (Fernandez-Kelly 2009; Sampson 2008). These isolated cases were presented in the media and by politicians as evidence supporting the claim that immigrants are dangerous, violent, and uncontrollable. This helped to further amplify Americans' concerns about the foreign-born, in addition to prompting other false stereotypes raised by these same entities.

In a historical sense, rhetoric connecting immigration and crime is not new. After a detailed review, Martinez and Lee (2000) concluded that immigrants were seen as crime prone at various points in American history (see also Martinez 2002; Mears 2001; Tonry 1997). For example, Sellin (1938) wrote: "[t]he belief that immigrant groups are largely responsible for our high criminality has been and is frequently expressed" (p. 70). Even groups depicted today as "model minorities", such as the European Jews, have been viewed as criminally dangerous in the past (Steinberg 2001; Wirth 1928). At the turn of the twentieth century the rhetoric of biological and cultural inferiority of immigrant groups provided grounds for the belief that immigration and crime were linked (Sellin 1938; Sutherland and Cressey 1955).

While sociological theorists were generally wary of the ideas stemming from biological determinism, some of the seminal theories in the field also postulated that immigration could increase crime rates and criminality. Sellin (1938) posited that the adaptation of immigrants to American society could lead to culture conflict. If the conduct norms that immigrants brought with them contradicted the norms proscribed by the American criminal code, culture conflict experienced by immigrants could be expressed through crime (Sellin 1938; see also Sutherland and Cressey 1955; Thomas 1921; Zorbaugh 1929). Similarly, Sutherland and Cressey (1955) argued that immigration may increase neighborhood crime rates by increasing the heterogeneity of "cultures, standards, and modes of behavior" (p. 148) in areas where they settle. Sellin (1938) also argued that the move from countryside into city environment combined with rapid social changes in advanced industrial societies also fostered culture conflict (see also Thomas 1921). Since many immigrants at the time of Sellin's writing came from the European countryside and settled in rapidly developing cities like Chicago, their social circumstances were likely to further exacerbate the experiences of culture conflict (see also Zorbaugh 1929).

Perhaps the most significant force behind the theoretical association between immigration and crime was social disorganization theory. The concept of social disorganization was originally coined by Thomas and Znaniecki (1918) in their seminal study of Polish communities in Europe and America at the turn of the twentieth century. By social disorganization the authors meant "a *decrease of the influence of existing social rules of behavior upon individual members of the group*" (Thomas and Znaniecki 1918: 1128, emphasis in the original). The central assumption made by Thomas and Znaniecki

(1918) was that social disorganization was an outcome of social change. Specifically, social change in various forms led to the breakdown of primary group ties which facilitated enforcement of norms, rules, and customs held by social groups (Thomas and Znaniecki 1918). Since immigration entails relocation (from the point of view of immigrants) and settlement of new and often culturally distinct groups (from the point of view of native born Americans), immigration could be considered a powerful engine for social change (Park and Burgess 1925). This reasoning helped establish the early link between immigration and social disorganization.

The assertions made by Thomas and Znaniecki (1918) impacted the research conducted by Shaw and McKay (1942), who posited the social disorganization theory of delinquency. Shaw and McKay (1942) proposed that high levels of cultural heterogeneity brought about by high levels of immigration from various European countries[4] degraded the social organization of communities. The authors believed that the lack of common language and customs among immigrants would make communication between the members of different ethnic groups more difficult. Without the ability to communicate, immigrant communities would be unable to reach a consensus regarding norms that should guide behavior in their communities, nor would they be able to enforce social norms.

Furthermore, the lack of knowledge of language and customs among the foreign-born coupled with rapid acculturation of the immigrant second generation was expected

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[4] Shaw and McKay's empirical research significantly impacted the development of their social disorganization theory. Most of their qualitative and quantitative research was conducted in the city of Chicago in the first half of the twentieth century (for a review see Bursik and Grasmick 1993). At that time, most of the Chicago newcomers were immigrants arriving from Southern and Eastern European countries that did not share common languages or culture. Following this immigrant wave, Chicago experienced a mass in-migration of blacks from America's rural South (Hirsch 1983). The composition of the newcomer population in Chicago had important effects on Shaw and McKay's theoretical work.

to reduce the amount of control immigrant parents could exercise over their children (see also Sutherland and Cressey 1955; Tonry 1997; Zorbaugh 1929). Shaw and McKay (1942) believed that as these youths lost the attachment to their foreign-born parents they would be at a high risk of joining delinquent gangs and would further contribute to neighborhood social disorganization (see also Zorbaugh 1929). Overall, Shaw and McKay (1942) argued that social disorganization was a major predictor of neighborhood crime rates because it attenuated the salience of conventional values guiding human social behavior. As discussed above, immigration was thereby expected to lead to the lack of value consensus and to cause higher delinquency rates in communities.

Due to increasing popularity of individual-level research and mounting scholarly criticism, social disorganization theory declined in popularity shortly after its publication (Bursik 1988; 2006). The theory remained unpopular through the 1960s and 1970s. Also, at that time, criminologists had little interest in immigration because the rates of immigration in the Unites States were low. The revival of social disorganization theory was brought about in part by Kornhauser's (1978) revision of the theory (see also Matsueda 2008) and by the proliferation of systemic theory (Bursik 1988; Bursik and Grasmick 1993; Sampson and Groves 1989) and later the development of collective efficacy theory (Sampson, 2012; Sampson, Raudenbush, and Earls 1997).

The return to prominence of social disorganization theory roughly coincided with the increased interest in immigration and crime that emerged as immigration rates skyrocketed following the changes in immigration law in 1965 and the economic boom in the 1990s (Bursik 2006). As new research on immigration and crime emerged it was logical for scholars to use social disorganization as the theoretical framework in their

studies because the theory discussed immigration. Sellin's (1938) culture conflict theory

was also utilized as a theoretical foundation for immigration and crime studies for a

similar set of reasons (Martinez 2002; Martinez and Lee 2000).

At the onset, the new immigration and crime scholarship confronted two

problems. First, the social and demographic characteristics of current immigrant groups

were vastly different from those of immigrants entering America at the turn of the

twentieth century (Sampson 2012; Portes and Rumbaut 2014). Yet, both social

disorganization and culture conflict theories were inspired by the experiences of the

latter. New immigrants by and large come from Latin America, Caribbean, and Asian

countries while relatively few come from Europe, as they did in the past (Portes and

Rumbaut 2014).

Furthermore, new immigrants enter a large variety of social settings. Some enter

highly skilled occupations and reside in affluent neighborhoods while others compete for

jobs at the bottom of the occupation hierarchy and settle in disadvantaged urban areas

(Portes and Rumbaut 2014; Waldinger 1989; Zhou 2009). These differences in

background produce heterogeneous modes of incorporation, divergent social

environments, and unequal life chances among immigrants (Portes 1995; Portes and

Rumbaut 2001). The ability of classical criminological theories to explain outcomes

among increasingly diverse immigrant groups today is not clear.

Second, the theoretical predictions posited by social disorganization theory,

culture conflict, and other criminological theories did not match the new — and, as

Martinez (2002) shows, even some of the old — findings of immigration and crime

research (see also Hourwich 1912; Reckless 1967; Sellin 1938; Sutherland and Cressey

1955; Taft 1933; Tonry 1997). The past two decades have been marked by the "emerging

consensus" among scholars that immigration is either unrelated or is negatively related to

crime (Lee and Martinez 2009; Sampson 2008; 2012). Specifically, some studies find that

immigrant residential concentration is not associated with higher crime rates while other

studies find that more immigration is associated with lower crime and violence rates.

Furthermore, this relationship appears to hold despite the fact that many immigrants

today reside in poor urban neighborhoods and by and large lack occupational skills

needed to obtain professional jobs that dominate the new urban labor markets (Martinez

2002; see also Waldinger 1989; 1996). In fact, the negative relationship between

immigration and crime is stronger in highly disadvantaged urban areas (Vélez 2009).

Prior to the emergence of the new immigration and crime scholarship, public

health scholars noted that despite their lower socio-economic status Hispanics had better

than expected health outcomes (Markides, and Coreil 1986). Markides and Coreil (1986)

called this an epidemiological paradox. Later studies found that immigration was at the

center of this paradox and that nativity explained a substantial amount of the difference in

health outcomes between ethnic groups (e.g., Hummer et al. 1999; for a review see

Rumbaut 1997). Criminologists then borrowed the terminology from public health, and

the lack of criminogenic reaction to disadvantage among immigrants and in immigrant

communities was dubbed the *immigrant paradox*[5](Martinez 2002; Sampson 2008;

Sampson and Bean 2006).

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[5] In both public health and in criminology the immigrant paradox is also referred to as epidemiological, Hispanic, and Latino paradox. The latter two terms are used because nearly half of Hispanics in the United States are foreign born and most immigrants in the United States are Hispanic (Rumbaut 2006). However, since the beneficial effects of immigration are found among non-Hispanics in both criminology and public health research, I use the term immigrant paradox term hereafter unless the literature I am citing used one of the other labels.

The two problems discussed above led to further theoretical questions. Primarily, what are the mechanisms responsible for the negative association between immigration and crime? A closely related question is, why are the effects of disadvantage on immigrant crime rates less profound than the effects of disadvantage on crime rates among the native born? Sampson and Bean (2006) argued that researchers should focus on solving the Latino paradox. The solution must address the two questions presented above. Theoretical development must also take into account changes in the character of immigrant stock, changes in social environments occupied by immigrants today, and the tremendous national, cultural, economic, and demographic heterogeneity of new immigrants.

Level of Aggregation in Theories of Crime and Immigration

To proceed with theory building it is important to focus on either the individual or the macro level. This approach is needed not because one level of explanation is more important (or valid) than the other but because the nature of the association between immigration and crime at the individual and at the macro levels may be very different (Mears 2001; Ousey and Kubrin 2009). Theoretical advances made at one level of aggregation may in fact supplement explanations at another level in empirical studies (e.g., Desmond and Kubrin, 2009; McNulty and Bellair 2003; Sampson 2012; Wright and Rodriguez 2014). However, efforts to advance theory aiming to answer the questions stated above will benefit from clearly establishing the level of aggregation to which their assumptions apply.

The negative or null relationship been immigration and crime has been observed at various levels of aggregation. This includes studies using individuals, Census tracts,

cities, and other units of analysis (for a review see Ousey and Kubrin, 2009; Stowell et al. 2009). When studies use individuals as units of analysis, immigration is typically measured as immigrant status or whether the respondents were born outside of the United States. Some individual level (e.g., Bersani 2014) and multilevel (e.g., Sampson 2012; Sampson, Morenoff, and Raudenbush 2005) studies also examine the effects of generations since migration on crime. The central finding of individual-level research is that immigrants generally perpetrate fewer crimes than individuals born in the United States. The studies also find that criminal involvement increases with each additional generation since migration (Bersani 2014; Sampson 2012; Sampson et al. 2005; Tonry 1997).[6]

Studies that use aggregate units such as Census tracts or cities include measures of immigrant residential concentration. Immigrant residential concentration measures are generally based on multiple characteristics of population in geographical areas such as foreign birth, Latino ethnicity, year of immigration, and English language proficiency (for a review see Ousey and Kubrin 2009; Stowell et al. 2009). These characteristics are combined using various methods to produce a composite measure of immigrant residential concentration. More recently, studies have begun using different measures of immigrant and Hispanic immigrant segregation as measure of concentration (Barranco 2013; Feldmeyer, Harris, and Scroggins 2015). These measures of immigrant residential concentration are then used to predict general or race/ethnic specific crime rates or their changes over time.

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[6] In an overview of early studies Sellin (1938) found that second generation individuals were the least criminally involved while the foreign born and the native born individuals were more criminally involved and about equal with each other. It is not clear why, but this pattern seems to contradict the recent research findings.

The substantive interpretation of the immigration and crime relationship at the individual and aggregate level of analysis are very different (Mears 2001; Ousey and Kubrin 2009; Wright and Rodriguez 2014). At the individual level, scholars are typically interested in how immigrant status impacts criminal propensities or criminal trajectories of individuals (Bersani 2014), although some have also examined the effects of neighborhood-level immigrant concentration on individual-level criminality (e.g., Desmond and Kubrin 2009; Sampson 2012; Sampson et al. 2005; Wright and Rodriguez 2014). Immigrant residential concentration, on the other hand, has the potential to impact the geographical distribution of crime beyond the sum of individual propensities of immigrants to break the law (Lee et al. 2001; Wright and Rodriguez 2014). Sutherland and Cressey (1955), for example, argued that immigration impacts crime rates among both foreign-born and the native population. Indeed, recent studies have found that immigrant concentration affects homicide victimization rates across ethno-racial groups including groups which generally include few foreign-born (Lee et al. 2001; Nielsen, Lee, and Martinez 2005; Sampson 2012; Stowell, Martinez, and Cancino 2012; but see Desmond and Kubrin 2009; Wright and Rodriguez 2014). Qualitative studies also found that residential concentration of Latino immigrants in inner-city neighborhoods makes these areas safer for members of other ethnic groups including those born in American (Klinenberg 2002). Hence, macro-level immigration and crime researchers assume that immigrant concentration has an ecological impact on crime rates.

Even though researchers often focus on large geographic areas such as cities or metropolitan areas, the effects of immigrant concentration on crime are generally discussed and understood as neighborhood effects (Sampson 2012; Sampson, Morenoff,

and Gannon-Rowley 2002). The use of the neighborhood effects paradigm allows immigration and crime research to draw from, and contribute to, a plethora of more generally applied and well established theories in criminology. Just like the immigration and crime research, neighborhood effects research in criminology has been in part inspired by the social disorganization theoretical tradition. I revisit this perspective in the next section and re-examine its theoretical assumptions regarding the link between immigration and crime at the macro level.

Immigrant Concentration and Crime in Macro-Level Theories

Classical theories

Since early theorists rejected the claims of biological determinism, their theoretical attention has been focused on social environments into which immigrants settled and which the immigrants themselves created (Lind 1930; Sellin, 1938; Shaw and McKay 1942; 1949). Shaw and McKay (1942) are famed for observing that crime rates in Chicago neighborhoods were highly stable despite the succession of ethno-racial groups in these areas over time (see also Sampson 2012; Sampson and Wilson 1995; Shaw and McKay 1949). Other classic theories also acknowledged the role social environments played in shaping the immigration and crime relationship. While Sellin (1938) argued that immigrant conduct norms brought from their societies of origin could clash with American laws and thus lead to crime, he put much more emphasis on the role of culture conflict created by turbulent social changes taking place in Chicago neighborhoods. This view is consistent with the broader concern with city growth as the source of social problems reflected in Chicago School scholarship (Park and Burgess 1925) which influenced the above mentioned theorists (Bursik 1988; Stowell 2007).

Chicago School scholars argued that city growth resulted in the emergence of various social environments arranged in the form of concentric circles. Recently arrived immigrants were more likely to settle in the least socially desirable areas, called zones of transition, because the physical deterioration and social problems in these areas drove down the rent prices (Park and Burgess 1925; Wirth 1945). Low rents attracted new immigrants who by and large arrived with few economic resources (see also Massey 1985). Hence, early on scholars understood that in large part immigrants were exposed to rather than caused social problems.

However, a few problems produced by immigration were noted by Chicago School scholars as well. First, since immigrants typically moved out of zones of transition as soon as their financial situations improved, this movement increased the rates of residential instability across the city (Park and Burgess 1925). Second, since immigrants came from various countries, their arrival increased levels of ethnic heterogeneity. Both residential mobility and ethnic diversity were thought to decrease social cohesion, decrease salience of moral rules, and kindle culture conflict (Park and Burgess 1925; Sellin 1938; Sutherland and Cressey 1955; Thomas 1921; Zorbaugh 1929).

According to Chicago School scholars, immigration was not the only source of residential instability. Instability was also attributed to migration from rural areas in the United States and migration of blacks from the South especially (Park and Burgess 1925). However, ethnic and cultural heterogeneity were seen at the time as primarily an outcome of immigration. Yet, scholars noted that not all areas where immigrants settled were highly heterogeneous and that in some places a single immigrant group was able to

maintain cultural isolation from both other groups and from the native born (Lind 1930; Park and Burgess 1925). Robert Park argued that in such areas "the social rituals and the moral order which these immigrants brought with them from their native countries have succeeded in maintaining themselves for a considerable time…" (Park and Burgess 1925:27).

Most Chicago School scholars argued that ethnic heterogeneity on the one hand and isolation of an ethnic group on the other produced very different social environments. Lind (1930) explicitly pointed to the theoretical importance of clarifying the difference between ghettos and slums. Lind (1930) argued that the term "ghetto" or "racial colony" should be reserved for areas where a single racial or ethnic group is highly concentrated. The term "slum" should be used to describe an area where several immigrant groups reside or for the edges of racial colonies which may intersect with neighborhood occupied by other groups (Lind 1930). In his study of neighborhoods in Hawaii, Lind (1930) found an "inverse correlation between social disorganization, measured in terms of juvenile delinquency and [welfare] dependency, and the degree of segregation and concentration of the immigrant colony" (p. 210). On the other hand, the slums in Hawaii had some of the highest levels of juvenile delinquency and of other social problems.

Lind (1930) further pointed to a number of reasons for why ghettos appeared to have low levels of social disorganization while slums were highly disorganized. He noted that the ethnic homogeneity of ghettos provided fertile grounds for the emergence of informal social connections that were used to both regulate behavior of co-ethnics and to provide instrumental and emotional support to co-ethnics in times of need (see also Taft 1933). Furthermore, ghetto areas helped immigrants to preserve their culture and values.

Residents who failed to live up to the normative expectations of their co-ethnics could be and were often expelled from the area (Lind 1930). The social and cultural heterogeneity of slums, on the other hand, impeded the establishment of a dominant value system and so led to high levels of social and personal disorganization.

The distinction between social environments spawned by ethnic heterogeneity and cultural isolation was made by other early theorists as well. Each theory emphasized alienation from one's ethnic group as a source of problem behavior. Thomas and Znaniecki (1918) thought that immigration led to social disorganization because it weakened the influences of the primary group on attitudes and behaviors of individuals (see also Park and Burgess 1925; Thomas 1921). Sellin (1938) also argued that culture conflict stemmed mainly from the alienation of immigrants from their primary groups. Shaw and McKay (1942) argued that immigration lead to social disorganization and elevated neighborhood delinquency rates because it reduced consensus regarding norms of behavior and childrearing. It is clear that these authors focused on ethnic heterogeneity as a source of disorganization while implying that ethnically homogenous communities are not likely to suffer the same consequences.

In contrast, the concentration of a single ethnic group — foreign or native born minority — in a neighborhood was thought to be a buffer from social disorganization (see also Sutherland and Cressey 1955; Taft 1933). For example, Sellin (1938) argued that "[t]he Ghetto acts…as a sustaining group which for a while at least achieves some control over its members" (p. 85). Similar arguments were made by Sutherland and Cressey (1955) who wrote:

> The [crime] rate remains low in those foreign colonies which are comparatively isolated from the surrounding culture. However, the rate is lowest in the heart of

the colony and increases on the borderlines where the group comes into contact with other groups. (P. 147)

Finally, while Shaw and McKay were more interested in how immigrants reacted when "the traditional controls have been weakened or destroyed", they also noted that "the isolation of Oriental groups seems to have protected their cultural controls, at least temporarily" (Shaw and McKay 1949: 615). Overall, it appears that Chicago School scholars viewed ethnic heterogeneity as a factor that shaped the link between immigrant concentration and social problems including delinquency and crime. Immigrant ghettos with high levels of homogeneity created environments that buffered the effects of conditions generating social problems while heterogeneous slums lacked social control mechanisms.

Current theories

When the social disorganization tradition regained its popularity in the late 1980s, few studies initially looked at immigration and ethnic heterogeneity separately. In other words, many studies viewed them as one and the same. Some seminal studies in the social disorganization tradition included arguments such as: "[b]ecause it describes neighborhoods of ethnic and linguistic heterogeneity, there is reason to believe that immigrant concentration may impede the capacity of residents to realize common values" (Sampson et al. 1997: 920; see also Browning 2009; Sampson 2001; 2012). This approach was largely adopted in theoretical discussions and research on the immigration and crime relationship that emerged in the late 1990s. Only a few studies included a measure of ethnic heterogeneity as a control variable[7] alongside immigrant concentration

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[7] To the best of my knowledge, most macro-level studies of immigration and crime do not control for ethnic heterogeneity (see also Stowell 2007).

(Stowell 2007), and the ability of ethnic heterogeneity to shape the immigration and crime relationship was not considered in theoretical discussions.

Without attention being devoted to the role of ethnic heterogeneity, the classical theories were interpreted to suggest that immigration would weaken the communal ties or lead to culture conflict and thus higher crime rates unconditionally. For example, in their review Martinez and Lee (2000) focused on components of social disorganization and culture conflict theories that linked immigration to higher crime rates (see also Bankston 1998; Kubrin and Ishizawa 2012; Lee et al. 2001; Martinez 2002). Since these predictions did not match the empirical evidence, scholars called for a revision of classical theoretical assumptions regarding the immigration and crime relationship (Lee et al. 2001). The Chicago School scholars' argument that much of the association between immigrant residential concentration and crime reflected the influences of social environment in which immigrants settled were left intact. The protective effects associated with immigrant concentration were at the center of new theoretical discussion but these were no longer attributed to ethnic homogeneity of immigrant colonies discussed by the Chicago School scholars.

Contemporary immigration and crime researchers had a number of reasons to doubt that ethnic homogeneity was the source of lower crime rates in immigrant communities. Drawing mainly from research on segregation of African Americans in the United States, a number of theorists proposed that social isolation of racial and ethnic groups is one of the main causes of social problems including crime (Massey and Denton 1993; Sampson and Wilson 1995; Wilson 1987; 1996). Influenced by these arguments, immigration and crime scholars began to doubt that ethnic isolation was be beneficial for

immigrant communities (Martinez and Lee 2000; Sampson 2012). Furthermore, Chicago School scholars described immigrant colonies (also racial colonies and immigrant ghettos) as "urban villages" where immigrants' way of life was transplanted from the country of origin and preserved through cultural isolation. The ideological and empirical bases of the "urban village" logic have been challenged by neighborhood effects scholars in criminology and other disciplines (Klinenberg 2002; Sampson 2012; Wellman 1979).

Following the revision of classical theories, immigration and crime theorists focused on trying to explain two important patterns in the relationship between immigration and crime. While some theories aimed to explain the negative association between immigrant concentration and crime rates, most theories were concerned with the buffering effects[8] of immigrant concentration on the association between structural factors and crime. In the former case, the focus is on why *ceteris paribus* immigrant communities have lower crime rates than communities with fewer or no immigrants. In the latter, scholars ask if there is something special about immigrant communities that protects them from having elevated crime rates as a result of increased exposure to various form of disadvantage.

These divergent vantage points should have produced different conceptual models but in practice there has been little need to clarify the difference. The focus on "buffering" implicitly suggests that the disadvantage and crime gradient found in numerous studies (Land et al. 1990; Pratt and Cullen 2005) is different in immigrant communities than it is in communities occupied by the native born (e.g., Sampson 2012; Vélez 2009). This would further suggest that immigrant concentration in affluent

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[8] I use the term "buffering" and "protective" effects interchangeable hereafter because these terms are used in this way in the literature on which I draw.

neighborhoods should not have any effects on crime rates. The latter hypothesis has been generally ignored in macro-level studies because immigrants who enter the United States with high levels of human capital typically settle in integrated or mostly native-born, predominantly white suburban neighborhoods (hence, their settlement is unlikely to lead to immigrant concentration) while those who have little human or economic capital generally settle alongside their co-ethnics in urban areas (Bankston 2014; Massey 1985; Portes and Rumbaut 2014; Zhou 2009).

Even when immigrant concentration occurs in suburbs, less economically mobile immigrants typically settle near the core of the settlement where immigrant concentration is higher (Zhou 2009). Furthermore, since most immigration and crime studies use data obtained from urban areas, the suburbs where more affluent immigrant settle are often excluded the analyses. Hence, when discussing immigrant residential concentration and crime relationship, the presence of at least some disadvantage is implicit. The negative relationship between immigrant concentration and crime can then be interpreted as resilience of immigrant communities against disadvantage.

The immigrant paradox described earlier explicitly suggests that the effects of various forms of disadvantage (most importantly economic disadvantage) on crime rates and other outcomes such as health are less profound than they are among the native born. Hence, buffering theories generally use the immigrant paradox as a starting point. Martinez (2002), for example, argued that "*the most plausible explanation for Latino homicide patterns being lower than expected is the strength of Latino immigrants and immigrant communities, which buffer Latinos from criminal activity*" (p. 6, emphasis in the original). Current theories aiming to explain the immigrant paradox have generally

provided cultural, structural or mixed explanations of relatively low crime rates in immigrant communities.

Role of Culture and Structure in the Immigrant Paradox

Cultural theories

Cultural theories suggest that some immigrant groups may adhere to cultural codes that oppose the use of violence to a greater degree than do mainstream culture codes and subcultures that have developed in America (Sampson 2008; 2012). Anderson (1999), for example, argues that structural and cultural alienation in American inner-city areas have resulted in the development of a violent subculture. This subculture encourages use of violence in resolving disputes and as a means for gaining the respect of others (Anderson 1999). Sampson (2008; 2012) draws on Anderson's and other cultural arguments and suggests that the affinity towards the use of violence as a means to settle interpersonal disputes may be a feature of both the inner-city subculture and of broader American culture. The author further argues that cultures brought to America by recent immigrants, and cultural heterogeneity immigration creates, may actually be diluting the criminogenic aspects of American culture and so leading to lower crime rates in areas where immigrants settle (Sampson 2008; 2012).

Similarly, Steffensmeier and colleagues (2010) addressed their finding that Hispanic violence rates are less affected by concentrated disadvantage than are white and African American rates by arguing that Hispanic culture may provide fewer justifications for use of violence than the African American inner-city subculture. The authors also point to the possibility that Hispanic communities may have a greater stock of cultural

capital which further buffers violent reactions to structural disadvantage (Steffensmeier et al. 2010).[9]

While culture can play an important role in shaping the association between immigration and crime, the integration of cultural elements into a theoretical framework must be informed by critiques of cultural theories in criminology and sociology of immigration. In criminology, Kornhauser (1978) provided a seminal critique of cultural theories by arguing that these theories tend to ignore or misinterpret the role of social structure in crime-generating processes (see also Kubrin 2015). While she did not deny that culture plays a role in crime-generating processes, the author considered culture to be an endogenous variable and a sufficient but not a necessary cause of crime (Kornhauser 1978). Consistent with this view, many of the current sociological and criminological theories by and large view culture as a factor that mediates the influences of structural factors on social outcomes including crime (Sampson and Wilson 1995; Wilson 1996; 2009; for critiques see Horowitz 1983; Sampson and Bean 2006; Small 2002).[10]

From this perspective, the idea that the content of immigrant cultures causes either increased involvement in, or abstention from, violence and crime is problematic. Some immigration and crime scholars discussed this problem in their work. For example, Bankston (1998) argues that gang involvement among immigrants and their children is unlikely to be motivated by the content of their native cultures since it traverses cultural lines. The author also notes that most gangs are disconnected from ethnic communities

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[9] As will be noted later, the theory proposed by Steffensmeier and colleagues (2010) is not purely cultural since the protective culture effects in part depend on social structure of Latino communities. I consider theories that ignore the role of social structure and attribute the protective effects of immigrant communities to the content of culture imported from the country of origin to be purely cultural.

[10] These theoretical debates in criminology and urban sociology have focused on antisocial subcultures such as culture of poverty and deviant subculture and have not considered the possible role of immigrant culture. However, there is no reason to believe that this would change the way this form of culture would be treated in theoretical models emphasizing social structure as the exogenous factor.

and institutions and so gang culture should be seen as a response to multiple social and economic marginalities produced by structural forces (Bankston 1998). Conversely, other studies find a great deal of variation in criminal involvement within culturally similar groups. DiPietro and Bursik (2012) found that the magnitude of the negative association between immigrant status and involvement in violence varies between different Latino national groups.

Similar problems with cultural theories were identified in sociology of immigration. Sociology of immigration scholars argue that culture does not provide a good explanation for why some immigrant groups become economically successes and others do not (Steinberg 2001). Previous studies have shown that some immigrant groups display similar economic attainment levels despite the fact that they come from very different cultural backgrounds (Bonacich and Modell 1980; Portes and Zhou 1992), while other groups have vastly different outcomes despite similar cultural or national origins (Portes and Bach 1985; Portes and Puhrmann forthcoming). The understanding of these differences requires a greater attention to the role of structural factors.

Structural theories

Structural theories developed by immigration and crime scholars by and large focus on the role of interpersonal and organizational social ties and on how these affect the informal social control capacity of immigrant communities. These theories draw on the arguments of neighborhood effects theories in criminology. Following the revision of social disorganization theory, more emphasis was put on social bonds (Kornhauser 1978; see also Matsueda 2008) and later on the salience of social networks (Bursik and Grasmick 1993; Sampson and Groves 1989; see also Kasarda and Janowitz, 1974) in

crime causation. The new structural theories assumed that the effects of structural

conditions including concentrated disadvantage, residential instability, and ethno-racial

heterogeneity on neighborhood crimes are mediated by the strength of social ties because

these ties foster social cohesion and enhance the informal social control capacity at the

neighborhood level (Bursik and Grasmick 1993; Sampson 2012; Sampson and Groves

1989).

The ability of immigrant communities to foster various forms of social ties which

in turn reduce crime rates is the central thesis of many theoretical frameworks in

immigration and crime scholarship. Ousey and Kubrin (2009), for example, proposed a

social capital and family structure perspective. The authors argue that ethnic enclaves

help foster stronger ties between community residents and between residents and local

businesses. The authors also suggest that the social-connectedness and cohesiveness of

immigrant communities reinforce and help preserve the conventional (two parent) family

structure. In turn, communities with stronger social and institutional ties and greater

proportions of intact families have increased capacity for informal social control and so

have lower crime rates (Ousey and Kubrin 2009; for similar theoretical propositions see

Desmond and Kubrin 2009; Kubrin and Ishizawa 2012; Lee and Martinez 2009; Lyons,

Vélez, and Santoro 2013; Martinez 2002; Martinez and Lee 2000; Wright and Rodriguez

2014).

The perspectives that suggest that lower crime rates in immigrant communities

can be attributed to abundance and strength of social ties provide grounds for immigrant

revitalization theory (Kubrin and Ishizawa 2012; Lee et al. 2001; Martinez 2002).

Immigrant revitalization theory adds socio-historical context to the social ties-based

explanations. The social context in which many immigrants settle today is shaped by the restructuring of the American economy (Kasarda 1985), which was characterized by the disappearance of low-skill manufacturing jobs from inner-city areas and the emergence of hourglass economy which stunted economic mobility of immigrants and the native born alike (Portes and Rumbaut 2014; Waldinger 1989; Wilson 1987; 1996). Since many immigrants today settle in inner-city areas upon their arrival, their adaptation should be acutely affected by the new economic order and the new modes of production (Gans 1992; Portes and Zhou 1992; Waldinger 1996; Waldinger and Lee 2001).

Yet, as proponents of immigrant revitalization theory suggest, the ability of immigrant communities to foster various kinds of social ties may have allowed immigrants to revitalize urban areas abandoned by the large scale manufacturing industries. Lee et al. (2001) note that immigrants utilize strong family, organizational, and transnational ties to revitalize inner city economies and finance various important community organizations. Indeed, studies show that the flight of large scale industry may have opened new economic opportunities and provided infrastructure for business ventures for the new wave of immigrants (Gans 1992; Klinenberg 2002; Waldinger, 1994; 1996; Zhou 1992). For example, a study of New York City's Chinatown revealed that inner-city facilities abandoned by large industrial firms were turned into garment factories by Chinese entrepreneurs (Zhou 1992). Immigrant social networks played an important role in providing startup funds and staffing these businesses (see also Waldinger 1996). In another study, Zhou and Bankston (1998) studied Vietnamese immigrants who settled in a highly disadvantaged area near the city of New Orleans. There, Vietnamese businesses helped establish a number of important community

organizations that promoted academic achievement and discouraged delinquent behavior among Vietnamese youths (see also Bankston 2014). Criminologists suggest that by revitalizing inner-city communities, immigrants were then able to create areas with lower crime rates (Kubrin and Ishizawa 2012; Lee et al. 2001; Martinez 2002; Wright and Rodriguez 2014).

Structural theories in criminology do not necessarily deny that culture has a role in shaping the immigration and crime relationship. These theories see structural conditions as playing an essential role in proliferation or attenuation of culture that may discourage violent and criminal behavior. For example, in addition to focusing on the content of immigrant and Hispanic culture, Steffensmeier et al. (2010) also point to the ability of Hispanic communities to foster social ties which help maintain cultural capital and social cohesion more generally.

Similar stances regarding the role of structure and culture were taken by some sociology of immigration scholars. While Zhou and Bankston (1998) devote much attention to the role of ethnic culture in the success of Vietnamese youths, they argue that the use of culture to control the behavior of Vietnamese adolescents was a response to structural conditions such as high levels of disadvantage in nearby communities. Similarly, Bankston (2014) argues that immigrants do not import all elements of their native culture but strategically utilize those elements that help their communities to survive and succeed in the new circumstances. Hence, larger structural conditions in the United States affect the manifestation and utilization of immigrant culture in immigrant communities.

However, structural explanations of the immigration and crime relationship also have a number of problems. Recent studies have shown that immigrants are not always advantaged when it comes to social ties. Studies have also shown that immigrant social networks are more constricted and less reliable (Roschelle 1997) than the networks of their second generation co-ethnics and that many immigrants report feeling socially isolated (Viruell-Fuentes and Schulz 2009). Gorman, Ecklund, and Heard (2010) also found that foreign-born are generally less socially integrated and received less social support than native born Americans.

Theories such as immigrant revitalization also emphasize the organizational networks that emerge in immigrant communities. However, recent studies have shown that in some urban communities an influx of immigrants lead to a decline in organization participation (Wilson and Taub 2006; see also Putnam 2007). Even if immigration fosters extensive social networks, these networks do not always produce social cohesion and mutual support as structural immigration and crime theories suggest. While immigrants may rely on ties with co-ethnics for support, under conditions of economic deprivation these ties may become a source of stress and conflict (Bankston 2014; Domínguez and Watkins 2003; Horowitz 1983; Menjívar 2000; Roschelle 1997).

Current theoretical discussions on immigration and crime have also paid limited attention to the potentiality of negative effects of social ties on the wellbeing of immigrant communities. Recent discussions of social capital (Bankston 2014; Portes 1998; 2010; Portes and Mooney 2002; Woolcock 1998) and of social networks and crime (Browning, Feinberg and Dietz 2004; Pattillo 1998; Sampson 2001; 2012) suggest that social connections may in fact enhance the potential for maleficence and antisocial

behavior at the community level (see also Granovetter 1985). This possibility has not been addressed in the recently proposed immigration and crime theories.

Finally, theories that argue that lower crime rates are associated with immigrant social ties fail to answer the key questions of what causes immigrant ties to be stronger than those of the native born or stronger than expected considering the elevated exposure to structural disadvantage. Some scholars have argued that stronger social ties are promoted by immigrant cultures. For example, some argue that certain immigrant groups have family oriented cultures and so are better at preserving the traditional family structure (Ousey and Kubrin 2009). Other scholars, however, argue that ethnic identities or ethnic cultures do not explain variations in strength of family and community social ties between ethnic groups (Klinenberg 2002). Furthermore, the cultural explanation runs into the same problem as pure cultural explanations of immigrant crime discussed in the previous section. Namely, studies find similar levels of family cohesion, conflict, and "familism" among culturally distinct groups as well as important differences in these factors within a national group like the Cuban immigrants (Portes and Rumbaut 2001).

A viable explanation for the relationship between immigrant residential concentration and crime requires a broader focus on how immigrant ties are embedded and maintained in immigrant communities. Such a focus allows one to consider the role of both interpersonal and organizational ties. Immigrant communities can foster both strong interpersonal networks and support preservation of immigrant cultures that discourage criminal behavior.

A large number of immigration and crime studies draw on immigrant enclave theory to provide a community-level explanation for the immigrant paradox (e.g.,

Martinez 2002; Ousey and Kubrin 2009). Few criminologists, however, provide a detailed discussion of immigrant enclaves or specify their role in crime causation at the community level. Because of this, "immigrant enclave" became a catch-all term for crime buffering effects in immigrant communities. While the use of immigrant enclave theory to explain the relationship between immigration and crime has a number of advantages, several problems have to be addressed before the ideas from ethnic enclave scholarship can be adopted in immigration and crime research.

First, a rigorous overview of ethnic enclave scholarship is needed in order to provide criminologists with a better understanding of how this concept was developed. The introduction of ethnic enclave theory has generated an ardent debate regarding the operationalization of this construct (Portes and Jensen 1987; Sanders and Nee 1987; for a review see Zhou 2009) and regarding the effects enclaves may have on the lives of immigrants, on their communities, and on the larger areas in which enclaves are located. Many of the arguments introduced in this debate are relevant for use of the ethnic enclave concept and theory in criminological studies of immigration and crime. Yet, no previous studies in criminology have provided an extensive discussion of immigrant enclaves or rigorously considered whether this concept fits assertions made by criminologists.

Second, criminologists tend to associate immigrant and Latino residential concentration (MacDonald, Hipp, and Gill 2012; Shihadeh and Barranco 2013) and, more recently, segregation with immigrant enclaves (e.g., Feldmeyer et al. 2015; Barranco 2013; Xie 2010). Following my review of ethnic enclave scholarship I will argue that ethnic enclave is just one of the possible forms of immigrant community organization that can emerge in areas where immigrants are residentially concentrated (see also Logan,

Zhang, and Alba 2002). Only a few studies in criminology have considered alternatives to ethnic enclaves in areas with high concentration of immigrants (e.g., Desmond and Kubrin 2009; Feldmeyer et al. 2015; Martinez, Lee, and Nielsen 2004). Yet, no research has proposed a systematic way to differentiate between types of immigrant community organization that would be consistent with theories in sociology of immigration.

IMMIGRATON AND ETHNIC ENCLAVES

Origins of Ethnic Enclave Theory

Ethnic enclave theory emerged as an alternative to theories aiming to describe the process of immigrant incorporation into American society (Portes and Bach 1985; Portes and Manning 1986; Portes and Rumbaut 2014; Wilson and Portes 1980). According to Portes and Bach (1985), two competing lines of theoretical thinking dominated the social sciences at the time when the ethnic enclave concept was proposed (see also Portes and Rumbaut 2014). One line of thinking was associated with assimilation theory suggested that every ethnic and racial group, no matter how distinct they are from people in the receiving society at the time of their arrival, will eventually become fully integrated into the host society (Park 1950). The classical assimilation theory proposed that immigrants began their life in America by settling in undesirable urban communities that mostly housed other recent arrivals (Gordon 1961; Park and Burgess 1925). Adaptation to American society manifested itself through ascendance of the economic hierarchy by immigrants and their children. This ascendance typically coincided with a residential move to a more ethno-racially integrated neighborhood (Massey 1985; Park and Burgess 1925; Thomas 1921). This adaptation was contingent on the willingness of immigrants to abandon their ethnic values and to join the American mainstream (Gordon 1961; for a

review see Alba and Nee 2003; Portes and Bach 1985; Portes and Manning 1986; Steinberg 2001).

A number of theories opposed assimilation theory's assumption that all groups would eventually be able to join the American mainstream (Lyman 1968; Portes and Rumbaut 2014). For example, some scholars pointed to the inability of classical assimilation theory to explain the failure of African Americans to integrate the American mainstream (Glazer 1993; Lyman 1968; Metzger 1971). These theories argued that discrimination and exploitation in the labor market would prevent certain groups from entering the mainstream (e.g., Bonacich 1972; for a review see Portes and Rumbaut 2014).

Dual (also known as segmented) economy theory also predicted that some ethnic groups will be blocked from economic integration into American society. The original statement of ethnic enclave theory builds on a critique of the assumptions made by dual economy theory and so it is worth reviewing this theory in some detail. Dual economy theory postulates that the American economy is divided into a primary sector composed of oligopolies and a secondary sector represented by smaller firms (Portes and Bach 1985; Portes and Rumbaut 2014; Wilson and Portes 1980, see also Piore 1979). The oligopolies control their share of markets and so are capable of passing various costs of production onto their consumers. The firms in the secondary labor market are in constant competition and so have to minimize the costs of production in order to stay in business. The dual economy creates jobs that are well paid, secure, and include opportunities for upward mobility (i.e., primary sector) and jobs that lack most of these desirable characteristics (i.e., secondary sector). This bifurcation of the American economy is a

relatively recent phenomenon and, so, affects the current immigration wave which roughly coincided with economic restructuring (Gans 1992; Massey et al. 1987; Piore 1979).

Piore (1979) pointed to various reasons why immigrants are especially likely to become workers in the secondary sector of the American economy. On the one hand, immigrant workers are not as averse to taking secondary sector jobs because, unlike the native born workers, they do not associate them with low social status. Immigrants also tend to have a target earner mentality and plan on holding these jobs only until they earn a sum of money that will allow them to make the desired investments in their households in their home country. Hence, many immigrants view their jobs a temporary and do not worry about being stuck in undesirable occupations for a lengthy periods of time.

On the other hand, secondary sector firms need immigrant workers because they can be laid off during economic downturns and because they are unlikely to unionize or ask for worker benefits (Piore 1979; see also Massey et al. 1987; Model 1985; Portes and Bach 1985). Piore (1979) also argues that since most immigrant workers have a target earner mentality and aim to eventually return to their home country, they are unwilling to make investments in immigrant communities in America. This creates a problem for those immigrants who do decide to stay and especially for their American born children. Without community support, the latter are likely to remain confined to secondary sector jobs despite changes in economic aspirations associated with the decision to stay (Piore 1979).

Although they make contradictory claims regarding the prospects for integration of immigrant groups into the American mainstream, the theories described above have

one important thing in common. They all suggest that a distinct ethno-cultural identity is associated with marginal economic status (Portes and Manning 1986). In the case of classical assimilation theory, immigrants and their descendants will not become a part of the mainstream economy until they jettison their ethnic distinctiveness. According to the theories like dual economy theory, ethnic distinctness provides the basis for the permanent exclusion of immigrant and ethnic minority groups from the American mainstream (Portes and Bach 1985; Portes and Rumbaut 2014). Neither theory considers that advantages that ethnic distinctiveness may have in the American economy.

Ethnic Enclave Theory

The key proposition of ethnic enclave theory is that economic systems hinging on ethnic business ownership and employment of co-ethnic workforce provides an alternative pathway for social and economic mobility of immigrants in the United States (Portes 1995; Portes and Manning 1986; Wilson and Portes 1980). Contrary to theories suggesting that ethnic distinctiveness is a handicap for social and economic incorporation, immigrant enclave scholars argue that the entrepreneurial success of some immigrant groups is in fact contingent on ethnic solidarity and trust and so the maintenance of ethnic identity is a key to economic success (Model 1985; Portes and Sensenbrenner 1993; Portes and Zhou 1992; see also Light 1972; Thomas 1921). The abundance of ethnic enterprise also stimulates the growth of other ethnic organizations leading to preservation of ethnic culture and life-style through institutional completeness of immigrant neighborhoods (Bankston 2014; Breton 1964; Zhou 2009). The proliferation of ethnic enterprise in immigrant communities furthermore provides

opportunities for upward mobility among the descendants of immigrants (Bankston 2014; Zhou 1992; 2009).

As I noted earlier, ethnic enclave theory was originally proposed as an alternative to the model postulated by dual economy theory (Portes and Manning 1986; Light et al. 1994; Wilson and Portes 1980). Another key proposition of ethnic enclave theory is that the enclave economy represents a segment of the American labor-market that is distinct from both the primary and the secondary sectors depicted in dual economy theory. The common ethnic background of workers and owners in enclaves is the source of this difference. While both the character of the firms and the jobs in enclaves are similar to those in the secondary labor market, enclave workers have returns on human capital and opportunities for upward mobility similar to workers in the primary sector (Portes and Bach 1985; Wilson and Portes 1980).

Early research generally confirmed that the enclave economy was indeed a separate segment of the labor market and that the enclave sector shared some of the advantages of the primary sector (Portes and Bach 1985; Wilson and Portes 1980). The focus in most immigrant enclave studies was on returns on human capital for workers in enclave, primary, and secondary sectors (Portes and Bach 1985; Sanders and Nee 1987; Zhou 1992; 2009). It was expected that the returns on human capital observed in the enclave sector would be similar to those observed in the primary but different from returns in the secondary sector. A number of studies confirmed that this indeed was the case (Portes and Bach 1985; Wilson and Portes 1980).

Furthermore, studies have shown that while many immigrants start out in the less desirable and lower paid jobs, work in ethnic enclave firms often provides them with an

opportunity to become business owners themselves and so to reap the benefits associated with self-employment (Portes and Bach 1985; Raijman and Tienda 2000; see also Light 1972). Another study found that the emergence of an enclave and the growth in co-ethnic population gave rise to professional occupations (lawyers, politicians, real-estate agents) reserved for co-ethnic workers and usually occupied by second generation co-ethnics (Zhou 1992). Hence, immigrant enclaves were also capable of creating primary sector occupations (see also Bankston 2014).

The enclave theory was subsequently expanded in an attempt to address some of the key questions stemming from the initial version of the theory. One of the key questions was how immigrant firms could remain solvent if they provided primary sector benefits while operating under secondary sector conditions (Model 1985). Piore (1979), for example, argues that in times of low demand, firms must either reduce their labor costs or suffer the losses of capital. The primary sector has a stable demand and so firms in this sector can safely invest capital in their workers. Demand in the secondary sector is unstable and so by providing worker benefits comparable to the primary sector secondary sector firms risk bankruptcy. This key issue had to be resolved in subsequent theoretical works.

Some explanations of the success of enclave firms came from studies of immigrant entrepreneurship. Light (1972) noted that the cultural distinctiveness of Japanese and Chinese groups in America produced a demand for goods that could not be satisfied by native enterprises (see also Portes and Zhou 1992). This gave immigrants access to a relatively stable and noncompetitive economic sector. This sector, however, did not provide sufficient economic opportunities. Ethnographic studies have shown that

by catering exclusively to co-ethnics, ethnic enterprises often limited the profitability of these business ventures in multi-national neighborhoods (Bankston 2014; Suttles 1968).

Light (1972) noted that some immigrant enterprises targeted external markets where demand was much less stable and competition from native firms was much stronger. The author argued that national identity helped ethnic businesses to coordinate their operations and deal with both the instability and competition in external markets. For example, some groups used their ethnic ties to vertically integrate their businesses and so minimize costs of transactions between suppliers and retailers (Light 1972). Later studies also confirmed that the coordination of ethnic firms in the form of vertical economic integration helps these businesses to succeed under secondary labor market conditions (Wilson and Martin 1982 see also Portes 1995).

In a study of the Chinatown in New York City, Zhou (1992) further developed the understanding of how relationship between internal (protected) and external (competitive) market firms in this immigrant enclave helped immigrant enterprise. Zhou (1992) used the concept of duality to describe this relationship. Some ethnic businesses such as restaurants and diners responded to the demands of the Chinese immigrant population. This demand was relatively stable. Other businesses operated in highly unstable and highly competitive sectors such as the garment industry. The latter businesses depended on random requests from larger apparel companies. The Chinese garment businesses had to lay off workers when there were few or no orders from major companies. However, the occasional spikes in unemployment in these firms were generally balanced by the relative stability of the protected sector (Zhou 1992).

To summarize, sociology of immigration scholars argued that ethnic enclaves were an alternative mode of incorporation ignored by the assimilation and dual economy theories (Portes 1995; Portes and Manning 1986). For enclave workers seeking economic upward mobility in America, ethnic identity was an asset rather than a liability. To answer the question of how enclave firms survived in competitive markets, scholars pointed to the benefits of business agglomeration, diversification, and integration. In other words, to succeed, ethnic enclaves firms had to grow beyond the bounds of small family owned enterprises serving mostly co-ethnics and become major regional economic powers (Portes 1987; Zhou 1992). The centrality of regional concentration of enclave firms in theoretical discussions played an important role in debates regarding operationalization of ethnic enclaves in empirical studies discussed in the next section.

Definition and Operationalization of the Ethnic Enclave

Ethnic enclave theory generated an ardent debate among sociology of immigration scholars. A number of scholars have pointed to the possibility that employment in an enclave economy could lead to exploitation of immigrant workers rather than to upward mobility (Bonacich 1993; Sanders and Nee 1987; Zhou 1992; 2009). Sanders and Nee (1987) found support for this argument in their study that demonstrated that Cuban and Chinese workers in enclave economies had lower returns on human capital than their co-ethnics who worked outside of the enclave. The authors also found that the benefits of working in an enclave were limited to self-employed ethnic group members. The study by Sanders and Nee (1987) fueled a debate regarding the proper definition and operationalization of the ethnic enclave. Since the beginning of the "enclave debate" a large number of studies have proposed alternative ways to

operationalize this construct. Some have equated the definition of ethnic enclave to a "stew, to which researchers have added so many ingredients and seasonings that it is hard to tell what is essential" (Logan et al. 1994:693). It is possible, however, to identify the central tenets of the debate.

The debate was sparked by a change in research methodology (Waldinger 1993). Initial studies were designed to demonstrate that the immigrant enclave was indeed a sector of the American economy distinct from the primary and secondary sectors identified by dual labor market theory (Light et al. 1994). These studies used longitudinal individual-level data collected from recently arrived Cuban and Mexican immigrants (Portes and Bach 1985; Wilson and Portes 1980). In these studies, work in an enclave economy was defined as employment in a firm owned by a co-ethnic, secondary sector work was defined as working for an Anglo owner in a firm where most workers were one's co-ethnics, and the primary sector was defined as working for an Anglo owner in a firm where most workers were not one's co-ethnics (Portes and Bach 1985; Wilson and Portes 1980; see also Light et al. 1994; Model 1992). As was noted in the previous section, these studies generally confirmed that ethnic enclave should be considered a separate economic sector and that enclave workers had returns on human capital that were better than those of secondary sector workers (for critiques see Light et al. 1994; Waldinger 1993).

Most subsequent studies of immigrant enclaves used either Census or ethnographic data to identify ethnic enclaves (but see Model 1992). While ethnographic studies provided much valuable information, they were less capable of providing an objective assessment of the claim that enclave workers were subjected to exploitation by

their co-ethnic bosses. Census data, on the other hand, provided quantitative data needed to calculate returns on human capital as well as information on other economic outcomes. Hence, the latter data could be used to examine if human capital of enclave workers was undervalued. Yet, Census data do not allow researchers to link ethnicity of workers with ethnicity of owners of the firms that employ them (and *vice-versa*). Hence, studies of ethnic enclaves that utilized Census data had to find alternative ways to operationalize ethnic enclaves. The emergence of several alternatives based on different probabilistic assumptions fueled the controversy.

In the previously mentioned study based on Census data, Sanders and Nee (1987) defined enclave as an area with high levels of ethnic group concentration. Portes and Jensen (1987) strongly objected to this operationalization of immigrant enclave by arguing that "the word 'enclave' does evoke the image of residential concentration, but nowhere in our past writings has it been used in this manner" (p. 768). The authors argued that the proper operationalization of ethnic enclave should be based on the place of work. Immigrants working in an enclave would be those working in firms owned by co-ethnics that are located near other co-ethnically owned firms (Portes and Jensen 1987; Light et al. 1994). Portes and Jensen (1987) add that most upwardly mobile (the population of great interest for examining returns on human capital) enclave workers would be more likely to live in more affluent integrated neighborhoods often located some distance away from their places of work, while most recent arrivals and the less economically successful group members will reside in areas of ethnic concentration (see also Portes 1987). A later case study of Cubans in Miami confirmed that immigrants who worked in enclaves did better financially than those who resided in such areas, leading

the authors to conclude that the place of residence measure of enclave participation is less valid (Portes and Jensen 1989).

Zhou and Logan (1989) examined "three possible ways of defining the economic enclave: by place of residence, by place of work, and by industry" (p. 811). The industry-based definition was not considered in the enclave debate prior to this study but was a part of ethnic niche scholarship (Waldinger 1996). The authors considered immigrants to be employed in an enclave sector if they worked in one of the industries where their co-ethnics were over-represented. These industries were identified by Zhou and Logan (1989) based on both prior ethnographic research and on Census statistics. The authors examined the three definitions in a case study of Chinese immigrants residing in or near the New York City. This population has not been considered in the enclave debates prior to this study.

Like studies that initiated the enclave debate, Zhou and Logan (1989) examined outcomes for owners and workers separately, but unlike those studies they also analyzed outcomes among both men and women. The exploratory analysis indicated that there was a significant overlap between all three measures of immigrant enclave. The results of analyses using data on Chinese men found that returns on human capital could be detected for enclave workers as well as for those who worked outside of the enclaves. Women, however, received much better returns outside of the enclave. In terms of the appropriate enclave definition, the study could not find consistent support for use of one enclave definition over others (Zhou and Logan 1989; see also Zhou 2009).

The study by Zhou and Logan (1989) motivated further inquiry into the industry-based definition of ethnic enclave. A few studies extended the industry-based definition

to ethnic business owners to make the measurement of an ethnic enclave more (but not fully) compatible with the theory. Using Census data, Logan et al. (1994) examined the concentration of both employers and employees of a large number of ethno-racial groups in a variety of industries across metropolitan areas where these groups were well represented. The authors considered industries where ethnic groups were over-represented as both owners and workers and which were concentrated in space to be immigrant enclaves. The empirical results led the authors to conclude that few regions could be considered immigrant enclaves based on the definition they proposed (Logan et al. 1994). A follow up study considered the same definition of immigrant enclave but explored changes in ethno-racial group probabilities of participating in enclaves over time (Logan et al. 2000). Logan et al. (2000) found that between 1980 and 1990 a number of new immigrant enclaves have emerged.

Operationalization of Ethnic Enclaves as Concentration of Immigrants and Ethnic Firms

The studies reviewed in the previous section guided the debate about the proper operationalization of immigrant enclaves. While the scholars disagree about the role that residential concentration of immigrants and concentration of ethnic firms should play in the operationalization of an ethnic enclave when using Census data, both sides in the debate use macro-level data in their measurements (i.e., immigrant enclaves span metropolitan areas). Overall, it appears that the concentration of ethnic firms in a larger geographical territory such as a city or a metropolitan area is central to the operationalization of an immigrant enclave (Portes and Rumbaut 2014; Light et al. 1994; Raijman and Tienda 2000). This concentration implies interconnectedness and

diversification of firms' activities (e.g., duality) which is what helps immigrant enclaves to thrive (Wilson and Martin 1982; Zhou 1992; 2004).

Despite the emphasis on geographical concentration of ethnic firms in the ethnic enclave debate, denying the importance of residential concentration of immigrants may be premature. Some authors argue that the formation of an ethnic enclave requires an ample supply of co-ethnic immigrant labor (Logan et al. 1994; 2000; Portes 1995; Portes and Rumbaut 2014). Others point to the importance of well-developed markets for ethnic goods protected from external competition (Light 1978; Logan et al. 1994; 2000; Zhou 1992). Zhou (2004; 2009) recently argued that the connections between ethnic businesses and ethnic community are essential to the survival of immigrant enclaves (see also Bankston 2014). All of these essential conditions require the presence of a large number of co-ethnic immigrants and so immigrant concentration in the larger geographical area should be considered in the operationalization of ethnic enclaves along with concentration of ethnic firms.

However, the residential concentration of immigrants does not have to be in the form of residential segregation. The immigrant consumers and workers living in the larger area such as the county, city, or metropolitan area need reliable access to ethnic businesses. One way immigrants can gain this access is by residing near their places of work and so increasing the level of segregation (Massey 1985). However, this access can also be obtained by settling near routs of public transportation within the larger geographical area (e.g., Bankston 2014; Zhou 1992; 2009; Zhou and Bankston 1998). Zhou (1992), for example, found that as the Chinese population of Chinatown in New York City grew, new satellite communities of Chinatown workers emerged near subway

stations in other parts of the city. Similarly, Bankston (2014) found that immigrant communities often emerge in the form of multiple satellite communities scattered throughout a larger geographical area but connected in various ways.

Alternative Forms of Immigrant Community Organization

As was noted earlier, studies of immigration and crime have not considered the geographical concentration of ethnic businesses in the operationalization of immigrant enclaves. Instead, most have assumed that various measures of immigrant residential concentration and segregation sufficed as valid measures of enclaves (e.g., Barranco 2013; MacDonald et al. 2012; Shihadeh and Barranco 2013). This leads to two problems. First, this leads to improper use of immigrant enclave terminology in criminological research.

Second, improper identification of immigrant enclaves based solely on residential concentration of immigrants prevents researchers from exploring theoretically and empirically the possibility that there may be different types of immigrant communities. In turn, these communities may not have the protective effects that immigrant enclaves purportedly have. Indeed, a growing number of immigration and crime studies have hypothesized that some immigrant communities may not be enclaves, but have not used appropriate measures of this concept to substantiate this claim (e.g., Desmond and Kubrin 2009; Feldmeyer et al. 2015; Martinez et al. 2004).

In addition to being consistent with sociology of immigration scholarship, operationalization of immigrant enclaves as places with large concentrations of ethnic firms and co-ethnic immigrants provides an opportunity to identify other types of immigrant community. Studies of ethnic economies identified cases where levels of

immigrant concentration and rates of ethnic business ownership do not coincide (Light et al. 1994). To better understand the role of ethnic enclaves for crime it is important to first explore how different combinations of immigrant settlement patterns (concentration and residential segregation) and ethnic business ownership rates can produce different forms of immigrant community organization.

To define and describe different forms of immigrant community organization I draw on the typology provided by the ethnic economy scholarship (Zhou 2004; 2009). While the ethnic economy typology is focused on immigrant economic activity and does not explicitly consider the role of residential settlement patterns, I draw on sociology of immigration and race and ethnic studies literature to show the links between local economic and community factors. These forms of community organization along with their theoretical links to immigrant residential concentration, ethnic business ownership patterns, and other theoretically important factors are illustrated in Table 1. This table will serve as a heuristic device for the present discussion. The typology developed here is not exhaustive and so other forms of community organization may be identified. This issue is addressed later in this chapter.

Ethnic Enclave. Table 1 shows that the areas with large concentrations of ethnic firms and co-ethnic immigrants can be considered ethnic enclaves. The reasons for this were provided in the previous section and so here I will focus on providing additional evidence to support this operationalization. There is little question that the concentration of ethnic firms is an important factor. However, the importance of concentration of immigrants has been disputed. Furthermore, previous immigration and crime studies have interpreted the concept of immigrant concentration in different ways. Some studies have

interpreted immigrant concentration as presence of immigrants in a particular locality

while others viewed it as segregation of a foreign born from other racial and ethnic

groups.

Table 1. Links between Forms of Immigrant Community Organization, Immigrant
Concentration, and Ethnic Business Ownership

	High Rates of Ethnic Business Ownership	Low Rates of Ethnic Business Ownership
High Levels of Co-ethnic Immigrant Concentration	Immigrant Enclave	Niche | + niche employment Ghetto | + segregated
Low Levels of Co-ethnic Immigrant Concentration	Middleman Minority	Ghetto | + segregated

The sociology of immigration literature suggests that immigrant enclaves require

access to a large co-ethnic labor force and to a co-ethnic consumer base. For example,

Portes (1995) includes "the size of the co-ethnic population that provides their core

market and key source of labor" (p. 27) as one of three key elements in the emergence of

enclaves (see also Portes and Manning 1986; Zhou 2004). Similarly, in her study of an

immigrant enclave, Zhou (1992) noted that an immigrant enclave emerged in the New

York City's Chinatown only when the growth of the Chinese population led to the

emergence of both the internal protected sector catering to the Chinese only (Chinese

restaurant and take out) and the external export sector (garment industry). The success of

the former depended on large co-ethnic clientele, while work in the latter was labor

intensive and so required a large number of workers. The proper functioning of both

sectors required a substantial presence of co-ethnic immigrants in the larger geographical

area. As was noted earlier, segregation provides one but not the only way for immigrants

to gain access to ethnic firms and organizations. Hence, Table 1 shows that ethnic segregation is not a necessary factor in emergence of enclaves.

Middleman Minorities. However, high rates of ethnic business ownership are possible even in areas with few co-ethnics (Light et al. 1994). Some immigrant entrepreneurial activity involves running small scale enterprises that purchase goods from large firms at the core of the economy and sell these goods in areas that major retailers do not reach directly. In sociology of immigration literature, groups involved in this type of activity are labeled middleman minorities (Bonacich 1973; Bonacich and Modell 1980; Zhou 2004). As Table 1, shows these areas with high rates of ethnic business ownership but low concentration of co-ethic immigrants can be considered middleman minority communities.

While previous studies have not explicitly made the connection between rates of ethnic business ownership, size of immigrant population, and emergence of middleman minorities, there is evidence to support this proposition. Specifically, Zhou's (1992) study shows that the ethnic economy of Chinese immigrants in New York City was more akin to a middleman minority than to an enclave until additional labor was provided by increases in immigration rates following changes in immigration law in the 1960s. Before the influx of Chinese immigrants into the area, this group was mainly involved in running small laundromats with mostly non-Chinese clientele (Zhou 1992).

Immigrant Niches. Sociology of immigration scholars have noted that not all areas with large immigrant populations have high rates of ethnic business ownership (Portes and Bach 1985; Portes and Rumbaut 2014). However, high levels of immigrant concentration in a larger geographical area can enhance economic opportunities through

formation of ethnic employment niches (Waldinger 1994; 1996; Waldinger and Lichter 2003). An ethnic employment niche is formed when workers from a certain ethnic group monopolize access to jobs in some industry or occupational category in a particular geographical area. Waldinger (1996) argues that ethnic niches emerge as a result of the ethnic queue. As new ethnic groups enter the labor markets they target the industries vacated by the more economically mobile groups that were able to move up in the occupational structure. Hence, access to jobs in different industries is often controlled by a particular ethnic group.

Immigrant groups are highly successful in forming ethnic niches. They take advantage of network hiring which is prevalent in low-skill occupations (Waldinger and Lichter 2003). Waldinger and Lichter (2003) argue that employers often rely on the social networks of incumbent workers to hire new low-skill workers because this method reduces costs associated with recruiting, screening, and training (see also Bailey and Waldinger 1991). Immigrant workers have access to extensive interpersonal social networks built up in the process of migration (Massey et al. 1987; 1993). Waldinger and Lichter (2003) also argue that cultural and linguistic distinctiveness of immigrants helps them maintain control over niches after a certain level of ethnic group concentration at a workplace is achieved. Once an ethnic group becomes concentrated in an industry, the knowledge of language and customs of this group becomes a *de facto* prerequisite for obtaining employment for new workers.

The reliance on network hiring gives some ethnic groups considerable leverage in the economic sphere and so provides them with economic opportunities. Ethnic niche formation does not require high rates of ethnic business ownership. However, it does

require both the concentration of ethnic workers in certain industries (niche employment) and the availability of a large co-ethnic labor force since larger groups tend to be more able to force out smaller groups and maintain ethnic niches (Waldinger 1995). Hence, Table 1 shows that communities with low rates of ethnic business ownership and high rates of immigrant concentration can be considered immigrant niche communities if niche employment is high in these areas.

Immigrant Ghettos. If an immigrant group resides in an area where few or no firms are owned by their co-ethnics and fails to establish ethnic employment niches, than the mainstream economy becomes their only legitimate alternative. Some immigrants do exceptionally well in the mainstream economy. This mode of incorporation typically leads to quick economic and residential integration and loss of ties with an ethnic community (Bankston 2014; Portes and Rumbaut 2014). However, this option is typically available only for immigrants who arrive with high levels of human capital. For many other immigrant groups, this situation can lead to high level of economic marginality. This marginality may further lead immigrants to reside in ethnically segregated areas due to the inability to afford housing in integrated communities and to a reliance on co-ethnics for support (Alba and Nee 2003). Table 1 shows that areas with low rates of ethnic business ownership and low levels of niche employment but high levels of ethnic segregation can be considered immigrant ghettos.

The ethnic economy typology does not include immigrant ghettos since the defining feature of these communities is the lack of immigrant economic activity. While the debate regarding the proper definition and operationalization of a ghetto has reemerged in recent years (Haynes and Hutchison 2008), my use of the term is generally

consistent with the more contemporary uses. Specifically, contemporary scholarship places more emphasis on economic marginality, loss of economic functions, and alienation of ethnic and racial groups from the mainstream labor market when defining ghettos (Wacquant and Wilson 1989; Wilson 1996).

SOCIAL CAPITAL, IMMIGRATION, AND CRIME

Recent studies of immigrant residential concentration and crime do not pay much attention to the role of ethnic business ownership. Hence, while the immigrant enclave theory is often invoked as a theoretical explanation of the immigrant paradox in criminological studies, the theory itself remains untested. A more careful review of ethnic economy literature suggests that ethnic enclave is but one possible form of immigrant community organization. A proper test of the theory then requires investigation of how the protective effects of ethnic enclaves compare to those of other forms of immigrant community organization.

Before commencing such an investigation a key theoretical question must be addressed. The extant research on immigration and crime fails to provide a comprehensive theoretical explanation of exactly how and why an immigrant enclave reduces crime in immigrant communities. Previous studies have pointed to various structural and cultural factors, but have failed to provide a coherent theoretical framework. This theoretical gap stems in part from the lack of proper understanding of the nature of ethnic enclaves. The role of properly defined ethnic enclaves as well as the role of other forms of immigrant community organization for crime must be discussed.

As I argued earlier, structural, social tie-based explanations of the immigration and crime relationship have a number of advantages. Structural explanations avoid the

previously mentioned problems associated with cultural theories and are consistent with more general macro-level theories of crime (e.g., Bursik and Grasmick 1993). Furthermore, social networks play an important role in both the emergence and functioning of ethnic enclaves as well as in other forms of ethnic economy (Bankston 2014; Portes 1995; Zhou 2004), and in migration process in general (Massey et al. 1987; 1993). As was noted above, a large number of immigration and crime studies already make the connection between immigration, social networks, and community crime rates. Ethnic enclaves play an important role in social network-based explanations because, according to scholars, they help increase the strength of social networks in immigrant communities (Ousey and Kubrin 2009).

However, basing the explanation of immigrant paradox on strength of social networks fostered by ethnic enclaves is not without problems. Recent studies point out that the presence of social ties does not automatically lead to prosocial outcomes, and that social ties can in fact reduce sociability and increase antagonism (Alba and Nee 2003; Bankston 2014; Browning 2009; Portes and Mooney 2002, Portes 1998; 2010; Sampson 2012; Woolcock 1998; see also Granovetter 1985; Waldinger 1995). Some of the research on social networks of immigrants reviewed earlier also suggested that in some cases these networks can increase tension in immigrant communities (Bankson 2014; Horowitz 1983; Menjívar 2000). Importantly, systemic theory has been criticized for not addressing the possibility that social networks may reduce informal social control capacity of communities (Sampson 2012). Hence, the assumption that immigrant social networks help immigrant communities to control crime is premature.

Social capital theory provides the best theoretical toolkit for elaborating on the contingent role of immigrant social networks in the social control of crime. In the next section I provide a brief review of the social capital literature. Specifically, I focus on connections between social capital and social control of deviant behavior. I review literature on the dark side of social capital which suggests that under certain conditions social capital can facilitate antisocial outcomes. In my review I identify several problems in studies that integrate the dark side of social capital with neighborhood effects theories in criminology. I argue that the theory unduly neglects connections between interpersonal social networks and organizations as well as the implications that these connections may have for the communal capacity for social control. I then draw on theoretical insights from these literatures and describe how each form of immigrant community organization may affect community crime rates.

Social Capital and its Dark Side

The popularity of the social capital theoretical concept has increased dramatically in recent years (Moody and Paxton 2009; Portes 1998; 2010). The extensive use of this concept across social science disciplines fueled an ardent debate regarding social capital's definition (Adler and Kwon 2002; Portes 1998; 2010; Portes and Mooney 2002; Portes and Vickstrom 2011). By drawing on seminal sociological works on social capital (i.e., Bourdieu 1986; Coleman 1988), Portes (1998:6) defined social capital as "the ability of actors to secure benefits by virtue of membership in social networks or other social structures" (for a review of other definitions see Adler and Kwon 2002). Portes and his colleagues argued that the use of the social capital concept in sociology differed from its use in some other social science fields such as political science (Portes 1998; 2010),

economics, and international development research (Portes and Mooney 2002). In the latter disciplines, social capital was often treated as a property of larger collectivities such as U.S. states or whole countries (e.g., Putnam 2000; see also Adler and Kwon 2002).

The latter approach reduced the importance of social structure and placed a greater emphasis on culture of civic and philanthropic behaviors as sources of social capital. Portes (2010) suggests that in this context social capital would be more appropriately described as "civicness" and points to a number of problems associated with the assumptions this approach produced (see also Portes and Mooney 2002; Portes and Vickstrom 2011). The author argues that this schism in social capital theorizing is needed in order to prevent social capital from becoming "a value, a synonym for all that is positive and good in social life" (Portes 2010:30). When the sociological definition is used, it becomes clear that social capital can have both socially positive as well as negative implications. Hence, social capital can help foster civicness under some condition but undermine it under others (Portes 2010).

A number of authors, including Putnam (2000), pointed to negative social outcomes associated with social capital (Bankston 2014; Portes 1998; 2010; Portes and Mooney 2002; Sandefur and Laumann 1998; Sampson 2012; Woolcock 1998). These negative outcomes are generally referred to as the dark side of social capital (see Portes 1998). One such negative outcome emerges when social capital is utilized by in-group members to obtain network mediated benefits while excluding members of the broader community from access to these benefits (Portes and Mooney 2002; Waldinger 1995). In this case, social capital undermines civicness, breeds corruption, and increases inter-group conflict.

Social Capital and Social Control

Network mediated benefits may be of various types (Portes 1998). One of the benefits is the leverage social capital provides in forcing individuals to conform to group norms (Adler and Kwon 2002; Alba and Nee 2003; Bankston 2014; Coleman 1988; Portes 1998; 2010; Putnam 2000; Sandefur and Laumann 1998) synonymous with social control (Janowitz 1975). Social capital can enhances social control for two reasons. First, social networks facilitate the circulation of information making it easier to both socialize and monitor the compliance of group members (Burt 1992; Coleman 1988; Putnam 2000; Sandefur and Laumann 1998). Second, social capital increases the costs of noncompliance as those who do not meet expectations could be subjected to ostracism leading to the loss of network mediated benefits (Alba and Nee 2003; Portes 1998; 2010; Portes and Sensenbrenner 1993; see also Bankston 2014; Nee and Ingram 1998; Zhou and Bankston 1998).

However, social capital can also impede social control. This occurs when social capital is used by network members to avoid conforming to norms of the broader community and protects them from being sanctioned. This can be seen as a dark side of social capital because, in this case, social ties are used to deprive the broader community of protections and benefits afforded by social capital. A widely cited example of the conflict between social networks and social control comes from Pattillo's (1998) ethnographic study of a predominantly black working class community in Chicago (see also Pattillo-McCoy 1999). The author found that residents in this community were often reluctant to report criminal acts perpetrated by local youths to police because of their relationships with the youths' parents (for another example, see Sullivan 1989).

Dark Side of Social Capital and Crime

In criminology, conflict between the communal capacity to control crime and strength of interpersonal social networks noted by Pattillo (1998) provided the foundation for negotiated coexistence theory (Browning et al. 2004; Browning 2009). Browning and his colleagues argued that social networks and informal social control capacity of neighborhoods are two different forms of social capital[11] (Browning et al. 2004; Browning 2009; see also Sampson 2001; 2012; Sampson and Graif 2009). Negotiated coexistence theory suggests that, in urban contexts, social networks can bolster communal capacity for informal social control of crime under some conditions or may hinder this capacity under other conditions. Social networks interfere with informal social control of crime if these networks become so extensive that they begin to integrate local offenders. Empirical tests of negotiated coexistence theory confirmed that the capacity of Chicago neighborhoods to control violent crime (Browning et al. 2004), property crime, and disorder (Browning 2009) was attenuated in neighborhoods with strong social networks.

Negotiated coexistence theory made an important theoretical contribution by pointing to the contingent role of social networks in neighborhood social control and crime causation (Sampson 2012). However, this framework suffers from a number of problems. The main problem is with the theoretical mechanism that determines whether the effects of social networks on informal social control of crime will be positive or negative. To reiterate, networks bolster informal social control capacity until they come

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[11] Some criminologists view social control of criminal behavior as a form of social capital rather than a benefit of social capital (e.g., Sampson 2001). Scholars who take this position generally argue that social control can be enhanced by, but does not require, strong social ties (see Sampson 2012). While this view can be criticized for blurring the connection between social capital and social structure, it makes conflict between social networks and social control of crime even more apparent.

to integrate, and so provide social capital to, local offenders.[12] Negotiated coexistence theory assumes that if a social network includes offenders, the non-criminally involved members of this network will become more tolerant of criminal behavior[13] and will shield these offenders from formal sanctions. However, the theory does not consider structural features of the communal networks. Both the normative content and structure are likely to be important in determining the effects of networks on crime (Krohn 1986). Because the theory ignores the structure of social networks its scope is limited to the role of cohesive interpersonal social networks in informal social control of crime. The theory fails to explore the role of weak ties and organizational networks which other social capital theorists see as important.

Like Browning and his colleagues, many theorists have pointed to the dark side of social capital, but most argue that negative outcomes occur when strong in-group ties are coupled with the lack of weaker ties connecting the group to outsiders. Granovetter (1973) was the first to point to divergent roles of strong and weak ties in producing various social outcomes. While strong ties increase group cohesion, they are less effective than weak ties in diffusion of information, innovation, and normative expectations (see also Bankston 2014; Burt 1992). Building on this argument, Putnam (2000) made a distinction between bonding social capital inherent in ties between socio-culturally alike individuals and bridging capital based on ties between people who have less in common. According to Putnam, the probability of negative social outcomes

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[12] In empirical studies of negotiated coexistence the authors did not have a direct measure of whether social networks actually included or excluded local offenders. They argue that such a measure would be needed for a direct test of the theory (Browning et al. 2004; Browning 2009). To my knowledge, no quantitative study to date has conducted such a test.

[13] Given the critiques of deviant subculture theories I abstain from considering a possibility that integration of local offenders into neighborhood network could lead the network members to develop a deviant subculture. Consistent with recent literature, I utilize the idea of cultural attenuation instead (see Kubrin 2014).

increases when high levels of bonding social capital are coupled with the lack of bridging social capital because this arrangement increases potential for intergroup antagonism and in-group favoritism. Similarly, Woolcock (1998) suggests that social capital produces negative social outcomes at both micro and macro level when high levels of embeddedness are coupled with the lack of autonomous social ties.

Social capital theory does not provide a consistent explanation for how weak ties are formed mainly because the theory has many facets and applications. A number of theorists have pointed to organizational participation as the key factor in the formation of weak ties. It is one of the main theses in Putnam's (2000) work on social capital. More recently, Small (2009) argued that organizations play an important role in helping individuals build and extend their social networks and so should be considered by social capital theorists. Small (2006; 2009) posits that community organizations are key brokers of inter-organizational social ties. Furthermore, these organizations foster interpersonal and organizational ties even when workers and clients of these organizations are not intentionally trying to build social networks.

Both social capital and new institutionalism theories in sociology suggest that organizations have normative influences on social networks connected to them. The literature on new institutionalism in sociology suggests that social organizations serve as conduits for institutional norms and rules (DiMaggio and Powell 1991; Ingram and Clay 2000; Meyer and Rowan 1977; Portes 2010; Scott 2014). In a seminal article, Meyer and Rowan (1977) argued that various social organizations adopt and enforce compliance with institutional rules and norms in order to appear legitimate. While some organizations

may deviate from institutional norms for practical reasons, most work to maintain legitimacy which ensures the survival of the organization (Scott 2014).

Normative pressures from the State also affect social interactions between workers and clients in organizations (Small 2006; 2009). Hence, organizations studied by Small also exposed the interpersonal networks of clients and workers to formal State laws, rules, and regulations. For example, the childcare centers studied by Small were mandated by state regulations to report child abuse to child protective services and to disseminate health information (Small 2006). This idea is generally consistent with organizational theory in sociology which argues that firms are coerced by the State to conform to formal rules and regulations (DiMaggio and Powell 1983; Scott 2014; see also Alba and Nee 2003). Structure and functioning of organizations as well as of interpersonal social networks embedded within them are shaped by these institutional rules.

Negotiated coexistence theory does not consider how or whether connections between interpersonal social networks and community organizations affect the informal social control capacity of communities. It is possible that negotiated coexistence only occurs when strong interpersonal networks are disconnected from community organizations. On the other hand, organizations may provide normative pressures that keep strong interpersonal networks from protecting local offenders from formal and informal sanctions. This is especially likely if the organizations are for-profit firms because they can provide both incentives and resources that can affect the normative orientations of interpersonal social networks.

Criminological and sociological theory and research are predominately focused on the role of nonprofit organizations in crime causation at the macro level while for profit firms are rarely mentioned (e.g., Bursik and Grasmick 1993; Hunter 1985; Sampson 2012). However, a number of ethnographic works show that crime creates a great variety of problems for private for-profit enterprise and so these organizations should have a vested interest in control of crime. Even "off the books" enterprises are negatively affected by street crime. In a study of a South Side Chicago neighborhood Venkatesh (2006) showed that increases in gang activity put a strain on a number of the underground as well as on legitimate firms that conducted business off the books. Constant presence of police in the neighborhood made it more risky for businesses to engage in informal activity which ate into their profits.

In another study, Sanchez-Jankowski (2008) found that store owners policed the behavior of patrons who socialized inside or near their establishments. Some store owners even played a key role in establishing social order that extended to the larger community. Store owners reported that they engage in social control because crime and incivility reduced their customer base and so reduced their profits (Sanchez-Jankowski 2008; see also Anderson 2001). Finally, Sullivan (1989) found that much of the youth crime in the neighborhoods he studied was targeting the local businesses and the large factories.

The profit orientation of firms also leads them to command a greater amount of resources that can be used to enhance informal social control of crime. Zhou and Bankston (1998), for example, show that Vietnamese businesses provided financial support that helped establish community organizations that kept local youths out of

trouble. Lee and Zhou (2013) argued that ethnic businesses provide tangible resources needed to promote the frames of achievement in ethnic communities. These frames of achievement have powerful effects on behavior and aspirations of minority youths and are associated with upward mobility (Lee and Zhou 2013). Hence, firms can also prevent negotiated coexistence indirectly by contributing to the nonprofit organizations providing additional positive cultural influences and role models for interpersonal networks.

In summary, negotiated coexistence theory can be improved by recognizing that both strong interpersonal networks and the connections between these networks and community organizations affect the ability of communities to control crime. Specifically, strong interpersonal networks should improve the social control capacity of communities if these networks are connected to organizations and attenuate this capacity if they lack organizational connections. Negotiated coexistence theory and systemic theory should consider both nonprofit organizations and for profit firms.

The remaining question is what the "connection" to a for-profit organization actually entails. One of the central missions of nonprofit organizations is to maintain membership and voluntary participation (Light 1978). The same is not true in the case of for-profit firms where voluntary membership is replaced by economic interests and incentives. However, some scholars suggest that social values can in part replace economic interests in some economic spheres. Portes and Sensenbrenner (1993) argue that utility-maximizing interests of workers and owners may be replaced by bounded solidarity. According to the authors, common national or ethnic background can become a foundation for bounded solidarity. Applying this idea to the current theoretical discussion, the connections between interpersonal social networks and for-profit

organizations should be shaped by bounded solidarity based on co-ethnicity of clients, workers, and owners.

CURRENT THEORETICAL FRAMEWORK

The discussion of social capital, new institutionalism, and sociology of organizations in the previous section suggests that negotiated coexistence theory should be modified. A new assumption is introduced that the effects of strong interpersonal social networks on the social control capacity of communities is determined by how well these networks are connected to community organizations including especially for-profit firms. Such connections, among other things, determine whether interpersonal social networks are incentivized to engage in social control of crime directly through normative pressures from firms or indirectly through firms' financing of nonprofit organizations that assist in crime prevention. The connections between interpersonal social networks and organizations are shaped by introjection of social values into the sphere of economic activity. Bounded solidarity based on perceived common ethnic background is one of these values.

This theoretical framework can also help to better understand the relationship between immigration and crime. Specifically, in order to understand why immigrant enclaves increase the social control capacity of immigrant communities, one must examine how each form of immigrant community organization affects the strength of interpersonal social networks and their connection to community businesses. In the sections that follow I apply this theoretical framework to show how much informal social control potential each form of immigrant community organization should have compared to the others. Table 2 summarizes this theoretical framework by showing the assumed

Table 2. Effects of Forms of Immigrant Community Organization on the Strength of Social Networks, Connection to Organizations, Social Control Capacity, and Crime Rates

Forms of Immigrant Community Organization	Strength of Social Networks	Connection to Organizations	Effects on Social Control of Crime	Hypothesized Crime Levels
Immigrant Ghetto	+	-	--	++
Middleman Minority	-	+	-	+
Immigrant Niche	+	+	+	-
Immigrant Enclave	+	++	++	--

Note: ++ strong positive effect; + positive effect; -- strong negative effect; - negative effect.

strength of interpersonal social networks, strength of their connections to organizations, and the effects these structural arrangements have on social control of crime and expected crime rates in each community.

Immigrant Ghetto

There is a long debate regarding the strength of interpersonal social networks in ghetto communities in social sciences. While some scholars have suggested that ghettos are socially disorganized and lack strong social networks, a number of ethnographic studies have challenged this assertion (Fernandez-Kelly 1995; Suttles 1968; for a review[14] see Desmond 2012; Sampson 2012; Sanchez-Jankowski 2008; Venkatesh 2006). For example, in a seminal study of an impoverished black community Stack (1974) found that many residents in the area formed strong and extensive social networks within the community that were used to exchange various resources. Horowitz (1983) made similar observations in an impoverished inner-city Mexican community. She found that many immigrant and American born Mexicans relied on social networks for economic and emotional support (for more recent research on the topic see Desmond 2012; Domínguez and Watkins 2003; Venkatesh 2006).

Consistent with the research described above, in the current theoretical framework, immigrant ghettos are assumed to foster strong interpersonal social networks (see Table 2). However, the lack of co-ethnic business ownership will increase disconnection of the interpersonal networks from community organizations. This disconnection will likely be bolstered by cultural adaptation to the perceived lack of control over local economic and political processes. Internal colonialism theory, for

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[14] These reviews (and Suttles 1968) discuss the strength of interpersonal social ties in poor neighborhoods in general but social ties in a ghetto are an important part of each review.

example, suggests that the lack of control over local institutions, including local businesses, creates a belief that a minority group is being colonized within their own territory (Blauner 1969; see also Aldrich 1973; Reiss and Aldrich 1971). While the internal colonialism perspective is based on studies of segregated African American communities, the same argument may be applied to other ethnic and immigrant groups (Moore 1970).

The disconnection between strong interpersonal networks and community organization should lead to proliferation of negotiated coexistence in immigrant ghettos. Specifically, offenders should have better access to the social capital produced by the strong interpersonal networks in immigrant ghettos and should be able to use it to avoid being detected and sanctioned by the authorities. Hence, the current theoretical framework assumes that the immigrant ghetto form of community organization should have a low capacity for informal social control of crime and thus high crime rates.

Middleman Minorities

High levels of business ownership among middleman minorities should provide resources and incentives for social control of crime. However, these communities lack strong interpersonal networks because middleman minorities are generally not attached to the communities their businesses serve. Bonacich (1973) argues that low attachment of middleman minorities to communities is a result of a target-earner mentality of immigrant groups involved in this type of enterprise. For middleman minority immigrants, community connections are based solely on economic interests. Whatever ties such interests can foster can be severed easily. Immigrants involved in this form of enterprise do not share national or cultural characteristics with their clientele and often come into

conflict with the population they serve (Bonacich 1973; Light 1972; Portes and Bach 1985). The clientele of middleman minority businesses is usually acutely aware of the ethnic differences between them and the business owners and is resentful of the financial practices of this group (Light 1972; Sanchez-Jankowski 2008; Venkatesh 2006).

Table 2 illustrates this by depicting the middleman minority group members as connected to organizations but unable to form strong interpersonal networks in the community. Because middleman minorities do not share ethnicity with members of communities they serve, the lack of bounded solidarity will limit their ability to incentivize these networks to control crime. However, these groups can use their resources to gain at least some influence over interpersonal networks. Venkatesh (2006), for example, found immigrant business owners often hired local hustlers because they were well connected to the local interpersonal networks. Hence, Table 2 shows that while the informal social control capacity of middleman minority areas should be low, it is still higher than that of immigrant ghettos.

Immigrant Niches.

Immigrant groups establish ethnic employment niches by taking over hiring practices used to staff a particular set of industries. Immigrant social networks play a key role in the establishment of ethnic niches because they help circulate information about job openings (Bankston 2014; Waldinger 1996). The formation of ethnic niches in turn strengthens interpersonal social ties between co-ethnics as employment becomes contingent on network membership (Waldinger and Lichter 2003). Hence, the current theoretical framework assumes that immigrant niches should foster strong interpersonal networks.

The question of how strongly connected these interpersonal networks are to organizations is more complex. On the one hand, ethnic niche employment gives ethnic groups a considerable amount of control over the firms which employ them (Waldinger 1999; Waldinger and Lichter 2003). Previous research shows that this connection is sufficient to expose immigrant social networks to organizational rules. Waldinger and Lichter (2003) found that niche workers often communicate work-related expectations to the co-ethnics they sponsor before the latter even apply for jobs in an ethnic niche firm (see also Bailey and Waldinger 1991). They further argue that "relationships among co-ethnics are likely to be many-sided rather than specialized, leading community effects to go beyond informational values and engendering both code of conduct and the mechanisms of sanctioning those who violate norms" (Waldinger and Lichter 2003:12). Waldinger and Lichter (2003) also found that niche workers have additional motivation to control the behavior of their compatriots as the latter's deviance is likely to negatively affect their reputation as recommenders and so could jeopardize the functioning of the employment network (see also Waters 1999).

On the other hand, in ethnic niches workers and employer/supervisors have different ethnic backgrounds which should impede the formation of bounded solidarity. This lack of bounded solidarity can create cleavages within the organizational structure of the firms and reduce the ability of organization to incentivize interpersonal networks to control crime. For example, Waldinger and Lichter (2003) provide a number of examples of ethnic niche workers hiding misbehavior and inefficiencies of their co-ethnics from employers and supervisors. One employer the authors interviewed reported that they were "especially careful when I have recommendations from supervisors…If the person they

recommend doesn't work out, they will definitely cover it up" (Waldinger and Lichter 2003:116).

Hence, immigrant niches appear to foster both strong interpersonal networks and organizational connections. Yet, ethnic differences between workers and supervisors in these firms create occasions when the influence of incentives to control crime will be attenuated. Table 2 shows that this form of immigrant community organization will have more social control capacity than the immigrant ghettos or middleman minority communities but will be unable to reach the full social control capacity found in ethnic enclaves which are discussed next.

Ethnic Enclaves

Most sociology of immigration scholars today agree that immigration both facilitates and is facilitated by the emergence of social networks (Massey et al. 1987; 1993). These networks are instrumental in helping immigrant groups to establish ethnic enclaves (Zhou 2004; 2009). Immigrant social networks help establish ethnic enclaves because they provide sources of credit and cheap labor force needed to start ethnic enterprises (Bankston 2014; Portes and Manning 1986). Enclaves, in turn, reinforce interpersonal social networks in various ways. First, enclave businesses, like ethnic niche firms described in the previous section, utilize ethnic networks to reduce costs and risks associated with hiring workers (Bailey and Waldinger 1991). Hence, social network membership becomes important for finding and maintaining employment.

Second, enclave businesses help finance important community events and cultural organizations. For example, Zhou and Bankston (1998) found that "Vietnamese shopkeepers and fishing-boat owners played key roles in endowing the Child

Development Center and the annual ceremony of the Vietnamese Educational Association" (p.104). These events and organizations help immigrants maintain ties with their co-ethnics. Even when immigrant families settle in areas with few co-ethnics, they generally continue to make use of ethnic organizations and attend cultural events hence maintaining their contact with co-ethnics (Bankston 2014; Zhou 2004; 2009). For these reasons, the current theoretical framework assumes that this form of immigrant community organization will foster strong interpersonal social networks.

In ethnic enclaves, both workers and employers come from the same ethnic background (Portes and Bach 1985). Hence, cleavages attenuating the effectiveness of organizational incentives to control crime are unlikely to emerge within the organizational structure of enclave firms. On the contrary, studies have shown that the relationship between workers and owners in ethnic firms has special importance. Owners often provide workers with information, skills and resources that help workers to become business owners themselves (Light 1972; Portes and Bach 1985; Raijman and Tienda 2000). Furthermore, business owners are well respected in immigrant communities and often serve as role models for immigrant youths (Lee and Zhou 2013).

The current theoretical framework assumes that ethnic enclaves will have strong interpersonal social networks that are well connected to ethnic organizations including especially ethnic businesses (see Table 2). Both the structural arrangements and adaptations of ethnic cultures to new circumstances these arrangements support will help bolster the informal social control capacity of immigrant enclaves. As such, this form of immigrant community organization has the most capacity for social control of criminal behavior compared to immigrant ghettos, middleman minorities, and ethnic niches.

Other Forms of Immigrant Community Organization

As was noted earlier, the list of forms of immigrant community organization discussed here is not exhaustive. This is in part because I draw on the ethnic economy typology, which aimed to organize the existing conceptual models of immigrant economic activity but did not aim to be exhaustive (Zhou 2004; 2009). Furthermore, the ethnic economy typology does not discuss forms of immigrant community that have no immigrant economic activity such as immigrant ghettos. Even with the inclusion of immigrant ghettos as a district type of immigrant community organization, some combinations of immigrant settlement and economic activity patterns are not covered by the framework developed here. I will first describe this "unclassified" category and show that this category may in fact be theoretically meaningful. I will then discuss why this category was not formally included into the theoretical framework and why I provide no assumptions regarding the social control potential or crime rates in places that fall in it.

Since high rates of ethnic business ownership should produce either enclaves or middleman minority communities, it is clear that the unclassified communities will have low levels of ethnic business ownership. Since low rates of ethnic business ownership are also a characteristic of employment niches and immigrant ghettos, these communities should have low levels of residential and work-place[15] segregation as well. This pattern of social and economic adoption is most commonly seen among immigrants who do not form ethnic communities or ethnic ties and instead become culturally and structurally assimilated at a rapid pace. While this category is not a part of the ethnic economy typology, this mode of incorporation was discussed in a number of seminal sociology of

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[15] Since over-representation of an ethnic group in some industries or occupations is the central feature of niche employment, high levels of niche employment are synonymous with high levels of occupational segregation.

immigration works (e.g., Alba and Nee 2003; Bankston 2014; Portes and Manning 1986; Portes and Rumbaut 2014). Portes and Rumbaut (2014), for example, noted that some immigrants today possess high levels of human capital and knowledge of English language when they arrive in the United States. Their resources allow them to settle in integrated communities (low residential segregation) and work in primary sector firms (low work-place segregation) (Portes and Manning 1986).

The theoretical framework developed here suggests that lack of ethnic business ownership coupled with low levels of residential and occupational segregation should hinder the formation of strong interpersonal networks as well as organizational connections. The social control capacity of these communities is likely to be dependent on factors unrelated to immigration. The current theoretical framework does not provide a clear way to compare the social control potential of these communities to that of the other forms of immigrant community organization. One possibility is that the social control capacity of these communities will be similar to immigrant ghettos while the other forms may have higher social control capacity. This would be the case if negotiated coexistence erodes all social control potential of immigrant social networks in immigrant ghettos. Another possibility is that immigrant ghettos may have higher crime rates than the unclassified communities. This would occur if negotiated coexistence leads immigrant networks to become conducive to crime rather than just inapt at controlling it. While I am unable to make a priori assumptions, this issue is examined empirically in the following chapters.

SUMMARY, SYNTHESIS, AND THE CURRENT STUDY

Immigrant enclave theory is one of the most popular explanations for the negative relationship between immigrant residential concentration and crime. My review of seminal ethnic enclave studies suggests that while residential concentration of immigrants in the larger area is an important factor, an immigrant community cannot be considered an enclave unless it has high rates of ethnic business ownership as well. Previous studies of immigration and crime have failed to properly integrate ethnic business ownership into theory and research. Hence, the ethnic enclave-based explanation for the immigrant paradox in crime has not been fully tested.

In the previous sections I provided a theoretical framework that integrates the properly defined ethnic enclave construct into an ecological immigration and crime framework. This framework suggests that ethnic enclave is just one of the possible forms of immigrant community organization. By drawing on the typology provided in the ethnic economy scholarship (Zhou 2004; 2009) I point to alternative possibilities such as the emergence of immigrant ghettos, middleman minority communities, and immigrant employment niches. Since these alternatives have not been considered in criminological research or theory, I draw on social capital, new institutionalism, and organizational theories to show how each type of community organization may impact community crime rates.

I argued that each form of immigrant community organization will have different effects on the strength of interpersonal social networks and their connection to organizations which provide incentives and resources for social control of crime. In immigrant ghettos, the residential concentration of co-ethnic immigrants will create

strong interpersonal social networks but due to the lack of co-ethnic business ownership these networks will not be connected to organizations. Hence, this form of immigrant community organization is more likely to inhibit community-level informal social control than to enhance it. Middleman minorities who often serve minority communities of other ethnic groups will be connected to organizations by virtue of high rates of business ownership, but disconnected from the communities they serve. The informal social control capacity in such communities is likely to be inhibited but higher than in the ghettos because middleman minorities can use their resources to gain some influence over local interpersonal networks.

A sizable ethnic group may not own businesses but may secure an employment niche. In this form of immigrant community organization niche workers utilize social networks in their ethnic community to obtain jobs and so further strengthen these ties. They are also motivated to control behaviors of their co-ethnics in an effort to maintain network hiring. Hence, despite not owning businesses, the social networks of niche workers are connected to organizations and should generally respond to incentives to control crime. However, since workers do not have the same ethnic background as their employers they may hide their deviance from employers or supervisors or be unreceptive to incentives to control local crime. This attenuates the social control capacity of this form of immigrant community organization compared to ethnic enclaves.

The ethnic enclave is assumed to be the only form of immigrant community organization where community-level interpersonal social networks and organizations work in concert to maximize the informal social control of crime. Like niches, ethnic enclaves draw on ethnic social ties to recruit workers. However, since ethnic business

owners are members of the same ethnic community as their workers, they are more aware of the behaviors and moral character of their workers. Hence, interpersonal social networks in ethnic enclaves are connected to organizations and so should respond to the incentives to control crime.

The proposed theoretical framework can be tested empirically by examining a set of hypotheses derived from its key theoretical assumptions. The main assumption of the theoretical framework is that the capacity for informal social control and so violent crime rates will vary between different forms of immigrant community organization. In other words, not all immigrant communities will buffer crime as the current immigration and crime theories assume.

H_1: Violent crime rates will vary between different forms of immigrant community organization after controlling for important structural factors.

My theoretical framework also addresses the question of which forms of immigrant community organization will have more and which will have less informal social control capacity. According to the theory, the lowest crime rates should be observed in immigrant enclaves, followed by immigrant niches, middleman minority communities, and immigrant ghettos. To formally test these predictions I put forth the following hypotheses:

H_2: Immigrant enclaves will have lower violent crime rates than immigrant niches after controlling for important structural factors.

H_3: Immigrant enclaves will have lower violent crime rates than middleman minority communities after controlling for important structural factors.

H_4: Immigrant enclaves will have lower violent crime rates than immigrant ghettos after controlling for important structural factors.

H_5: Immigrant niches will have lower violent crime rates than middleman minority communities after controlling for important structural factors.

H_6: Immigrant niches will have lower violent crime rates than immigrant ghettos after controlling for important structural factors.

H_7: Middleman minority communities will have lower violent crime rates than immigrant ghettos after controlling for important structural factors.

CHAPTER SUMMARY

This chapter began with a review of key assumptions regarding the relationship between immigration and crime made by classic theorists, many of whom were either a part of, or inspired by, the Chicago School theoretical tradition. These theories are especially important for understanding of mechanisms linking immigration and crime at the macro level. One of the most important contributions of the Chicago School in this area of study is the idea that much of the immigration and crime relationship reflects the social structure of communities in which immigrants tend to settle upon their arrival to the United States.

The Chicago School theories were based on studies of immigration at the turn of the twentieth century. While more recent studies of immigration indicate that not all immigrants today settle in disadvantaged communities, when immigration is examined at the macro-level, immigrant residential concentration is often associated with some structural disadvantage. Nevertheless, many recent studies have found that immigrant concentration leads to lower crime rates and that this relationship is even more pronounced in structurally disadvantaged communities. This finding is generally referred to as the immigrant paradox.

Aiming to solve the immigrant paradox, a number of criminologists proposed theoretical explanations for the protective effect immigrant communities appear to have. Some scholars proposed cultural theories that generally argue that immigrant cultures

provide fewer justifications for violent and criminal behavior than both urban subculture and mainstream culture in America in general. Others proposed structural theories which by and large focus on the strength of social ties between immigrants and ethnic institutions. Many of the structural theories drew on immigrant enclave theory originally developed in sociology of immigration. Few, however, have provided a detailed overview of immigrant enclave theory needed to show whether this concept fit criminological frameworks. Without such review, ethnic enclave lack theoretical clarity.

After a long debate about the proper definition and operationalization of immigrant enclaves, sociology of immigration scholars generally came to an agreement that enclaves emerged in geographical areas with high rates of ethnic business ownership coupled with the access to a large co-ethnic labor force. Ethnic business ownership has been ignored in studies of immigration and crime. Measures of immigrant concentration were used as proxies for ethnic enclaves in a number of studies.

To bring conceptual clarity to the use of ethnic enclave theory in criminology, I defined ethnic enclaves as larger geographical areas with high levels of co-ethnic immigrant concentration and high level of development of ethnic enterprise. By drawing on a typology provided by ethnic economy scholarship I pointed to other forms of immigrant community organization. I then used insights from the social capital and organizational theories to show how ethnic enclaves and other forms of immigrant community organization might be linked to crime rates at the macro-level. To validate this theoretical framework, the hypotheses derived from its theoretical assumptions should be tested empirically. In the next chapter I discuss data, measures, and statistical methods that will be used to conduct such a test of my theoretical framework.

CHAPTER 3

DATA AND METHODOLOGY

CHAPTER INTRODUCTION

The main goal of this chapter is to show how data obtained from National Vital

Statistics System, Uniform Crime Reports, Survey of Business Owners, and the decennial

U.S. Census of Population and Housing can be used to test the hypotheses presented in

the previous chapter. Before describing the data, I discuss the scope of the current study.

For a variety of reasons, in the current study I focus on the Hispanic pan-ethnic group.

While the theoretical framework discussed earlier is assumed to be applicable in studies

of immigrant groups regardless of their ethnic background, limiting the investigation to

Hispanics helps alleviate a number of concerns regarding data availability.

I then discuss the four sources of data used in the current study. No previous study

has combined the data from these sources. In this chapter I point to specific advantages

associated with this research strategy. I then discuss the calculation of the outcome and

predictor variables. To examine whether the theoretical model is able to predict both total

and ethnic-specific crimes I use Latino and Latino immigrant homicide victimization

counts as outcome variables. I also use total homicide victimization counts as well as

homicide and robbery incidents reported to police as outcome variables to make sure that

my findings are generalizable to crimes other than homicide and to crimes reported to

police rather than just victimization.

The computation of the key predictor variables is presented in two steps. The goal

here is to use information on Latino and Latino immigrant residential concentration and

segregation, level of Latino ethnic enterprise development, and Latino niche employment

to construct valid measures of each form of immigrant community organization presented in Table 1 and Table 2 and discussed in the previous chapter. In the first step, I discuss how the above mentioned variables were computed. In the second step, I discuss a classificatory schema that utilizes these measures to systematically identify the counties that can be considered immigrant enclaves, immigrant niches, middleman minority communities, and immigrant ghettos. I also discuss a number of control variables that will be included in the statistical analysis. I conclude this section with a discussion of the specification of statistical models and the methods used to estimate these models.

SCOPE OF THE STUDY

The theoretical framework developed here is designed to explain the relationship between immigration and crime and to be applicable regardless of the ethnicity of an immigrant group or groups being studies. However, co-ethnicity of immigrants plays an important role in various components of this framework. For example, immigrant ghettos emerge when a particular ethnic group becomes residentially segregated, ethnic queues undergirding ethnic niches are bolstered by shared ethnicity, middleman minorities gain a competitive edge by sharing ethnic ties, and enclaves require workers and owners to be of same ethnicity. In the current study I focus on Hispanic or Latino pan-ethnic group to test the theoretical framework put forth in the previous chapter. There are a number of reasons why focusing on Latinos is an optimal strategy.

Latinos are the largest pan-ethnic minority group in the United States, with over 35 million individuals counted in the United States by the 2000 decennial Census (Rumbaut 2006). Compared to other pan-ethnic and racial groups, Latinos have the greatest proportion of foreign-born (almost half of Latinos were foreign-born in 2003)

and most of the immigrants in the United States today are Hispanic (Rumbaut 2006). Indeed, many criminological studies include percent Latino in their measures of immigrant concentration because it is strongly correlated with immigration. Finally, the focus on Latinos in the empirical portion of the current study was motivated by the availability of reliable data.

While Latino is a pan-ethnic label, previous studies suggest that the Latino label can become a basis for ethnic solidarity. Rumbaut (2006) argues that the use of Spanish language is the major trait shared by the Latino population in the United States and that no other ethnic or racial group shares a foreign language to the same extent. Waldinger and Lichter (2003) found that foreign languages play a major role in the functioning of employment networks. Furthermore, recent conservative campaigns supporting restrictive immigration policies have led different Latino groups to use the pan-ethnic label as a means for political mobilization (Portes and Rumbaut 2014; Portes and Truelove 1987). These political and economic pressures have a potential to increase the awareness of common interests among members of different Hispanic groups and so to reinforce solidarity based on pan-ethnic group identity. Hence, Latinos may come to see each other as co-ethnics.

DATA

Counties and county equivalents are the units of analysis in the current study. The data used to test the research hypotheses come primarily from four different sources: (1) National Vital Statistics System mortality data, (2) Uniform Crime Report data on crime incidents reported to police, (3) Survey of Business Owners, (4) and the decennial U.S.

Census of Population and Housing tract and county-level data. I will discuss each source of data in turn.

National Vital Statistics System Mortality Data

I use multiple years of the Multiple Cause of Death Records mortality micro-data files from the National Vital Statistics System (NVSS). These data are collected by the National Center for Health Statistics, which is part of the Centers for Disease Control and Prevention (Center for Disease Control and Prevention 2014). The data are collected from death certificates filed in each state. Previous studies of the quality of NVSS mortality data have concluded that these data include approximately 99 percent of all deaths occurring in the United States (Rokaw, Mercy, and Smith 1990). These data include detailed information on the cause of death and demographic information for each decedent. For these data, "[h]ospital or medical personnel, funeral directors, or others often complete demographic items on the death certificate, but the physician attending the death or a coroner or medical examiner investigating the death must certify the cause and manner of death" (Rokaw et al. 1990:448).

In the current study I use data from 2002, 2003, and 2004 records of deaths that occurred in the 50 states and the District of Columbia. The mortality data I obtained were originally in the form of micro-data files which contain records of individual mortality cases. The public use micro-data files for years 2002, 2003, and 2004 do not include geographic identifiers for individuals whose deaths occur or who resided in counties with fewer than 100,000 total population. I was able to obtain micro-data with county identifiers for all counties after a special request and a review by the National Association for Public Health Statistics and Information Systems (NAPHSIS) directly from the CDC

which allowed me to include all of the U.S. counties in my analysis (see also Barranco 2013).

The NVSS micro-data allow me to identify individuals whose death was a result of a homicide. In 1999 NVSS began to use the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) classification system codes to record causes of death (Miniño et al. 2007). In the ICD-10 homicide is defined as "injuries inflicted by another person with intent to injure or kill, by any means" and is assigned codes X85-Y09 (see Chapter XX External Causes of Morbidity and Mortality in ICD-10). This category excludes those who were killed in the process of involuntary manslaughter, legal intervention, and operations of war (World Health Organization 2014).

While homicide victimization is one of many possible crime indicators at the macro level, it has a number of advantages. Homicide data are typically more reliable than those for other types of crime (Pridemore 2005; Stowell et al. 2012). Many studies of immigration and crime used homicide as an outcome variable (Ousey and Kubrin 2009). NNVS is not the only source of national homicide data. A large number of studies examining causes of homicide at the county level utilize Supplementary Homicide Report (SHR) statistics compiled by the Federal Bureau of Investigation based on the monthly reports submitted by police departments across the country (Pridemore 2005). While studies have found some important discrepancies between NNVS and SHR (e.g., NNVS identifies more cases of homicide than SHR due to under-reporting of homicide by some police departments) these sources are generally compatible (Rokaw et al. 1990; Wiersema, Loftin, and McDowall 2000).

NNVS is the optimal source of homicide data for the current project. It is the only source of data that allows researchers to identify the race, ethnicity, and country of birth of homicide victims at the county-level nationally (Barranco 2013; Stowell et al. 2012; Xie 2010). Latino homicide victims were identified based on the Hispanic origin recorded in the NVSS data. Information for Hispanic origin is collected by the CDC from original death certificates provided by state agencies (Miniño et al. 2007). States first began recording Hispanic origin on death certificates in 1978, and by 1989 this item was included on the U.S. standard death certificate which serves as a model for state death certificates (Arias et al. 2008). The information for Hispanic origin became available for all states in 1997 with currently less than 1 percent of the death certificates missing this information (Arias et al. 2008; Miniño et al. 2007).

Uniform Crime Reports

Since the NVSS crime data are limited to homicide victimization, I have also obtained data from the Uniform Crime Reports on incidents of serious crime (i.e., Part I offenses) reported to police. Like NVSS, UCR covers most of the United States territory and population. UCR data are collected by the Federal Bureau of Investigations (FBI) on a monthly basis from various law enforcement departments around the nation (Mosher, Miethe, and Phillips 2002). The original UCR data were collected by the FBI in the form of agency-level data. Since some agencies may serve multiple counties or a county may have multiple law enforcement agencies reporting crimes to the FBI, I used UCR data that were adjusted to the county-level by the Inter-university Consortium for Political and Social Research (U.S. Department of Justice 2002; 2003; 2004). I used county-level UCR

data for years 2002, 2003, and 2004 to keep a consistent timeframe between the sources of crime data.

Survey of Business Owners

The Survey of Business Owners (SBO) is administered by the U.S. Census Bureau every 5 years, during years ending in 2 or 7. In the current study I use data from the SBO administered in 2002. The information for the 2002 SBO was collected by a questionnaire mailed to a random sample of firms with the exception of a small number of industries that were in business in 2002 with receipts of $1,000 or more[16] (U.S. Census Bureau 2002; see also Wang 2013). It is important to note that SBO collects information from businesses and firms and not from establishments. Hence, a single firm may have several establishments in a particular geographical area but will be counted as one firm within a county on the survey (Wang 2013). Conversely, if a firm has establishments in more than one county, it will be counted once in each county in which it operates.

The survey collected information on personal characteristics of business owners including their ethnicity (i.e., Hispanic). Business ownership was defined as a person or persons who owned 51 percent or more of the firm (U.S. Census Bureau 2002). Hence, a firm was classified as a Hispanic-owned firm if the sole owner is a Hispanic of any race or if Hispanics owned 51 percent or more of the firm's equity. The survey also collected information about various firm characteristics such as employment, payroll, sales, and receipts.

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[16] The industries for which firms are not included in the SBO sample are "crop and animal production, scheduled air transportation, rail transportation, postal service, funds, trusts, and other financial vehicles, except real estate investment trusts, religious, grantmaking, civic, professional, and similar organizations, private households, and public administration" (U.S. Census Bureau 2002).

Currently, besides SBO, self-employment statistics collected using the long-form Census are the only alternative source of national data on ethnic business ownership (Wang 2013). However, the census self-employment data tends to under-count owners of incorporated businesses (Bregger 1996; Wang 2013) and do not contain information on firm characteristics. Hence, SBO is the optimal source of data for the current study.

Decennial U.S. Census of Population and Housing

I draw extensively on data from the 2000 decennial Census of Population and Housing. This was the last decennial Census to utilize both the short form survey covering the entire U.S. population and the long form survey which was completed by a random sample of the U.S. households. My dataset includes information from both the short form and long form surveys available in the four summary files (SF). Some of the Census data were downloaded from Minnesota Population Center (2011) and the American FactFinder. While I primarily use county-level Census data, segregation variables were computed using Census tract-level data.

VARIABLES

Dependent Variables

I utilized a total of five different dependent variables to test the study hypotheses. The first three variables are total, Latino, and immigrant Latino homicide counts which were computed based on NNVS mortality data. The other two are murder and robbery incident counts reported to the police which come from county-level UCR data.

Total, Latino, and immigrant Latino homicide victimization counts (NVSS)

The theoretical framework guiding the current study assumes that different forms of immigrant community organization have an ecological effect on county-level crime

rates. This means that the different forms of immigrant community organization should shape crime rates for the in-group members and for the general population alike. This assumption will be examined empirically using NVSS homicide victimization data which provide the information on ethnic origin and country of birth of the decedents.

I utilized NVSS data to compute the following three dependent variables: (1) total homicide victimization, (2) Latino homicide victimization, (3) immigrant Latino homicide victimization. The NVSS micro-data provide a Federal Information Processing Standards (FIPS) code for both the county of residence and for the county where the death occurred. I used the county of occurrence information to compute county-level homicide victimization counts. Following a standard practice in homicide research, I averaged the homicide counts for years 2002, 2003, and 2004 (i.e., I summed homicide counts across the three years for each county, divide by three, and rounded to the nearest integer).[17]

Homicide and robbery incidents reported to police (UCR)

I used county-level UCR data to compute homicide and robbery incident counts for 2002 to 2004. While the UCR data also include information on other serious crimes (e.g., rape, aggravated assault, burglary), I focus on homicide and robbery because previous research suggests that these crimes produce more reliable records than the other index offenses (Mosher et al. 2002). As with the homicide victimization variables, I computed three year average homicide and robbery counts to improve the reliability and reduce random year-to-year fluctuation.

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[17] Rounding was necessary because count regression models used in the current study assume that the dependent variable is discrete. I re-estimated all of the multivariate models using average counts that were not rounded and found no evidence that rounding had any effect on the results.

Previous studies have identified a number of problems with UCR data (Mosher et al. 2002). One of the major problems is created by the failure of some police departments to submit crime reports to the FBI for every month of the year or at all. While the vast majority of law enforcement agencies submit some UCR data to the FBI, many departments submit less than 12 months of data. In the county-level UCR data series used in the current study, ICPSR staff imputed crime data for the counties with agencies that submitted less than 12 months of data to the FBI (U.S. Department of Justice 2002; 2003; 2004). The datasets also include a "coverage indicator" which shows what percentage of county crime data is based on actual agency reports rather than on imputed values.

Previous studies that used these data typically chose to use crime data for all counties with coverage indicator of 90 or higher (i.e., at least 90 percent of data in the county was reported) (e.g., Lee 2008). I used the same criterion when constructing the three year average homicide and robbery incident counts. Specifically, information on homicides and robberies for any of the three years was included in computing the three year average counts only if the coverage indicator for that year was 90 or higher. If the coverage indicator fell below 90 for one or two of the three years included in the study, I used only the crime counts from the year(s) with the coverage indicator of 90 or higher in computing the three year average counts.

I also excluded information from county/years if the agency population coverage was zero. The agency population coverage was computed by ICPSR staff and is based on the population serviced by law enforcement agencies that reported data to the FBI (U.S. Department of Justice 2002; 2003; 2004). Some agencies, such as those servicing national parks and universities, were considered to have zero population. Hence, if

county crime data were based solely on a report from an agency with no population for any particular year, the crime data from that year were not included in the computation of the three year average crime counts.[18]

Independent Variables

Immigrant Latino and total Latino residential concentration

Latino immigrant concentration and total Latino concentration in a county were computed based on the decennial Census data. Latino immigrant concentration was computed as a percentage of the total county population in 2000 who were foreign-born Hispanic or Latinos. Total Latino concentration was computed as a percent of the total county population in 2000 who were Hispanic or Latino. These measures have been used extensively in previous immigration and crime studies. The two indicators are highly correlated ($r=.8$), which suggests that they should be combined into a composite measure. The overall immigrant/Latino concentration measure is computed by summing the z-scores of these two indicators.

Immigrant and total Latino residential segregation

There is a long debate regarding the best measures of residential segregation (for a review see Reardon 2006; Reardon and Firebaugh 2002). Massey and Denton (1988) defined residential segregation as "the degree to which two or more groups live separately from one another, in different parts of the urban environment" (p. 282). The

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[18] In estimating some of the models I used the agency population coverage measures as the measure of the county population instead of using the county population provided by decennial Census. Since there may be inconsistencies between the county population and population serviced by law enforcement agencies within the county, the agency population coverage measures may be more appropriate. Since the rates cannot be computed for counties with zero population, the county/year data had to be removed from three year averages.

authors suggested that the best strategy is to measure residential segregation using several different indexes (Massey and Denton 1988).

In the current study, I computed two of the most widely used segregation indexes. First, I computed an *index of dissimilarity of Latinos from the non-Latino* population by using the standard dissimilarity index equation:

$$D = \left(0.5 \times \sum_{i=1}^{n} |\left(\frac{xi}{X}\right) - \left(\frac{zi}{Z}\right)| \right) \times 100$$

where x_i is the number of Latinos in a tract *i*, z_i is the number of non-Latinos in the tract *i*, X is the total number of Latinos in the county and Z is the total number of non-Latinos in the county (Peterson and Krivo 2006). The index measures the percentage of a county population that would have to move to achieve evenness between the county-level Latino concentration and tract-level concentration across the tracts in the county. The *dissimilarity of immigrant Latinos from the non- Latino* population is computed using the same index.

Second, I compute an *index of Latino isolation* by using the isolation/exposure index:

$$I = \left(\sum_{i=1}^{n} \left(\frac{xi}{X}\right) \times \left(\frac{xi}{ti}\right) \right) \times 100$$

where x_i is the number of Latinos in a tract *i*, X is the total number of Latinos in the county and t_i is the total population for the tract *i* (Peterson and Krivo 2006). The isolation index measures the degree to which Latinos are exposed to other Latinos in their Census tracts across different counties. The *isolation of immigrant Latino* population is computed using the same index.

There are a number of reasons for using these indexes. They are the two of the five indexes recommended by Massey and Denton (1988) and have been used extensively in previous criminology research. They also complement each other (Xie 2010). In counties with few Latinos, even with high levels of unevenness, the isolation of Latinos from non-Latinos will be relatively low (see also Massey and Denton 1993; Reardon 2006). Perhaps for this reason, the Cronbach's alpha associated with this scale $\alpha=.6$ is fairly low. Also, consistent with this assertion, Principal Component Analysis (PCA) produced two factors. All segregation indicators with the exception of dissimilarity of immigrant Latinos from the non-Latino loaded highly on the first factor. The second factor shows that dissimilarity and isolation represent different dimensions of segregation (results of the factor analysis are not shown but are available upon request). The overall *immigrant/Latino segregation* measure is computed by summing the z-scores of these four indicators.

Latino ethnic enterprise development

I calculated several *Latino ethnic enterprise development* indicators which were then combined into a composite measure. These indicators are based on the county-level SBO 2002 data. First, I calculated *rates of Latino business ownership* by dividing the total number of Hispanic-owned businesses with and without paid employees by the total county population of Latinos. Second, to measure the *economic dominance of the Latino owned businesses* I divided the total values of sales, receipts, and shipments of Latino owned firms by the total value of these assets for all firms in the county as reported in the SBO 2002 data.

Third, I calculated the *likelihood of employment in Latino-owned enterprise* as a proportion of all employed individuals in the county (according to SBO 2002) who are working for a Latino owned firm. This measure includes both paid employees and business owners. Specifically, I used the following formula:

$$E = \frac{HispWorker + HispOwner}{AllWorker + AllOwner}$$

where "HispWorker" is the total number of paid employees in Hispanic owned firms, "HispOwner" is the total number of Hispanic owned firms with or without paid employees, "AllWorker" and "AllOwner" are the total number of paid employees and firms with or without paid employees in the county, respectively.

I chose to include business owners in this formula because a substantial number of firms in the SBO data are firms with no paid employees. Previous research suggests that these small enterprises play an important role in ethnic economies and some such firms may actually employ co-ethnic workers albeit off the books (Castells and Portes 1989; Portes 2010). Hence, I could not ignore the employment opportunities that ownership of very small enterprise present. The Cronbach's alpha α=.2 for this three item scale was very low, while PCA results showed that the second and third but not the first indicator loaded highly on the first factor. The overall measure of *Latino ethnic enterprise development* is computed by summing the z-scores of these three indicators described above.

Latino niche employment

Consistent with previous research, Latino employment niches were identified for each county by using the odds ratio version of the representation index (Rosenfeld and Tienda 1999). To compute the measure, I used data from the Summary File 4 of the

decennial Census 2000 which includes industry, sex, race, and ethnicity characteristics of employed civilian population age 16 and older. This index is:

$$R = Li/Gi$$

where L_i is the odds that a Latino worker is employed in industry i (i.e., odds are calculated by dividing the number of Latino workers in the industry i by the number of Latino workers employed in other industries) and G_i is the odds that a non-Latino worker is employed in industry i (see Rosenfeld and Tienda 1999).

The index of representation was calculated for 80 different industries within each county. To account for gender stratification in the labor market I calculated the representation indexes separately for males and females. Consistent with Rosenfeld and Tienda (1999) I considered all Latinos employed in industries with the index of representation of 2 or higher to be working in a Latino employment niche. An industry also had to employ 100 or more workers in a county to be considered a niche.

I computed two different niche employment indicators. First, the proportion of *Latinos working in a niche* variable is calculated as the percentage of all employed civilian Latinos in each county who work in industries identified as ethnic niches using the representation index. Second, I computed the *number of Latino niches* as a number of industries in each county identified as employment niches for male and/or female Latinos (logical maximum of this measure is [80*2]-1=159). As expected, the correlation $r=.2$ is positive but low in magnitude. The composite Latino Niche Employment measure was computed by summing the z-scores of the two indicators.

Classification of Forms of Immigrant Community Organization

Four key composite measures have been identified above: (1) immigrant/Latino concentration, (2) immigrant/Latino segregation, (3) Latino ethnic enterprise development, and (4) Latino niche employment. These measures as well as the indicators that were used to compute them are summarized in the Panel 1 of Table 3. I used the four measures to construct a classification schema that provides a systematic way to determine which form of immigrant community organization best describes each county in the study sample. This schema is consistent with the theoretical discussion provided in the previous chapter. This classification schema is described in the Panel 2 of Table 3.

Using the classificatory schema, counties were classified as Latino enclaves if they were above the mean on immigrant/Latino concentration and on Latino enterprise development. Counties were classified as Latino niches if they were above the mean on immigrant/Latino concentration and Latino niche employment but below the mean on Latino enterprise development. Those that had below average concentration of Latinos but above average Latino enterprise development were classified as middleman minority communities. The counties that were above the mean on immigrant/Latino segregation and below the mean on Latino enterprise development and Latino niche employment were classified as Latino ghettos. As was expected, some of the counties did not fit into classification schema[19], and these are treated as unclassified. Each of the forms of immigrant community organization was dummy coded (yes=1, no=0).

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[19] The counties that did not fit include those with above average immigrant /Latino concentration but below average segregation and niche employment. The category also includes counties with below average immigrant/Latino concentration and segregation. While I did not attempt to include these counties in a typology, I noted earlier that in these counties immigrants are likely to quickly integrate into the mainstream and unlikely to form any kind of an immigrant community.

Table 3. Measures of Forms of Immigrant Community Organization

Panel 1

Single indicator measures converted to Z-scores Panel 2	Measures used to identify forms of immigrant community organization in
Latino immigrant concentration Total Latino concentration	Immigrant/Latino Concentration
Dissimilarity of Latinos from non-Latino Dissimilarity of immigrant Latinos from non-Latinos Latino isolation Immigrant Latinos isolation	Immigrant/Latino Segregation
Rates of Latino business ownership Economic dominance of the Latino owned businesses Likelihood of employment in Latino-owned enterprise	Latino Ethnic Enterprise Development
Percent Latino working in a niche Number of Latino niches	Latino Niche Employment

Panel 2

	Measures			
Forms of Community	Immigrant/Latino Concentration	Immigrant/Latino Segregation	Latino Enterprise	Latino Niche
Latino Enclave	+	.	+	.
Latino Niche	+	.	-	+
Middleman Minority	-	.	+	.
Latino Ghetto	.	+	-	-

Note: + above the mean; - blow the mean; . indicator not considered.

Control Variables

Previous criminological research suggests that several important control variables must be included in statistical models predicting crime at the macro-level to ensure that the models are properly specified (Land, McCall, and Cohen 1990; McCall, Land, and Parker 2010; Peterson and Krivo 2010; Pratt and Cullen 2005). Using data from the decennial Census 2000, I computed a measure of *structural disadvantage.* This measure is operationalized by summing standardized scores of percent of county residents who were unemployed, percent female-headed households, percent high school graduates (reverse coded), percent of residents in poverty, percent employed in professional occupations (reverse coded), and percent working age county residents who worked in 16 of the lowest paid occupations (identified based on mean income in 2000 by Peterson and Krivo 2006). The Cronbach's alpha α=.86 shows that this six item scale is reliable.

The measure of *residential instability* is based on the sum of standardized scores of percentage of county housing units occupied by renters and percentage of the county residents five and older who moved in the past five years. The Cronbach's alpha α=.38 indicates low levels of relatability. Following McCall et al. (2010) I control for *population structure* measures based on the summed standardized scores of logged county population size and logged population density per square mile (α=.83).

I also control for the effects of a number of single indicator variables. Specifically, I control for percent of the county population who is non-Hispanic black. I included this control variable for methodological reasons and do not intend to suggest that African American communities are inherently violent. Previous studies have shown that this variable has important effects on crime rates at the macro level and that it should

be included in statistical models predicting crime (Land et al. 1990; Pratt and Cullen

2005). I also control for the proportion of the county population that is young (age 15-24)

and male. Finally, I control for county-level *ethno-racial heterogeneity* using the Census

information on ethno-racial composition of each county[20]. This measure is calculated by

using a heterogeneity index:

$$H = 1 - \sum_{n=1} (\pi n)^2$$

where π_n is the proportion of county population belonging to an ethno-racial group n

(Peterson and Krivo 2006). The heterogeneity index, sometimes referred to as Herfindahl

index[21], is widely used in criminology and other disciplines (Feldmeyer and

Steffensmeier 2009; Reardon 2006; Reardon and Firebaugh 2002; Sampson 2012). The

index ranges between zero, which means that a county is completely homogeneous (all

county residents belong to the same ethno-racial group), and one, which means that all

ethno-racial groups are equally represented in this county.

Most studies that examine predictors of homicide rates or other violent crimes

disaggregated by ethnicity or race use ethnic/race specific structural variables (e.g., black

structural disadvantage). This strategy has been used by several recent studies examining

the causes of Latino crime at the macro-level (e.g., Feldmeyer and Steffensmeier 2009;

Harris and Feldmeyer 2013; Steffensmeier et al. 2010). This is done to ensure that the

predictor variables are capturing the characteristics of the social environments to which

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[20] Specifically, I use the same ethno-racial groups as inputs into the heterogeneity index as the National Neighborhood Crime Study. These groups include "non-Hispanic Whites, non-Hispanic Blacks or African Americans, non-Hispanic American Indians and Alaska natives, non-Hispanic Asians, Native Hawaiians, or other Pacific Islanders, non- Hispanics of some Other Race or two or more races, and Hispanics or Latinos" (Peterson and Krivo 2006:13)

[21] Some also refer to this index as interaction and entropy index. Some use other formulas to derive it but the use of an alternative formula does not produce substantively different outcomes when the index is used as an independent variable in a multivariate regression model (for a review see Reardon and Firebaugh 2002).

the members of a particular racial or ethnic group are actually exposed. In the models predicting immigrant Latino and Latino homicide counts, I use structural disadvantage (α=.71), residential instability (α=.70), and young males measures that were based on Latino-specific socio-demographic data. In the models predicting total homicide counts (NVSS), homicide and robbery incidents know to police (UCR) I used measures based on the characteristics of the total population of each county.

SAMPLE SELECTION

The data from the 2000 Census included 3,141 counties and county equivalents. However, a number of other data sources used in the current study had missing data which led to the exclusion of a large number of counties from the analyses. The SBO 2002 data on Hispanic owned business had the largest number of cases with missing information because the survey does not provide information on Hispanic business characteristics for counties with fewer than 100 Hispanic owned business to maintain confidentiality. In 2002, there were 672 counties (21 percent of all U.S. counties) with 100 or more Hispanic owned businesses in the U.S. according to the survey estimates. Some counties included in 2002 SBO have additional missing data on the characteristics of Hispanic owned businesses because estimates did not meet publication standards or were withheld by the Census to maintain confidentiality (U.S. Census Bureau 2002).

The other data sources also had some missing data but after the counties with missing SBO data were excluded, the remaining counties did not have missing information on other variables. The analyses preformed in the current study utilize a sample of counties that had no missing data on any of the variables. Consistent with previous research, I also excluded counties located in Hawaii and Alaska and in the U.S.

territories from the analyses. Combined, these selection procedures narrowed the study sample to 303 counties and county equivalents. Appendix A includes a map illustrating which counties were selected and which counties were excluded from the study.

While the number of counties excluded from the study is substantial (over 90 percent of 2000 U.S. counties were excluded), there are a number of reasons to consider this sample to be appropriate for the current study. The sample selection analysis showed that many of the counties excluded from these analyses were counties with small populations. For example, the study sample includes close to half (48 percent) of all U.S. counties that in 2000 had over 100,000 population. Combined, the population of the counties included in the study sample accounts for 57 percent of the total population of the U.S. in the year 2000. The study sample is even better at capturing the immigrant Hispanic and total Hispanic population. Eighty four percent of the total Hispanic population in the U.S. in 2000 resided in the counties included in the sample. Among foreign-born Hispanics, 87 percent resided in selected counties.

I also examined whether the included and excluded counties differed substantially on any of the variables included in the current study. The results are presented in the Appendix B. The results of independent sample t-tests indicate that there were a number of statistically significant differences between the included and excluded counties. Specifically, the selected counties tend to have higher homicide victimization and crime incident rates, more ethnic niches but a smaller proportion of Hispanic workers working in them, and higher levels of immigrant Hispanics and Hispanic segregation and concentration. While a number of differences were statistically significant, no substantively meaningful pattern emerged with respect to the distribution of the structural

variables in the included and excluded counties. Furthermore, many of the statistical

differences detected by the t-tests were not substantively important.

ANALYSES

Exploratory Analyses

I begin my analyses by presenting the results of the classification schema

discussed in previous section. Specifically, I review which counties were classified as

Latino enclaves, niches, ghettos, and middleman minority counties or were unclassified. I

also examine whether the areas classified as ethnic enclaves in previous studies were

classified as enclaves in the current study as well. I then display select social and

economic characteristics of these counties for exploratory purposes.

I then illustrate and discuss descriptive statistics. Specifically, I report means and

standard deviations for all key dependent and independent variables in the full sample as

well as after disaggregating the sample into the different forms of immigrant community

organization. I next calculate and examine the bivariate correlations between the key

study variables. These analyses allow me to discuss the basic patterns of association

between the key study variables.

Modeling Approach

I use multivariate regression techniques to model each of the five outcome

variables. Three models predicting each outcome were specified. Each form of immigrant

community organization (including the counties that were not classified) was dummy

coded. The first multivariate model includes only the dummy variables for each form of

immigrant community organization with the Latino enclave counties serving as a

reference category. The second model includes control variables only. The third model

includes both the dummy and control variables. The results from the third model are used to evaluate the study hypotheses.

Supplementary Models

The current study includes an additional set of models where Latino ethnic enterprise development, Latino niche employment, immigrant/Latino segregation, and immigrant/Latino concentration are included as continuous independent variables (instead of being used to divide the sample into different forms of immigrant community organization). Similar to the main analyses, these analyses are performed for each of the five outcomes. First, the direct effects of each of these variables on crime counts net of the effects of the control variables are examined. Second, a model that includes all four predictors and control variables is estimated to examine which of these factors has the strongest link with crime.

Multivariate Estimation Technique

A number of researchers have pointed out that in macro-level studies of crime the dependent variable is often positively skewed because crime is a relatively rare event (Land et al. 1990; Osgood 2000). This issue is especially important in studies of homicide, which are committed less frequently than other types of serious crime (Land et al. 1990; Pridemore 2005). The positively skewed distribution violates the distributional assumptions of the widely used Ordinary Least Squares (OLS) regression (Long 1997; Osgood 2000).

Much of the previous macro-level research on crime and homicide relies on count regression techniques with Poisson regression being the most basic of the count models. Possion regression estimates the effects of independent variable(s) on the mean event

count (i.e., intensity) parameter in the Poisson distribution. Poisson regression assumes that the conditional variance equals the conditional mean. In practice, the conditional variance often exceeds the conditional mean which violates the equidispersion assumption. Violation of this assumption can be addressed by using negative binomial regression which adjusts for over-dispersion (Long 1997). Following Osgood's (2000) article, negative binomial regression has become the favored technique in macro-level crime studies.

Some scholars have voiced a concern that in addition to being over-dispersed, the distribution of homicide counts across geographical areas often includes a large number of zeros (Pridemore 2005). Pridemore (2005) points out that this is especially likely in studies that use U.S. counties as units of analysis. Zero-inflated count models (also zero-modified count models) such as zero-inflated negative binomial regression (ZIPNB) are preferred in such situations (Long 1997; Pridemore 2005; Wang 2013).

I used the "countfit" command in STATA (Version 11.0) written by Long and Freese (2006) to determine which count regression model would be most appropriate for each of the five outcome variables. Generally, the results obtained with "countfit" suggest that negative binomial regression should be used in each case. All of the negative binomial regression models were estimated using Maximum Likelihood Estimation (MLE) (Eliason 1993). The models predicting total homicide victimization and UCR crime incident counts use the total population based on 2000 Census as exposure variable. The models predicting Hispanic homicide and immigrant Hispanic homicide use 2000 county population of Hispanics and foreign-born Hispanics respectively.

CHAPTER SUMMARY

This chapter discussed the design of the analyses that will test the assumptions of the theoretical framework presented in the previous chapter. Before discussing the study design I provided justifications for limiting the scope of this study to Latinos. The advantages of narrowing the scope of the study to this pan-ethnic group were discussed in this chapter.

County is the unit of analysis in the current study. The data on the U.S. counties and county equivalents come primarily from four sources which are NNVS mortality data (2002-2004), UCR crime incident data (2002-2004), SBO (2002) data on Hispanic-owned businesses, Census data 2000 from summary files. The advantages associated with the use of these data were discusses.

I also discussed the five dependent variables used in this study. The study uses homicide victimization and homicide and robbery incidents reported to police as outcomes to ensure that the results are generalizable across types of crime and crime data sources. Homicide victimizations of Hispanics and Hispanic immigrants are also considered separately. The key independent variables are calculated using a classification schema based on the theoretical discussion of immigrant enclaves, ghettos, middleman minorities, and niches provided in the previous chapter.

I also provided a summary of the analytical strategy and estimation methods used in the next chapter. Each form of immigrant community organization will be dummy coded and its link with county crime rates will be examined in multivariate models before and after including control variables. I will also examine how Latino and Latino immigrant concentration, segregation, dominance of Latino enterprise and ethnic niche

employment affect crime rates. Since the dependent variables are in the form of counts, I will use negative binomial regression to estimate the models.

In the next chapter I review the results of the application of the classification schema. I also discuss the descriptive statistics and the results of bivariate correlation analyses. Finally, I discuss the results of the multivariate models and whether they support the study hypotheses.

CHAPTER 4

RESULTS

CHAPTER INTRODUCTION

     This chapter presents the results of the data analyses. Several methods are used to analyze the data. First, I present the results of the application of the classification schema discussed in the previous chapter. Specifically, I discuss how many counties were classified as Latino enclaves, niches, middleman minority counties, and Latino ghettos and show where these counties are located. I bolster the validity of the classification schema by showing that a number of counties identified as Latino enclaves in previous studies were classified as enclaves here as well. Some social and economic statistics from these counties are explored in greater detail to provide a better insight into the characteristics of Latino enclaves.

     I then present and discuss the descriptive statistics. I pay special attention to the differences in homicide victimization rates between different ethnic and racial groups and to how these differences vary between different forms of immigrant community organization. I also discuss the key structural characteristics of Latino enclaves, niches, middleman minority areas, and Latino ghettos. I then explore the results of bivariate correlation analyses to provide further insights into how these variables are related.

     After presenting the descriptive statistics, I report the results of the estimation of several negative binomial regression models. These model estimates are used to test the study hypotheses presented in Chapter 2. Specifically, hypothesis 1 is tested using the Wald test that examines whether there is variation in expected crime rates between different forms of immigrant community organization after accounting for the effects of

control variables. Hypotheses 2-7 are tested based on the direction and statistical significance of coefficient estimates showing the differences in predicted violent crime rates between different forms of immigrant community organization.

This chapter also includes the results of the supplementary analyses. These analyses examine the independent effects of immigrant/Latino concentration, immigrant/Latino segregation, Latino ethnic enterprise development, and Latino niche employment on violent crime rates. Few previous studies have examined how immigrant/Latino concentration, immigrant/Latino segregation, and Latino ethnic enterprise development affect crime, and the effects of Latino niche employment have never been explored. These results will also help to better understand why there were differences in predicted crime rates between different forms of immigrant community organization. I conclude the chapter with sensitivity analyses.

DESCRIPTIVE STATISTICS

Classification Results

Out of 303 counties and county equivalents included in the sample, 56 are classified as Latino enclaves, 30 as Latino ghettos, 29 as Latino niches, and 40 as middleman minority communities. The remaining 149 counties met the sample selection criteria but are not classified as a particular form of immigrant community organization. The names of counties classified as Latino enclaves, ghettos, niches and middleman minority communities are provided in Appendix C. Using a map of the United States, Appendix D illustrates the geographical location of each form of immigrant community organization as well as of unclassified counties.

While the classification schema used in the current study has not been used in previous research, a number of counties identified as enclaves here were also identified by previous studies using other methods. Miami-Dade County in Florida is, perhaps, the most important example. Previous qualitative and quantitative research indicated that Miami-Dade County is a Cuban enclave (Logan et al. 1994; 2000; Portes 1987; Portes and Rumbaut 2014; Portes and Stepick 1993). Consistent with prior research, the county is classified as a Latino enclave using the classification schema. Specifically, Miami-Dade County was classified as an enclave because of the high levels of Latino ethnic enterprise development and Latino immigrant concentration. Table 4 displays some select social and economic characteristics of Miami-Dade County as well as for several other Latino enclaves that will be discussed shortly.

According to the SBO (2002) estimates, there were 163,187 Hispanic owned businesses employing 131,451 workers in the county. It is notable that according to the SBO data, there were more Hispanic owned firms in Miami-Dade than workers employed by these businesses. This is because over 85 percent of the firms in the county included in the SBO did not have paid employees (estimates not shown). This finding is consistent with previous research on Miami's ethnic economies (Portes and Rumbaut 2014). It also provides further support for the inclusion of business owners in the measure of development of Latino owned businesses discussed in the previous chapter. The estimated total sales, receipts, and value of shipments by Hispanic owned firms in Miami-Dade County was over 26 billion dollars.[22] While Miami-Dade had the second

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[22] Note that SBO data exclude certain industries as well as some businesses with smaller assets and so these estimates are likely to understate the actual levels of Hispanic business development in Miami.

largest number of Hispanic owned firms (after Los Angeles County, CA), it ranked first

in terms of the value of sales, receipts, and shipments.

In a study that used Census data from 1980 and 1990, Logan et al. (2000)

identified small Mexican enclaves in Los Angeles CA, San Antonio TX, and Houston

TX. While my data sources, classification schema, and the overall study design were

substantially different from the aforementioned study, Los Angeles, Bexar, and Harris

counties where the three cities are located (respectively) were classified as enclaves here

as well. The data on the number of Hispanic owned firms, their workforce, and assets,

along with the proportion of the population that is Hispanic and immigrant Hispanic are

presented in Table 4.

Table 4. Social and Economic Characteristics of Select Latino Enclaves

	County and State			
	Miami-Dade Florida	Los Angeles California	Bexar County Texas	Harris County Texas
Total population	2,253,362	9,519,338	1,392,931	3,400,578
Percent Hispanic	57.32	44.58	54.35	32.95
Percent immigrant Hispanic	40.95	21.91	8.30	15.36
Number Hispanic firms	163,187	188,422	33,518	61,934
Rank Hispanic firms	2	1	7	3
Sales by Hispanic firms[a]	26,226,221	23,446,981	6,061,921	9,155,063
Rank sales Hispanic firms	1	2	4	3
Hisp. firm sales percent of all	16.22	2.73	6.74	1.79
Workers in Hispanic firms	131,451	158,242	34,341	43,198

Notes: [a]Sales, receipts, and value of shipments of firms with paid employees in $1,000.

Overall, the table shows that a large proportion of the population in all four

counties are Hispanic or foreign-born Hispanic. While in Bexar County, TX (location of

San Antonio) foreign-born Hispanics represent only 8 percent of the population, the

overall Hispanic population is much more substantial and accounts for over half of the

county population. The level of Latino enterprise development is much less evenly

distributed between these counties. Miami-Dade and Los Angeles counties have much

higher levels of Latino enterprise development than the others. For example, while Harris County, TX (location of Houston) ranked third in terms of the number of Hispanic-owned firms and the value of sales and shipments, both the number of firms and the value of sales in Miami-Dade and Los Angeles counties are more than double those of Houston. These findings are consistent with previous studies that explored Latino enterprise development and settlement patterns (Portes and Rumbaut 2014).

Violent Crime

Table 5 provides descriptive statistics for the whole sample. The results show that the total homicide victimization rate was lower than the Hispanic homicide rate, which, in turn, was lower than the homicide rate for immigrant Hispanics. Since previous studies typically compare Hispanic homicide rates to those of non-Hispanic whites and non-Hispanic blacks, I included these statistics in the table. I have also included the homicide victimization rates for U.S. born Hispanics which can be compared to the immigrant Hispanic rates.[23] Consistent with previous research (e.g., Martinez 2002; Stowell et al. 2012), the Hispanic homicide victimization rate (8.5 per 100,000) in the total sample is higher than white homicide rate (3.2 per 100,000) but much lower than black homicide rate (18 per 100,000). The homicide victimization rate for immigrant Hispanics is more than two times higher than that of U.S. born Hispanics. While the latter finding is not entirely consistent with the tenets of the immigrant paradox thesis, this difference is observed without adjustment for the effects of socio-economic and demographic factors typically included in immigration and crime studies and so may reflect socioeconomic and demographic differences between these two groups.

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[23] White, black, and U.S. born Hispanic homicide victimization rates are not included in the subsequent analyses. These rates are based on NVSS data and were calculated using the same procedures as for the calculation of other homicide victimization rates discussed in the previous chapter.

Table 5. Descriptive Statistics for the Total Sample

	Mean	SD	Min	Max
Homicide rate (CDC) [a]	6	6	0.6	57.6
Hispanic homicide [a]	8.5	7.3	0	39.8
Immigrant Hispanic homicide [a]	12.7	18.5	0	175.9
U.S. born Hispanic homicide [a]	6.1	5.8	0	24.1
White homicide [a]	3.2	2.7	0	18.5
Black homicide [a]	18	19.5	0	165.8
Homicide rate (UCR)	5.3	5.6	0	55.6
Robbery rate (UCR)	129.6	122.5	0	800.9
Percent Hispanic	15.7	18.9	0.7	95.3
Percent immigrant Hispanic	5.2	6.5	0.1	41
Hispanic dissimilarity	35.9	11.3	8	69.5
Hispanic immigrant dissimilarity	43.3	11.4	4.1	72.6
Hispanic isolation	23.7	21.3	0.9	95.5
Hispanic immigrant isolation	10.6	9.8	0.3	54.8
Hispanic business ownership rate [b]	46.2	29.7	9.7	251.5
Hispanic firm economic dominance	2	4.9	0	44.8
Percent employed in Hispanic firms	3.8	7.4	0.1	61.9
Number of Hispanic niches	16.5	8.1	0	56
Percent Hispanic working in niche	29.1	14.3	0	77.2
Structural disadvantage	0	4.9	-10.1	17.2
Residential instability	0	1.6	-4.2	5.1
Percent young males	7.2	1.6	4.7	18.7
Hispanic disadvantage	0	4	-11.2	10.4
Hispanic res instability	0	1.8	-5.7	4.5
Percent Hispanic young males	1.5	1.6	0.1	8
Racial heterogeneity	0.4	0.2	0	0.8
Percent black	10.1	11.9	0	66.6
Population structure	0	1.9	-5.3	4.5

Notes: N=303 counties and county equivalents
[a] Rate per 100,000 population
[b] Number of Hispanic firms per 1,000 Hispanic county residents

Table 6 provides descriptive statistics for Latino enclaves, niches, middleman communities, Latino ghettos, and the unclassified counties separately. Table 6 shows important differences in homicide victimization rates between different forms of immigrant community organization. The total homicide victimization rates (not disaggregated by race, ethnicity, or country of birth) do not follow the pattern predicted by the theoretical model. Latino niche counties have the highest homicide victimization rates (7 per 100,000), followed by enclaves (6.6 per 100,000), unclassified (5.8 per 100,000), ghettos (5.8 per 100,000), and middleman minority (5.1 per 100,000) counties.

When the homicide victimization rates are disaggregated by race, ethnicity, and country of birth, the patterns are more consistent with the theoretical assumptions. Latino ghettos have the highest Hispanic homicide victimization rate (9.6 per 100,000), while Latino enclaves have the second lowest rates (7.1 per 100,000) after the middleman minority counties (6 per 100,000). The trends diverge further when Hispanic homicide victimization is disaggregated by nativity. The homicide victimization differences for U.S. born Hispanics follow the same pattern as the aggregate Hispanic rates. However, when foreign-born Hispanics are considered, Latino niches have the lowest homicide victimization rates (9.8 per 100,000), followed by Latino enclaves (11 per 100,000). Homicide victimization rates among foreign-born Hispanics are the highest in the unclassified counties (13.74 per 100,000) followed closely by the middleman minority communities (13.70 per 100,000).

Table 6 also illustrates a few interesting differences in homicide victimization rates among non-Hispanic whites and non-Hispanic blacks. While, overall, there is little variation in white homicide victimization rates between different forms of immigrant community organization, the highest rates are observed in Latino enclaves (4.7 per 100,000) and Latino niches (3.2 per 100,000). Latino ghettos have the highest black homicide victimization rates (25.3 per 100,000), while Latino enclaves have the second lowest rates (15.9 per 100,000) after the middleman minority counties (12.6 per 100,000). Hence, it is possible that members of ethnic and racial minority groups but not the majority group members benefit from residing in Latino enclaves. Since I do not explore the causes of white or black homicide in this dissertation, this possibility should be explored in future studies.

Table 6. Descriptive Statistics by Form of Immigrant Community Organization

	Enclaves (n=56)		Niche (n=28)		Middleman (n=40)		Ghetto (n=30)		Unclassified (n=149)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Homicide rate (CDC)[a]	6.6	3.6	7	5.5	5.1	9.1	5.8	3.9	5.8	6.2
Hispanic homicide[a]	7.1	4.5	9.2	5.1	6	8.2	9.6	4.2	9.4	8.4
Immigrant Hispanic homicide[a]	11	23.9	9.8	6.9	13.7	23.3	12.1	8.8	13.7	17.8
U.S. born Hispanic homicide[a]	6.2	4.6	8.2	5.6	2	3.7	8.8	3.9	6.2	6.4
White homicide[a]	4.7	3.7	3.2	2.7	2.8	3.1	2.8	1.6	2.9	2.2
Black homicide [a]	15.9	17.5	19.3	13.8	12.6	17.7	25.3	24.2	18.6	20.3
Homicide rate (UCR)[a]	5.6	3	6.9	5.4	4.7	8.7	5	3.8	5.2	5.6
Robbery rate (UCR)[a]	136	107	171.3	140.5	89.8	93.2	125.8	81.6	131.1	135.8
Structural disadvantage	4	6.1	0.1	4.2	-1.8	5	1.1	4.1	-1.3	3.5
Residential instability	0.3	1.9	1.1	1.4	-1	1.3	-0.3	1.4	0	1.4
Percent young males	7.4	1.9	7.5	0.9	6.2	0.8	6.9	0.9	7.3	1.8
Hispanic disadvantage	1.3	3.3	2.2	2.6	-4.1	3.9	2.7	3.5	-0.4	3.6
Hispanic res instability	-1.6	1.9	0.5	1.1	-0.4	1.3	-0.2	1.5	0.6	1.6
Percent Hispanic young males	3.7	2	2.6	1	0.4	0.4	1.7	1.1	0.8	0.6
Racial heterogeneity	0.5	0.2	0.6	0.1	0.3	0.1	0.4	0.1	0.4	0.1
Percent black	7.9	8.5	9.9	9.9	10.6	12.6	6.5	7	11.5	13.7
Population structure	-0.4	2.7	1.2	1.6	-0.4	1.7	0.1	1.3	0	1.6

Notes: [a]Three year average rate per 100,000 population.

As was noted earlier, UCR murder and robbery incident rates cannot be disaggregated by Hispanic origin of the victims or offenders. Yet, these data are valuable because they overcome some of the limitations of the homicide victimization data. The distributions of UCR murder and robbery rates across different forms of immigrant community organization are very similar to the distribution of total homicide victimization rate. Specifically, Latino niches have the highest murder and robbery rates, followed by enclaves, unclassified counties, Latino ghettos, and middleman minority counties. These descriptive results do not support the assumptions of the theoretical model being tested.

Social and Economic Characteristics

Table 5 also illustrates social and economic characteristics of the full sample of counties. There is a lot of variation in percent Latino and percent immigrant Latino across the counties in the sample. While in an average county Latinos represent 15.7 percent of the total population, in some counties over 90 percent of the population are Latino. The mean representation for Latino immigrants is lower (5.2 percent), but in some counties foreign-born Latinos are nearly half of the population.

The average levels of Latino and Latino immigrant segregation measured using dissimilarity and isolation indexes is low to moderate (see Massey and Denton 1993). In an average county, 35.9 percent of Latinos and 43.3 of immigrant Latinos would have to move to achieve an even residential distribution county-wide. The isolation indexes show that an average Latino lives in a tract where 23.7 percent of the tract residents are also Latino. In an average county, a typical tract in which an immigrant Latino lives contains 10.6 percent foreign-born Latinos.

On average, the Latino enterprise development levels are low. In an average

county, there are about 46 Latino owned firms per 1,000 Latinos. The sales of Latino-

owned firms represent only 2 percent of the sales by all firms in an average county, and

about 3.8 percent of workers in an average county work for Hispanic owners. However,

in some counties, Latino enterprises are highly developed. In some counties, sales by

Hispanic firms represent nearly a half of all sales by all county firms, and in some places

over half of workers are employed in Hispanic-owned firms.

Table 5 shows that a considerable number of Hispanic workers are employed in

employment niches. In an average county there are around 16.5 Hispanic employment

niches with 29.1 percent of Hispanic workers employed in them. In some counties, over

three quarters of Hispanic workers are employed in niches. The maximum number of

niches is also remarkable. While the logical maximum for the number of niches in the

current study is 159, some counties have as many as 56 Latino employment niches.

Table 6 illustrates a number of important differences in social and economic

characteristics of Latino enclaves, niches, middleman minority, ghetto, and unclassified

counties.[24] Some of the variables included are based on aggregate data while others are

based on characteristics of the Latino population in the counties. Interestingly, Latino

enclaves have the highest level of overall (not Latino-specific) structural disadvantage

while the middleman minority counties have the lowest. Latino ghettos also have levels

of overall disadvantage that are higher than the sample mean (see Table 5), but lower

than Latino enclaves. Residential instability shows a slightly different pattern.

Middleman minority counties appear to be the most residentially stable areas followed by

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[24] I do not display or discuss the distribution of Latino concentration, segregation, enterprise development, or niche employment across different forms of immigrant community organization since these variables were used in the classification schema.

Latino ghettos. Both of these community types are more residentially stable than an average county in the sample (see Table 5). The unclassified counties are the least residentially stable areas followed by Latino niches. There is little variation in percent of young males between different forms of immigrant community organization.

The distribution of Latino-specific structural variables paints a slightly different picture. While middleman minority counties still have the lowest levels of structural disadvantage, Latino structural disadvantage in enclaves is lower than in ghettos or in Latino niche counties but higher than in the unclassified counties or the total sample. As expected, Latino ghettos have the highest level of Latino structural disadvantage.

Unclassified counties are the most unstable when Latino residential instability is considered. But Latino niches are a close second and are still more unstable than other communities. Latino enclaves appear to be less unstable than the other community types. Table 6 also shows that middleman minority communities have the lowest proportion of young Hispanic males while Latino enclaves have the highest.

There is little variation in ethno-racial heterogeneity between different forms of immigrant community organization. Overall, middleman minority counties are the least diverse while Latino niches are the most diverse counties. Unclassified counties have the highest proportion of non-Hispanic black residents followed closely by middleman minority counties and Latino niches. Surprisingly, Latino ghettos have the lowest percentage black. Looking at population structure, Latino niches have the highest population and population density while Latino enclaves and middleman minority counties have the lowest.

Correlation Matrix

Table 6 presents the zero order correlation matrix. This matrix is used to detect the basic patterns of association between the key variables used in multivariate models in this study. As expected, all crime rate measures are strongly correlated. The correlation between the total homicide victimization rate (NVSS data) and homicide incident rate (UCR data) is especially strong (r=.87) which confirms that these measures are valid and reliable. All homicide measures are also correlated with the robbery rates. This finding indicates that there is common variation in violent crime between counties.

There are also a number of statistically significant correlations between crime rates and key continuous independent variables (used in the classification schema and in supplementary analyses). Immigrant/Latino segregation has a strong positive correlation with each of the crime measures. The patterns of association between the crime measures and the other key variables are less consistent. Latino ethnic enterprise development has a negative and statistically significant correlation with Hispanic homicide victimization rates (r=-.15) and with robbery incident rates (r=-.16) but is not significantly correlated with the other crime measures. Latino niche employment is actually associated with higher Hispanic (r=.13) and Immigrant Hispanic (r=.25) homicide victimization rates and higher robbery rates (r=.25). Immigrant/Latino concentration is also associated with higher homicide victimization (r=.15) and homicide incident rates (r=.15) but not with the other crime variables.

The pattern of associations between the crime measures and the socio-demographic and economic variables (i.e., those used as control variables in the multivariate models later in this chapter) is highly consistent with the patterns found in

Table 7. Bivariate Correlations

		1	2	3	4	5	6	7
1	Homicide rate (CDC)	1.0						
2	Hispanic homicide	.5308*	1.0					
3	Immigrant Hispanic homicide	.3909*	.7500*	1.0				
4	Homicide rate (UCR)	.8742*	.4810*	.3906*	1.0			
5	Robbery rate (UCR)	.6443*	.4727*	.4332*	.7378*	1.0		
6	Ethnic enterprise	.0599	-.145*	-.0686	.0261	-.164*	1.0	
7	Niche employment	.012	.1342*	.2464*	.0978	.2473*	-.243*	1.0
8	Hispanic segregation	.2553*	.2822*	.2444*	.2880*	.3302*	.0526	.3189*
9	Hispanic concentration	.1544*	.0643	.0616	.1530*	.0277	.6404*	-.0988
10	Structural disadvantage	.5131*	.1278*	.0772	.4186*	.1453*	.4234*	-.270*
11	Residential instability	.3307*	.2911*	.2488*	.2939*	.4552*	-.233*	.1977*
12	Percent young males	.1184*	.036	-.0452	.0583	-.0223	-.0109	-.116*
13	Racial heterogeneity	.5933*	.2778*	.2153*	.5693*	.5784*	-.0324	.0057
14	Percent black	.6256*	.1712*	.1618*	.6620*	.6496*	-.143*	.2369*
15	Population structure	.2153*	.2580*	.2536*	.3365*	.6682*	-.308*	.4715*
16	Hispanic disadvantage	.2262*	.3475*	.2533*	.1912*	.1329*	-.0286	.0423
17	Hispanic res. instability	-.0036	.2203*	.2557*	.0352	.3399*	-.543*	.5269*
18	Percent Hispanic young males	.1937*	.1096	.0739	.1860*	-.0071	.6259*	-.213*
		8	9	10	11	12	13	14
8	Hispanic segregation	1.0						
9	Hispanic concentration	.5362*	1.0					
10	Structural disadvantage	.2440*	.5806*	1.0				
11	Residential instability	.1942*	.1211*	.0153	1.0			
12	Percent young males	-.0355	.1213*	.2562*	.3988*	1.0		
13	Racial heterogeneity	.4546*	.3262*	.2796*	.4703*	.1375*	1.0	
14	Percent black	.0589	-.200*	.1667*	.2739*	.0603	.4814*	1.0
15	Population structure	.4035*	-.1028	-.271*	.3323*	-.167*	.3620*	.4248*

Table 7. Bivariate Correlations (Continued)

		8	9	10	11	12	13	14
16	Hispanic disadvantage	.4846*	.3743*	.5463*	.1940*	.1336*	.2103*	-.0838
17	Hispanic res. instability	-.0031	-.437*	-.356*	.4999*	.0812	-.0559	.2805*
18	Percent Hispanic young males	.4728*	.9440*	.6119*	.0958	.2429*	.3450*	-.231*
		15	16	17	18			
15	Population structure	1.0						
16	Hispanic disadvantage	-.057	1.0					
17	Hispanic res. instability	.4210*	.0832	1.0				
18	Percent Hispanic young males	-.207*	.3960*	-.499*	1.0			

Note: p<.05*

previous studies (e.g., Land et al. 1990; Pratt and Cullen 2005). Specifically, concentrated

disadvantage, residential instability, ethno-racial heterogeneity, percent of the county

population that is non-Hispanic black, and population structure are positively and

significantly correlated with all five measures of crime. The sole exception is the

correlation between immigrant Hispanic homicide victimization rate and disadvantage,

which is not statistically significant. However, immigrant Hispanic homicide and

Hispanic-specific disadvantage (r=.25) are significantly and positively correlated.

Hispanic disadvantage is positively and significantly correlated with the other four crime

measures as well.

The presence of young males is significantly correlated with total homicide

victimization only (r=.12), while the Hispanic-specific version of this measure is also

correlated with UCR murder incident rates. Hispanic residential instability is positively

correlated with all but total homicide victimization (NVSS) and incident count (UCR)

rates. There are also some important associations among the key study variables and

between these variables and socio-demographic and economic measures. Latino ethnic enterprise development and Latino niche employment are negatively correlated (r=-.24). This finding suggests that ethnic enterprise ownership and ethnic niche employment may constitute alternative rather than complementary modes of economic adaptation, which is contrary to the assumptions made by some theorists (e.g., Bailey and Waldinger 1991; Logan et al. 1994; 2000).

Latino ethnic enterprise development is highly correlated with immigrant/Latino concentration (r=.64) but not with immigrant/Latino segregation (r=.05). This finding confirms the argument that while enclaves need access to co-ethnic labor force, they do not require the group to be segregated in particular areas (Portes and Jensen 1987). Another interesting finding is that Latino ethnic enterprise development has a strong positive correlation with the overall levels of concentrated disadvantage (r=.42) but it is not significantly correlated with the Hispanic-specific measure. This finding may reflect that enclave enterprises protect their co-ethnics from poverty and other forms of disadvantage by providing opportunities for employment and upward mobility in the otherwise disadvantaged areas. Table 7 also shows that immigrant/Latino segregation is correlated with both the overall (r=.24) and Hispanic-specific concentrated disadvantage (r=.48) but the latter correlation is much stronger. This finding is consistent with Massey and Denton's (1993) argument that segregation of a racial or ethnic group has a detrimental effect on the group's economic wellbeing.

MULTIVARIATE MODELS

Models Predicting Homicide Victimization

       The first set of multivariate models utilizes total homicide victimization counts as the dependent variable. These models are estimated using negative binomial regression with county population included as the exposure variable. Table 8 first presents the results of a model that includes only the dummy variables for each form of immigrant community organization followed by a model that includes only the control variables, and then a fully specified model which includes all variables. In all models displayed in Table 8, Latino enclaves are the omitted category.

       Model 1 fits the data poorly. The model likelihood-ratio (LR) test is not statistically significant which means that the model does not fit the data better than the model that includes only the intercept. None of the differences between Latino enclaves (reference category) and the other forms of immigrant community organization are statistically significant.

       The effects of control variables on homicide victimization are explored in Model 2. The model fits the data well and the model LR test is statistically significant. The effects of control variables are generally consistent with previous research. Specifically, higher levels of concentrated disadvantage, residential instability, ethno-racial heterogeneity and percentage of the county population that is non-Hispanic black are all positively and significantly associated with homicide victimization rates. The only finding inconsistent with previous research and theory is the negative effect of the proportion of county population that is young males. However, a recent study has suggested that under some conditions this variable may actually have a negative

Table 8. Negative Binomial Regression Predicting Homicide Victimization Rates

	Model 1	Model 2	Model 3
Latino Niches	0.0697 (0.185)		0.141 (0.107)
Middleman Minority	-0.193 (0.171)		0.182 (0.133)
Latino Ghettos	-0.115 (0.182)		0.236* (0.110)
Unclassified Counties	-0.0799 (0.129)		0.242* (0.104)
Structural disadvantage		0.0702*** (0.008)	0.0761*** (0.008)
Residential instability		0.103*** (0.024)	0.106*** (0.024)
Percent young males		-0.0591* (0.024)	-0.0649** (0.024)
Racial heterogeneity		0.984*** (0.250)	1.253*** (0.301)
Percent black		0.0266*** (0.003)	0.0235*** (0.003)
Population structure		-0.00916 (0.022)	-0.00576 (0.022)
Pseudo R^2	0.001	0.144	0.147
AIC	2341.81	2011.70	2012.99
BIC	2364.09	2041.41	2057.56
Log Likelihood	-1164.9	-997.8	-994.5

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Total population is the exposure variable. Latino enclaves are the omitted category.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

relationship with crime (McCall et al. 2013). Also, the effects of population structure were not statistically significant.

The addition of control variables in Model 3 improves the model fit substantially compared to Model 1 which contained only the dummy variables. The LR test against the intercept only alternative is statistically significant. McFadden's pseudo R-Squared (pseudo R-Squared hereafter) also indicates that the model fits the data reasonably well. However, the fit statistics comparing Model 2 and Model 3 provide mixed results.

Next, I used the Wald test to evaluate the first research hypothesis 1 which states that mean crime rates vary between different forms of immigrant community organization. Specifically, the Wald test compares a model where the parameters are constrained to be equal (i.e., H_0: $\beta_{enclave}$= β_{ghetto}= β_{niche}= β_{midman}) to a model that does not impose this constraint (Eliason 1993; Long 1997). The Wald test was not statistically significant, which means that we fail to reject the null hypothesis that at least two coefficient estimates are significantly different from each other. Hence, the test results do not support hypothesis 1 when the total homicide victimization rate is considered.

Coefficients for Latino niches, middleman minority communities, and Latino ghettos displayed in Model 3 test hypotheses 2, 3, and 4.[25] The estimates in the Model 3 suggest that all of the forms of immigrant community organization have higher expected homicide victimization rates than the enclaves. However, only the difference between Latino enclaves and ghettos is statistically significant. Specifically, the expected homicide victimization rates in Latino ghettos are 27 percent $((e^{\beta}-1)*100)$ higher than in enclaves. Hence, these results provide partial support for hypotheses 2 and 3 and full support for hypothesis 4.

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[25] Since the Wald test was not statistically significant, the individual difference discussed here should be interpreted with caution (see Eliason 1993).

While I did not provide hypotheses regarding differences between the different forms of immigrant community organization and the unclassified counties, it is important to explore these differences as well. The coefficient estimate indicates that Latino enclaves have lower homicide victimization rates than the counties that were not classified. Specifically, the expected homicide victimization rate is 27 percent higher in in the unclassified counties than in Latin enclaves.

I also used the outcomes displayed in Model 3 to examine the differences between the coefficient estimates that test hypotheses 5, 6, and 7.[26] As expected, both middleman minority and Latino ghetto counties have higher expected crime rates than Latino niches. However, neither one of these differences is statistically significant. Hence, the findings provide only tentative support for hypotheses 5 and 6. The results show that the expected crime rates are higher in Latino ghettos than in middleman minority areas but the difference is not statistically significant. Hence, the results provide only partial support for hypothesis 7. The coefficient comparisons also indicate that there are no significant differences in the expected homicide rates between the unclassified counties and Latino ghettos, niches, or middleman minority counties. Finally, Model 3 illustrates the effects of control variables on homicide victimization rates. These estimates are generally un-affected by the introduction of the dummy variables (i.e., effects are similar to Model 2 estimates), which is consistent with previous research that shows that these factors are consistently linked with violent crime.

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[26] This analysis can be thought of as examination of coefficient estimates from models where communities other than Latino enclaves are used as the reference group.

Models Predicting Hispanic Homicide Victimization

The next set of multivariate models uses Hispanic homicide victimization counts as the dependent variable. The results are presented in Table 9. These models are estimated using negative binomial regression with Hispanic population specified as the exposure variable. Latino enclaves are again the omitted category in Model 1 which includes the forms of community organization only, Model 2 which includes only the control variables, and Model 3 which incorporates both.

Although Model 1 in Table 9 does not include control variables, the LR test is statistically significant, which means that the model fits the data significantly better than the intercept only model. However, the pseudo R-squared statistic shows a poor fit. The coefficient estimates in Model 1 indicate that all but the middleman minority counties have significantly higher expected Hispanic homicide victimization rates than Latino enclaves. The estimated difference is larger for Latino ghettos than for Latino employment niches. Specifically, the expected Hispanic homicide victimization rates in Latino niches are 29 percent higher than in Latino enclaves. The difference between Latino enclaves and ghettos is 44 percent. The results also show that in unclassified counties homicide victimization among Hispanics is 37 percent higher than in Latino enclaves.

Model 2 includes only the control variables. This model fits the data much better than Model 1. However, the value of pseudo R-squared is still relatively low which suggests a poor fit. The effects of control variables displayed in Model 2 are again in the predicted direction. Specifically, higher levels of concentrated disadvantage and residential instability among Hispanics, as well as racial heterogeneity and percentage

Table 9. Negative Binomial Regression Predicting Hispanic Homicide Victimization Rates

	Model 1	Model 2	Model 3
Latino Niches	0.254* (0.128)		0.177 (0.128)
Middleman Minority	-0.224 (0.220)		0.116 (0.250)
Latino Ghettos	0.362** (0.138)		0.441** (0.154)
Unclassified Counties	0.312** (0.105)		0.443** (0.159)
Structural disadvantage[a]		0.0434** (0.014)	0.0314* (0.014)
Residential instability[a]		0.0577+ (0.034)	0.0456 (0.034)
Percent young males[a]		-0.0153 (0.035)	0.0518 (0.041)
Racial heterogeneity		0.656+ (0.363)	0.925* (0.402)
Percent black		0.0126** (0.004)	0.0115** (0.004)
Population structure		-0.0108 (0.031)	0.00976 (0.031)
Pseudo R^2	0.013	0.042	0.052
AIC	1193.63	1162.31	1158.98
BIC	1215.92	1192.02	1203.55
Log Likelihood	-590.8	-573.2	-567.5

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Hispanic population is the exposure variable. Latino enclaves are the omitted category.
[a] Hispanic-specific measure.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

black are all associated with higher expected Hispanic homicide victimization rates. The effects of population structure and young male presence are not statistically significant.

Model 3 includes both the dummy and the control variables. This model has a much better fit than Model 1 but the fit statistics comparing it to Model 2 produce mixed results. The pseudo R-squared value remains relatively low which suggests a poor fit. The Wald test testing the equality of coefficients for the forms of immigrant community organization is statistically significant (χ^2=8.47, 3 df, p<.05) and so provides support for hypothesis 1.

When the effects of control variables are taken into account in Model 3, middleman minority counties no longer have lower predicted Hispanic homicide victimization rates than Latino enclaves. This difference remains not statistically significant. Also, the difference between Latino niches and enclaves is no longer statistically significant. Hence, the estimates illustrated in Model 3 indicate that while Latino enclaves have lower expected Hispanic homicide victimization rates than all other forms of immigrant community organization, only the coefficient for Latino ghettos is statistically significant. The estimate suggests that Latino ghettos are expected to have Latino homicide victimization rates that are 56 percent higher than the Latino enclaves. These results then tentatively support hypotheses 2 and 3 and fully support hypothesis 4. Model 3 estimates also show that Latino homicide victimization rates are 56 percent higher in unclassified counties than in Latino enclaves.

Examination of the differences between coefficients suggests that compared to niches, middleman minority counties have lower expected Hispanic homicide victimization rates. Hence, the results provide no support for hypothesis 5. However, the

difference between Latino niches and ghettos is statistically significant.[27] Latino ghettos

are expected to have Hispanic homicide victimization rates that are 30 percent higher

than Latino niches. These findings support hypothesis 6. While the expected homicide

victimization rates in Latino ghettos are higher than in middleman minority areas, the

difference is not statistically significant. Hence, the results provide only partial support

for hypothesis 7. Analysis of coefficient differences also indicates that Latino niches have

significantly lower expected Hispanic homicide victimization rates compared to

unclassified counties. Specifically, Latino niches have an expected Hispanic homicide

victimization rate that is almost 23 percent lower than the rate in unclassified counties.

Finally, the effects of control variables are similar to those observed in Model 2.

However, the effects of residential instability become not significant when the immigrant

community dummy variables are included in Model 3.

Models Predicting Immigrant Hispanic Homicide Victimization

The next set of models displayed in Table 10 includes homicide victimization of

foreign-born Hispanics as the dependent variable. Foreign-born Hispanic population is

used as the exposure variable in the negative binomial estimation. The same model

specification and hypothesis testing strategies are followed as in the previous sections.

The mode LR test for Model 1 in Table 10 is statistically significant which

suggests that the model fits the data better than the intercept only model. However, the

pseudo R-squared value is relatively low which suggests that the model fit is not optimal.

The estimates in Model 1 suggest that all forms of immigrant community organization as

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[27] The coefficient for the county is statistically significant at p<.10 level (two-tailed test). While this threshold is above the conventional criterion for statistical significance, I believe that its use here is acceptable because the current study uses a relatively small sample size. Furthermore, since a two-tailed test was used to test the significance of the coefficients, the obtained estimates would lead to a rejection of one directional null hypothesis in this situation.

Table 10. Negative Binomial Regression Predicting Immigrant Hispanic Homicide Victimization Rates

	Model 1	Model 2	Model 3
Latino Niches	0.185		0.127
	(0.153)		(0.155)
Middleman Minority	0.213		0.530+
	(0.262)		(0.309)
Latino Ghettos	0.395*		0.494*
	(0.184)		(0.205)
Unclassified Counties	0.559***		0.577**
	(0.133)		(0.211)
Structural disadvantage[a]		0.0262	0.0198
		(0.019)	(0.020)
Residential instability[a]		0.119**	0.111*
		(0.045)	(0.047)
Percent young males[a]		-0.0297	0.0607
		(0.048)	(0.056)
Racial heterogeneity		0.412	0.971+
		(0.491)	(0.570)
Percent black		0.0153**	0.0121*
		(0.005)	(0.005)
Population structure		-0.0376	-0.00697
		(0.042)	(0.043)
Pseudo R^2	0.020	0.049	0.060
AIC	869.79	848.49	846.56
BIC	892.07	878.20	891.12
Log Likelihood	-428.9	-416.2	-411.3

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Foreign born Hispanic population is the exposure variable. Latino enclaves are the omitted category.
[a] Hispanic-specific measure.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 two-tailed test.

well as unclassified counties have expected homicide rates among foreign-born Hispanics that are higher than the rates in Latino enclaves. However, only the differences between Latino enclaves and ghettos and between enclaves and unclassified counties are statistically significant. Specifically, the estimates in Model 1 suggest that expected homicide victimization rates among foreign-born Hispanics living in Latino ghettos are 48 percent higher than among those living in enclaves. The difference between Latino enclaves and unclassified counties is 75 percent.

Model 2 in Table 10 is estimated with the control variables only. This model fits the data only marginally better than Model 1 and the pseudo R-squared value still suggests a poor fit. Estimates in Model 2 show that while the effects of control variables are in the expected direction, most of the effects are not statistically significant. However, the effects of Hispanic residential instability and percent black are positive and statistically significant.

Model 3 includes both the dummy and control variables. The model fits the data marginally better than Model 1 but pseudo R-squared continues to show poor fit. The Wald test is not statistically significant and so does not provide support for hypothesis 1, which tests the assumption that the expected violence rates will vary between different forms of immigrant community organization.

The coefficient estimates in Model 3 indicate that all of the forms of immigrant community organization have higher expected homicide victimization rates among foreign-born Hispanics than the Latino enclaves. While the differences between Latino enclaves, ghettos, and unclassified counties remain statistically significant, the coefficient for middleman minority counties becomes significant as well when the control variables

are added. The difference between enclaves and niches is still not statistically significant. The expected homicide victimization rates among foreign-born Hispanics in middleman minority counties is 70 percent higher, in Latino ghettos is 64 percent higher, and in unclassified counties is 75 percent higher than in Latino enclaves. Hence, the results provide tentative support for hypothesis 2 and full support for hypotheses 3 and 4.

Analysis of coefficient differences indicates that both middleman minority and Latino ghettos have higher predicted homicide rates than Latino niches but only the latter difference is statistically significant. Specifically, the expected homicide rates in Latino ghettos are 44 percent higher than in the counties where Latinos have established employment niches. These results provide tentative support for hypothesis 5 and full support for hypothesis 6. The estimates also show that in Latino ghettos foreign-born Hispanics actually have lower expected homicide victimization rates than in middlemen minority counties. Hence, the results provide no support for hypothesis 7.

Examination of coefficient differences also shows that unclassified counties have significantly higher expected immigrant Latino homicide victimization rates than Latino niches. Specifically, Latino niches have expected foreign-born Latino homicide victimization rates that are 36 percent lower than the counties that were not classified. The effects of control variables included in Model 3 are similar to those displayed in Model 2. However, the effects of racial heterogeneity, which were previously non-significant, are positive and statistically significant in Model 3.

Models Predicting Homicide Incident Rates

The results presented in Table 11 were estimated using the number of homicide incidents reported to police and recorded in the UCR data as the dependent variable. Like

Table 11. Negative Binomial Regression Predicting Homicide Incident Rates (UCR)

	Model 1	Model 2	Model 3
Latino Niches	0.0530 (0.188)		0.0633 (0.109)
Middleman Minority	-0.118 (0.171)		0.183 (0.135)
Latino Ghettos	-0.109 (0.183)		0.188+ (0.110)
Unclassified Counties	-0.0544 (0.129)		0.186+ (0.105)
Structural disadvantage		0.0661*** (0.008)	0.0710*** (0.008)
Residential instability		0.103*** (0.025)	0.107*** (0.025)
Percent young males		-0.0801** (0.025)	-0.0826*** (0.025)
Racial heterogeneity		0.716** (0.253)	0.958** (0.304)
Percent black		0.0272*** (0.003)	0.0244*** (0.003)
Population structure		0.0326 (0.023)	0.0371 (0.023)
Pseudo R^2	0.000	0.144	0.146
AIC	2268.20	1948.41	1952.34
BIC	2290.47	1978.10	1996.87
Log Likelihood	-1128.1	-966.2	-964.2

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Total population is the exposure variable. Latino enclaves are the omitted category.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 two-tailed test.

all previous models, these are estimated using negative binomial regression with total

county population used as the exposure variable. Latino enclaves are again used as the

omitted category in all three models. Since the murder incident data do not include information on race or ethnicity of offenders or victims, the socio-demographic and economic measures describing the county population as whole (i.e., not Hispanic-specific) are used as control variables.

The LR test for the Model 1 and the estimated differences between Latino enclaves and the other forms of immigrant community organization are not statistically significant. Model 2, which included only the control variables, fits the data substantially better than Model 1. The LR test for Model 2 suggests that the model fits the data significantly better than the intercept only model and the pseudo R-square suggests a decent fit. With the exception of the proportion of young males, which has a negative effect on homicide, the effects of control variables included in Model 2 are in the expected direction. Specifically, higher levels of concentrated disadvantage, residential instability, racial heterogeneity, percent black, and population structure are associated with higher expected homicide incident rates. With the exception of population structure, all of these effects are statistically significant.

Model 3 is fully specified. This model has a much better fit than Model 1 but not most of the fits statistics suggest that it does not fit the data better than Model 2. Hence, the results should be interpreted with caution. The Wald test for the equality of dummy variable coefficients is not statistically significant, which means that the results do not support hypothesis 1.

The estimates displayed in Model 3 suggest that Latino niches, middleman minority counties, Latino ghettos, and unclassified counties all have higher expected homicide incident rates than Latino enclaves. However, only the differences between

Latino enclaves and ghettos, and between enclaves and unclassified counties, are statistically significant. Specifically, Latino ghettos have almost 21 percent higher expected homicide incident rates than Latino enclaves. The difference between Latino enclaves and unclassified counties is 20 percent. These results provide tentative support for hypothesis 2 and 3 and fully support hypothesis 4.

Examination of coefficient differences suggests that middleman minority counties and Latino ghettos have higher expected homicide incident rates than Latino niches. However, these differences are not statistically significant. Hence, the results provide only tentative support for hypotheses 5 and 6. Furthermore, the coefficient differences indicate that expected homicide incident rates are higher in Latino ghettos than in middleman minority counties. This difference is not statistically significant which means that hypothesis 7 is only tentatively supported by my findings. The analysis of coefficient differences also shows that middleman minority counties and Latino niches have lower expected homicide incident rates than unclassified counties. However, these differences are not statistically significant. Finally, the effects of control variable on homicide incidents are similar to those observed in Model 2.

Models Predicting Robbery Incident Rates

The final set of models in this section uses robbery incidents reported to police as the dependent variable. The models are estimated using negative binomial regression with total county population included as the exposure variable. Model 1 in Table 12 with the dummy variables only fits the data poorly and is not significantly better than the intercept only model according to the LR test. Nevertheless, one of the model coefficients

Table 12. Negative Binomial Regression Predicting Robbery Incident Rates (UCR)

	Model 1	Model 2	Model 3
Latino Niches	0.131 (0.206)		-0.221+ (0.117)
Middleman Minority	-0.425* (0.182)		0.0741 (0.128)
Latino Ghettos	-0.0940 (0.199)		0.190+ (0.111)
Unclassified Counties	-0.0440 (0.138)		0.180+ (0.102)
Structural disadvantage		0.0499*** (0.008)	0.0535*** (0.008)
Residential instability		0.158*** (0.025)	0.165*** (0.025)
Percent young males		-0.0891*** (0.023)	-0.0946*** (0.023)
Racial heterogeneity		0.491* (0.244)	0.855** (0.288)
Percent Black		0.0253*** (0.003)	0.0215*** (0.004)
Population Structure		0.239*** (0.021)	0.244*** (0.021)
Pseudo R^2	0.002	0.096	0.099
AIC	4182.20	3793.24	3787.37
BIC	4204.46	3822.92	3831.90
Log Likelihood	-2085.1	-1888.6	-1881.7

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Total population is the exposure variable. Latino enclaves are the omitted category.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

is statistically significant. The estimates suggest that middleman minority counties have

lower expected robbery incident rates than Latino enclaves.

The fit is substantially better in Model 2 which includes only the control variables. The LR test indicates that this model fits the data significantly better than an intercept only model. The effects of all control variables except for the proportion of young males are in the expected direction and are statistically significant. The estimates show that as the proportion of young males in a county increases, the expected robbery incidents rates decline. Conversely, higher levels of concentrated disadvantage, residential instability, racial diversity, percent black, and population size and density lead to higher expected robbery rates.

Model 3 includes both the dummy and control variables. This model fits the data substantially better than Model 1 but the statistics comparing it to Model 2 produce mixed results. The Wald test of the equality of the dummy variable parameters is statistically significant (χ^2=10.02, 3 df, p<.05) and so provides support for hypothesis 1. While this result suggests that there are important differences in expected robbery rates between different forms of immigrant community organization, not all of the differences displayed in Model 3 are in the expected direction.

Model 3 results suggest that while expected robbery incident rates in Latino niches are significantly different from those in Latino enclaves, this difference is not in the direction predicted by the theory. Specifically, the estimates show that the expected robbery rates in Latino niches are almost 20 percent lower than in Latino enclaves. This result does not support hypothesis 2. The differences between Latino enclaves and middleman minority areas and Latino ghettos are in the direction that is consistent with the theoretical assumptions. However, only the difference between Latino enclaves and ghettos is statistically significant. Specifically, the expected robbery incident rates are 20

percent higher in Latino niches than in enclaves. These results provide tentative support for hypothesis 3 and full support for hypothesis 4. Unclassified counties also have significantly higher expected robbery rates (19 percent higher) than Latino enclaves.

Examination of coefficient differences shows that middleman minority counties and Latino ghettos have higher expected robbery incident rates and the differences are statistically significant. Specifically, the expected robbery rates in middleman minority counties are 34 percent higher and in Latino ghettos the rates are over 50 percent higher than in Latino niches. These results provide strong support for both hypotheses 5 and 6. Finally, the results in Model 3 provide only a tentative support for hypothesis 7. Specifically, estimated robbery incident rates are higher in Latino ghettos than in middleman minority communities, but this difference is not statistically significant. The analysis of differences in predicted robbery rates also shows that Latino niches have lower expected robbery incident rates than unclassified counties. Specifically, the results show that the expected robbery incident rates are 33 percent lower in Latino niches than in unclassified counties. Finally, the effects of control variables are similar to those observed in Model 2.

Summary of Hypotheses Testing

Table 13 summarizes the results of the hypothesis testing that were described in a greater detail in the previous sections. While a more in-depth discussion of the theoretical implications of these results is provided in the next chapter, this section provides an opportunity to examine the more general patterns that emerged across the different models. Table 13 shows both whether the estimated differences were in the direction predicted by the theoretical framework (yes/no) and whether these differences were

Table 13. Results of Hypothesis Testing based on the Estimates from Fully Specified Models

Hypothesis testing	Dependent Variables used to Test Hypothesis				
	Homicide Victimization	Hispanic Homicide	Immigrant Homicide	Homicide Incidents	Robbery Incidents
H1: Wald test	n.s.[a]	**sig**[b]	n.s.	n.s.	**sig**
H2: $\beta_{enclave} < \beta_{niche}$	yes[c]/n.s.	yes/n.s	yes/n.s.	yes/n.s.	no
H3: $\beta_{enclave} < \beta_{midm}$	yes/n.s.	yes/n.s	**yes/sig**	yes/n.s.	yes/n.s.
H4: $\beta_{enclave} < \beta_{ghetto}$	**yes/sig**	**yes/sig**	**yes/sig**	**yes/sig**	**yes/sig**
H5: $\beta_{niche} < \beta_{midm}$	yes/n.s.	no	yes/n.s.	yes/n.s.	**yes/sig**
H6: $\beta_{niche} < \beta_{ghetto}$	yes/n.s.	**yes/sig**	yes/sig	yes/n.s.	**yes/sig**
H7: $\beta_{midm} < \beta_{ghetto}$	yes/n.s.	yes/n.s.	no	yes/n.s.	yes/n.s.

Notes: The results that provide full support of the study hypotheses are highlighted in **bold**.
[a]test statistic not statistically significant.
[b]test statistic is statistically significant; p<.05 (one-tailed test).
[c]the difference is in the direction predicted by the theoretical framework

statistically significant (n.s./sig) at the p<.05 level using a one-tailed significance test.

The results that provide full support of the study hypotheses are highlighted in bold.

Overall, the majority of the study hypotheses were either tentatively or fully

supported. Each of the models provides full support for at least one study hypothesis,

which suggests that the findings are generalizable to both offending and victimization and

across crime data sources (NVSS and UCR) and violent crime types (homicide and

robbery). Two of the five models provide full support for hypothesis 1 which tests the theoretical assumption that different forms of immigrant community organization will have different violent crime rates.

Hypotheses 2 through 7 test the theoretical assumptions that Latino enclaves should have the lowest violent crime rates and are followed by Latino niches which are in turn followed by the counties where Latinos perform the middleman minority functions. Latino ghettos should have higher violent crime rates than the other forms of immigrant community organization. Table 13 shows that while many of the predicted differences are not statistically significant, the general pattern is consistent with the theoretical expectations. Furthermore, regardless of which crime measure is used as the outcome variable, the results suggest that Latino enclaves are consistently safer places than Latino ghettos.

SUPPLEMENTARY MULTIVARIATE MODELS

The previous section reported the results of the tests of the study hypotheses that were based on key assumptions of the theoretical model developed in this dissertation. Overall, these results suggest that immigrant communities differ in their ability to buffer violent crime. The theory developed here links these differences with a particular combination of social and economic characteristics of immigrant communities. The aforementioned analyses, however, do not explore the independent effects of these social and economic factors on violent crime.

This section describes the results of the estimation of supplementary multivariate models that treat social and economic characteristics of immigrant communities as continuous independent variables. Specifically, these models examine the effects of

immigrant/Latino concentration, immigrant/Latino segregation, Latino ethnic enterprise development, and Latino niche employment on each of the five dependent variables. These variables are entered one at a time into a model that includes the same set of control variables as the models that were used for hypothesis testing.[28] The final model for each outcome includes all four variables simultaneously.

While the relationships between some of these factors and violent crime have been explored in previous research, others have not been examined. For example, no studies have examined how Latino niche employment affects crime rates and only one study looked at the effects of ethnic enterprise, albeit using a much less comprehensive measure of this construct (Stansfield 2014). Furthermore, the research on some of the under-explored topics has produced inconsistent findings. For example, Xie (2010) found that the effects of Latino segregation on homicide are positive while Barranco (2013) found that some forms of segregation have a protective effect.

The results of the supplementary models estimated here are useful in a number of ways. They show whether the data used here support the findings of previous studies. They also shed light on issues that were not explored in previous immigration and crime studies. Finally, this analysis will facilitate a more in depth understanding of the role played by the factors underlying the different forms of immigrant community organization in crime causation.

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[28] Hispanic-specific variables are used in the models predicting Hispanic and immigrant Hispanic homicide victimization rates. The collinearity between immigrant/Latino concentration and presence of young Hispanic males is very high and for that reason this variable is not included in the models predicting Hispanic and immigrant Hispanic homicide victimization rates.

Table 14. Supplementary Negative Binomial Regression Models Predicting Homicide
Victimization Rates

	Model1	Model2	Model3	Model4	Model5
Structural disadvantage	.074** (.008)	.070** (.008)	.070** (.008)	.088** (.009)	.090** (.010)
Residential instability	.101** (.024)	.105** (.025)	.103** (.024)	.112** (.024)	0.129** (.025)
Percent young Males	-.061* (.024)	-.059* (.024)	-.059* (.024)	-.061** (.024)	-.057* (.024)
Racial heterogeneity	.986** (.248)	.959** (.254)	.968** (.266)	1.27** (.261)	1.32** (.296)
Percent black	.026** (.003)	.027** (.003)	.027** (.003)	.020** (.003)	.018** (.004)
Population structure	-.009 (.022)	-.006 (.023)	-.011 (.024)	.005 (.022)	-.009 (.024)
Ethnic enterprise development	-.023 (.017)				.056* (.026)
Latino niche employment		-.0111 (.021)			.0003 (.023)
Latino segregation			.002 (.013)		.037* (.016)
Latino concentration				-.074** (.023)	-.156** (.040)
Pseudo R^2	.145	.144	.144	.149	.152
AIC	2011.97	2013.41	2013.67	2003.69	2002.50
BIC	2045.40	2046.84	2047.09	2037.11	2047.07
Log Likelihood	-997.0	-997.7	-997.8	-992.8	-989.3

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported.
Total population is the exposure variable.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

Supplementary Models Predicting Homicide Victimization

Table 14 presents the effects of immigrant community characteristics and control

variables on total homicide victimization rates. Model 1 includes a measure of dominance

of Latino-owned businesses. While the effect of this variable on homicide victimization is negative, the coefficient does not reach statistical significance. The effects of Latino niche employment are explored in the next model. Model 2 shows that while the effects of niche employment on crime are negative, the coefficient is not statistically significant. Immigrant/Latino segregation is included in Model 3 and has a positive association with expected homicide victimization rate but the coefficient is not statistically significant.

The effect size of immigrant/Latino concentration on the expected homicide victimization rate is larger than that of any of the other immigrant community characteristics discussed above. The estimates show that higher levels of immigrant/Latino concentration lead to lower homicide victimization rates. This effect actually increases in size when the other characteristics of immigrant communities are entered in the subsequent Model 5. The estimates also show that the effects of both Latino enterprise development and immigrant/Latino segregation become positive and statistically significant once the other measures of immigrant community characteristics are controlled.

Supplementary Models Predicting Hispanic Homicide Victimization

The next set of models displayed in Table 15 predicts Hispanic homicide victimization rates. Model 1 shows that higher levels of ethnic enterprise development lead to lower expected Hispanic homicide victimization rates. The coefficient is statistically significant. The effects of niche employment displayed in Model 2 are again not statistically significant. The effects of immigrant/Latino segregation shown in Model 3 are not statistically significant as well.

Table 15. Supplementary Negative Binomial Regression Models Predicting Hispanic Homicide Victimization Rates

	Model 1	Model 2	Model 3	Model 4	Model5
Structural disadvantage[a]	.041** (.013)	.040** (.013)	.037* (.015)	.052** (.014)	.046** (.015)
Residential instability[a]	.032 (.034)	.061* (.030)	.070* (.029)	.028 (.032)	.024 (.037)
Racial heterogeneity	.488 (.350)	.641+ (.356)	.569 (.361)	.768* (.348)	.917* (.415)
Percent black	.014** (.004)	.013** (.004)	.013** (.004)	.011** (.004)	.009+ (.005)
Population structure	-.009 (.030)	-.018 (.034)	-.017 (.033)	-.005 (.030)	-.039 (.034)
Ethnic enterprise development	-.041+ (.023)				.034 (.039)
Latino niche employment		.018 (.033)			.032 (.036)
Latino segregation			.012 (.021)		.041 (.025)
Latino concentration				-.062* (.026)	-.123* (.049)
Pseudo R^2	.044	.042	.042	.047	.051
AIC	1159.50	1162.18	1162.19	1156.96	1158.26
BIC	1189.21	1191.89	1191.90	1186.67	1199.11
Log Likelihood	-571.8	-573.1	-573.1	-570.5	-568.1

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Hispanic population is the exposure variable.
[a] Hispanic-specific measure.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 two-tailed test.

As in the models predicting the overall homicide victimization levels, the estimates in Model 4 show that immigrant/Latino concentration has a powerful negative effect on expected Hispanic homicide victimization rates. This effect remains negative and statistically significant when all of the immigrant community characteristics are

Table 16. Supplementary Negative Binomial Regression Models Predicting Immigrant Hispanic Homicide Victimization Rates

	Model1	Model2	Model3	Model4	Model5
Structural disadvantage[a]	.021 (.017)	.019 (.018)	.025 (.020)	.035+ (.018)	.031 (.021)
Residential instability[a]	.082+ (.044)	.127** (.039)	.131** (.039)	.084* (.043)	.063 (.048)
Racial heterogeneity	.126 (.473)	.379 (.484)	.371 (.488)	.541 (.477)	.594 (.595)
Percent black	.017** (.005)	.016** (.005)	.016** (.005)	.013** (.005)	.014* (.006)
Population structure	-.031 (.041)	-.045 (.046)	-.029 (.044)	-.035 (.041)	-.059 (.047)
Ethnic enterprise development	-.066* (.031)				-.007 (.061)
Latino niche employment		.025 (.044)			.048 (.048)
Latino segregation			-.009 (.027)		.006 (.033)
Latino concentration				-.076* (.034)	-.084 (.073)
Pseudo R^2	.053	.049	.049	.054	.056
AIC	844.64	848.53	848.74	844.10	848.60
BIC	874.35	878.24	878.45	873.81	889.45
Log Likelihood	-414.3	-416.3	-416.4	-414.0	-413.3

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Immigrant Hispanic population is the exposure variable.
[a] Hispanic-specific measure.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

entered in the Model 5 simultaneously. However, the effects of the other immigrant

community characteristics in this model are not statistically significant.

Supplementary Models Predicting Immigrant Hispanic Homicide Victimization

Table 16 presents the results of five models predicting homicide victimization rates among Hispanic immigrants. The estimates in Model 1 show that higher levels of ethnic enterprise development are associated with lower rates of homicide victimization among foreign-born Latinos. The effects of niche employment shown in Model 2 and of immigrant/Latino segregation in Model 3 are not statistically significant. The effects of immigrant/Latino concentration are again statistically significant. Model 4 shows that higher levels of immigrant/Latino concentration are associated with lower expected homicide victimization rates among foreign-born Hispanics. When all four variables are entered at the same time in the Model 5, none of the effects are statistically significant.

Supplementary Models Predicting Robbery Incident Rates[29]

Table 17 displays a set of models predicting robbery incident rates calculated using UCR data. Model 1 estimates show that the effects of ethnic enterprise development on robbery rates are not statistically significant. The estimates in Model 2 show that higher levels of niche employment are linked with lower robbery rates and this coefficient is statistically significant. The effects of immigrant/Latino segregation displayed in Model 3 are not statistically significant. Model 4 shows that higher levels of immigrant/Latino concentration are associated with lower predicted robbery rates. This effect remains negative and statistically significant when all variables are added in Model 5 simultaneously. The estimates in Model 5 also show that the negative effect of niche employment on robbery rates remains statistically significant as well. Conversely, the effects of ethnic enterprise development and segregation remain non-significant.

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[29] I have also estimated a set of models predicting homicide incident counts reported to police (UCR data). None of the four variables were significantly associated with the outcome when entered individually or simultaneously. These results are not show but are available upon request.

Table 17. Supplementary Negative Binomial Regression Models Predicting Robbery Victimization Rates

	Model1	Model2	Model3	Model4	Model5
Structural disadvantage	.054** (.008)	.049** (.008)	.055** (.008)	.067** (.010)	.064** (.010)
Residential instability	.155** (.025)	.170** (.025)	.157** (.025)	.165** (.025)	.177** (.026)
Percent young males	-.091** (.023)	-.093** (.023)	-.091** (.023)	-.093** (.023)	-.094** (.023)
Racial heterogeneity	.499* (.242)	.318 (.249)	.622* (.257)	.713** (.250)	.562+ (.289)
Percent black	.025** (.003)	.027** (.003)	.023** (.003)	.020** (.004)	.022** (.004)
Population structure	.236** (.021)	.254** (.022)	.256** (.024)	.248** (.021)	.258** (.024)
Ethnic enterprise development	-.019 (.015)				.0132 (.023)
Latino niche employment		-.057** (.021)			-.044+ (.024)
Latino segregation			-.021 (.014)		.006 (.017)
Latino concentration				-.063** (.023)	-.069+ (.039)
Pseudo R^2	.096	.098	.096	.098	.099
AIC	3793.70	3788.32	3792.78	3787.87	3789.41
BIC	3827.09	3821.72	3826.17	3821.27	3833.94
Log Likelihood	-1887.8	-1885.2	-1887.4	-1884.9	-1882.7

Notes: Raw coefficients with standard errors in parentheses. Constant is not reported. Total population is the exposure variable.
+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ two-tailed test.

Summary of the Supplementary Analyses

The results of the supplementary analyses provide additional insights into the

links between different social and economic characteristics of immigrant communities

and violent crime. A number of the explored associations were not statistically significant. This suggests that that it might be more useful to combine these factors in a theoretically meaningful way as was done in the sections that tested the study hypotheses.

However, a few important patterns did emerge. Specifically, the effects of immigrant/Latino concentration were negative and statistically significant in nearly every model. This finding is consistent with the central thesis of immigrant paradox as well as with the assumptions of a number of other immigration and crime theories. The negative effects of ethnic enterprise development – the major feature of immigrant enclaves as they were defined in this dissertation – were only statistically significant in two models. Interestingly, both of these models were predicting crime rates disaggregated by ethnicity. This may indicate that ethnic economies provide more benefit to ethnic in-group members than to the general population. It is also worth noting that Latino niche employment had a strong negative effect on county robbery rates. Since this factor has not been explored in prior immigration and crime studies, further research on how employment niche formation may help buffer crime is needed.

SENSTITIVITY ANALYSES

This section reports the results of several sensitivity analyses that were performed to ensure that the results reported in the previous sections are not affected by estimation method, multicollinearity, or other analytical choices. To perform the sensitivity analyses I re-estimated all of the models using Ordinary Least Squares regression (OLS) with logarithmically transformed rates as dependent variables (1 was added before the

transformation to eliminate zeroes). Then, multicollinearity in these models was examined using variance inflation factors (VIF).[30]

Results of Ordinary Least Squares Regression

The results obtained using OLS estimation with logged rates as dependent variables were substantively similar to those obtained using negative binomial regression (the OLS results are not shown but are available upon request). In most cases, the patterns of association between the different forms of immigrant community organization and crime rates were identical to those observed using the negative binomial regression estimates. However, most of the estimates that were statistically significant in the main analyses were not statistically significant when the models were estimated with OLS. Specifically, all of the tests of hypothesis 1 examining the equality of the four dummy variable coefficients for each form of immigrant community organization were not statistically significant.[31]

There were some important exceptions. The differences between Latino enclaves and ghettos in the models predicting homicide victimization rates (NVSS data) and robbery incident rates (UCR data) were statistically significant despite the use of a different estimation method. The differences between Latino niches and ghettos in predicted homicide victimization rates among foreign-born Hispanics as well as in predicted robbery incident rates were statistically significant, hence confirming the findings of the models estimated with negative binomial regression.

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[30] To the best of my knowledge, there is no consensus as to how the level of multicollinearity should be evaluated in models estimated using Maximum Likelihood Estimation (MLE). Following previous studies, I use VIFs from OLS regression with the same model specifications.

[31] Since these models are estimated using OLS, I used the F-test which is the equivalent of the Wald test in OLS models (Eliason 1993) to test the null hypothesis that H_0: βenclave= βghetto= βniche= βmidm.

While the inconsistent results produced by the identically specified negative

binomial and OLS models are a cause for concern, they may also be indicative of the fact

that the former estimation method is more appropriate for the purposes of the current

study than the latter. For this exact reason, previous studies have recommended that count

models and not OLS models be used when modeling crime rates at the macro level

(Osgood 2000). Most types of crime, and homicide in particular, are rare events and so

the distributions of crime rates are often positively skewed and include a large number of

zeros. This generally violates the distributional assumptions of OLS regression.

While the logarithmic transformation reduced the skew in the current analysis, it

did not mitigate the large number of zeros in the distributions of Hispanic and immigrant

Hispanic homicide victimization rates (histograms are available upon request).

Incidentally, most of the inconsistencies between the negative binomial regression and

OLS results were observed in these two models. Conversely, when the distribution of a

count variable approaches normal distribution, count models tend to produce results

similar to those of OLS estimation (Long 1997). In the current study, the distribution of

robbery rates closely resembles the normal distribution. The models predicting robbery

rates produced the fewest discrepancies between the negative the binomial regression and

the OLS results.

Multicollinearity Diagnostics

To examine if multicollinearity could have affected the results of hypotheses

testing and of the supplementary models, I computed variance inflation factors (VIFs)

from the OLS models discussed above. Although there is no consensus on the exact VIF

value that signals serious multicollinearity problems, researchers often use values of 4 or

10 as thresholds (O'Brien 2007). High levels of multicollinearity were not detected in any of the multivariate models that were used to test the study hypothesis. Specifically, none of the VIFs were greater than 4.

Some potentially serious multicollinearity issues were detected in the supplementary models. Specifically, the effects of immigrant/Latino concentration and ethnic enterprise development were collinear in the models predicting total homicide victimization rate (VIF= 5.54) as well as in the models where logged homicide and robbery incident rates (UCR data) were used as the dependent variables. The effects of immigrant/Latino concentration and immigrant/Latino segregation were collinear in the models predicting homicide victimization among Hispanics and foreign-born Hispanics (VIF= 4.21). However, while some VIF values were greater than 4, none were greater than 10.

Additional Sensitivity Tests

A few other analytical and estimation techniques used earlier have to be re-examined. First, the classification schema used to identify the different forms of immigrant community organization uses sample mean values as cut-off points to differentiate between "high" and "low" values of the key variables used in the classification process. To ensure that the results of the study were not affected by the choice of sample mean as the threshold, I constructed an alternative classification schema that uses the median of each key variable as the cut-off point. When this classification schema is applied, the number of Latino enclaves nearly doubles, the number of middleman minority counties increases, and the number of ghettos and unclassified counties decreases. With a few exceptions, the results of multivariate regression models

using median-based classification are consistent with those reported earlier (results are not shown but available upon request). I have also constructed classification schemas that use one and two standard deviations, and the quartiles as thresholds, but was unable to estimate models with these measures because these schema produced very few to no immigrant community types.

Second, Hispanic and immigrant Hispanic homicide victimization measures had an excessive number of zeros and some of the "countfit" results discussed earlier suggested that a zero-inflated negative binomial model may be more appropriate in estimation of models where these variables are used as the outcomes. I have re-estimated these models with the adjustment for zero-inflation and found no substantively important differences (results available upon request).

CHAPTER SUMMARY

This chapter reported the results of several types of analyses. First, the chapter reviewed the results of the application of the classification schema that was used to identify Latino enclaves, niches, middleman minority counties, and Latino ghettos. Some of the counties included in the sample were not classified. The chapter also provided a closer look at the counties that were classified as Latino enclaves. Overall, a number of counties identified as Latino enclaves in previous quantitative and qualitative studies were identified as enclaves in the current study as well. The scope of ethnic economies and immigrant/Latino concentration in a few select counties were explored.

Second, descriptive statistics were presented for the total sample and for each form of immigrant community organization. A number of the findings were consistent with previous research. Notably, Hispanics had higher homicide victimization rates than

non-Hispanic whites but much lower than non-Hispanic blacks. Some observed patterns, however, were different from the findings of previous studies and inconsistent with the expectations of the theoretical framework developed in this dissertation. For example, homicide victimization rates among foreign-born Hispanics were higher than among U.S. born Hispanics. Some basic patterns were also explored in a discussion of the results from a bivariate correlation matrix.

Third, I tested the study hypotheses 1 through 7 by estimating several multivariate models using negative binomial regression and the Wald test. Most of the estimates were in the hypothesized direction and so provided some support for the theoretical model developed here. Specifically, the predictions that, compared to the other forms of immigrant community organization, Latino enclaves will have the lowest violent crime rates, niches will have the second lowest, middleman minority counties the third lowest, and Latino ghettos will have the highest violent crime rates were confirmed. However, many of the estimates were not statistically significant.

Fourth, to further explore the role that the different characteristics of immigrant communities play in crime causation, I explore their independent effects on violent crime rates. Immigrant/Latino concentration emerged as the key predictor of lower violent crime rates. Ethnic enterprise development had a crime-reducing effect in a number of models as well. However, many of the estimates were not statistically significant, which may suggest that the effects of these characteristics on crime are better understood when they are combined in a theoretically meaningful way.

In the next chapter I discuss the findings of the current study and their implications for the theoretical framework developed in this dissertation as well as for the

immigration and crime research more generally. I also point to a number of limitations

and discuss how these may have impacted my conclusions. I highlight how some of these

limitations can be addressed in future studies. I then provide a few concluding remarks.

CHAPTER 5

DISCUSSION AND CONCLUSION

CHAPTER INTRODUCTION

The final chapter consists of four sections. First, I discuss the results presented in the previous chapter and compare them to the findings of previous studies. I also discuss the theoretical implications of my findings. Second, I point to a number of limitations of the current study. Third, I discuss the implications for the future research. Some of my suggestions stem directly from the limitations of the current study while others point to how the theory and methods used here can help fill gaps in immigration and crime scholarship. Finally, I end the chapter with some concluding remarks that touch upon policy recommendations that can be made in light of the current study.

DISCUSSION

Previous research has shown that residential concentration of immigrants may help revitalize communities and lead to lower crime rates in places where immigrants settle (e.g., Lee and Martinez 2009; Martinez 2002; Martinez and Lee 2000; Ousey and Kubrin 2009; Sampson 2012; Stowell et al. 2009). These findings challenge the public's belief that immigration leads to higher crime rates. While these studies have made important contributions to our understanding of the causes of crime at the macro level, they have not led to a development of an elaborate theoretical framework that can explain why immigrant concentration leads to lower crime rates. Immigration and crime scholars often rely on ethnic enclave theory to fill this theoretical gap. While this explanation became very popular among immigration and crime scholars, in-depth consideration or

discussion of the concepts and assumptions of ethnic enclave theory are utterly lacking in the criminological literature.

The current dissertation fills this gap by providing a detailed discussion of ethnic enclave theory and its development in sociology of immigration. After reviewing the theory in this dissertation, I concluded that the concept of ethnic enclave is misused in criminological research. While most criminological studies assume that the residential concentration of an immigrant group constitutes an enclave, this idea is not entirely consistent with research and theory developed by sociology of immigration scholars. In sociology of immigration literature, the defining feature of an ethnic enclave is the concentration of ethnic businesses and not the concentration of immigrants.

My review of the "enclave debate" in sociology of immigration also shows that while the concentration of ethnic businesses is essential for the emergence of ethnic enclaves, ethnic economies depend on access to a large co-ethnic labor force and consumer base (Logan et al, 1994; 2000; Zhou 1992). This means that the concentration of co-ethnic immigrants in the larger geographical area like a city or a county is another necessary condition. In this dissertation I argue that to properly integrate ethnic enclave theory into immigration and crime research, studies should incorporate both the geographical concentration of co-ethnic immigrants and ethnic businesses into measures and theory.

When ethnic enclaves are defined as places where both co-ethnic immigrants and ethnic business are concentrated, it becomes clear that immigration and crime studies are in need of a more nuanced theoretical framework. The articulation of such a framework inevitably leads to the conclusion that immigrant communities will differ in their social

and economic organization. For example, some places with a large immigrant population may have only a few or no ethnic businesses, while in other places ethnic enterprise development may be shaped by the absence of a large co-ethnic labor force and consumer base (Logan et al, 1994; 2000). Neither case would qualify as an enclave using the appropriate criterion (see also Portes and Jensen 1987; Portes and Rumbaut 2014).

Hence, a conceptual framework is needed to better describe these communities. In this dissertation I draw on the ethnic economies typology which views ethnic enclaves as just one possible form of immigrant economic adaptation (Logan et al, 1994; 2000; Zhou 2004; 2009). The other types of ethnic economy include employment niches and middleman minority enterprises. Drawing on discussions of ethnic neighborhoods (Portes and Bach 1985; Portes and Rumbaut 2014), I also add immigrant ghettos to this typology.

One of the central arguments developed in this dissertation is that not all immigrant communities have the same capacity for informal social control of crime and so crime rates should vary between different types of immigrant communities. The reasons for this are both structural and cultural but social network structures serve as the point of departure for the theory developed here. I argue that different forms of immigrant economic activity have implications for the strength of interpersonal networks and their connections with community organizations. I use social capital theories to show that while some constellations of these networks can enhance informal social control capacity, others do not contribute or may even erode the ability of immigrant communities to control crime. These different structural arrangements may lead to various cultural adaptations that provide additional mediating mechanisms connecting immigration and crime.

The results of my study generally support these key theoretical assumptions. Hypothesis 1 was supported in the analyses of homicide victimization among Hispanics and robbery incident rates. Hence, there are systematic differences in violent offending and victimization rates between Latino enclaves, niches, middleman minority areas, and Latino ghettos.

This finding provides grounds for questioning the strategy of lumping together all types of immigrant communities within immigrant concentration measures typically used in criminological research. The findings of the current study indicate that the effects of immigrant concentration on crime may be concealing a more nuanced pattern of association. Specifically, high levels of immigrant concentration are a characteristic of both immigrant enclaves and niches and can occur in ghettos as well. The results of my study show that there are systematic differences in crime rates between these forms of immigrant community organization.

The finding that the protective effects vary across immigrant communities is consistent with a small but growing body of research. A few immigration and crime studies suggest that it may be useful to differentiate between immigrant community types and find some evidence that this differentiation is helpful in explaining variations in violence rates at the macro level (e.g., Feldmeyer et al. 2015; Martinez et al. 2004). The research on crime and violence in new and traditional immigrant destinations has, perhaps, been most successful in promoting the idea that the protective effects of immigrant communities may vary. These studies were inspired by findings of sociological and demographic research that showed that many foreign-born in the United States no longer settle in a few geographical areas but are increasingly entering

communities that previously have seen few immigrants (Singer 2004; Waters and Jiménez 2005).

Drawing on this research, several scholars have proposed that the protective effects of immigrant concentration may be limited to traditional destinations (Shihadeh and Barranco 2013; Ramey 2013; Velez and Lyons 2012). These assumptions are well supported by the existing studies. Shihadeh and Barranco (2013) furthermore suggested that one reason that immigrant concentration may not have protective effects in new destinations is because ethnic enclaves have not developed in these areas. While this assumption is shared by a number of immigration and crime scholars (e.g., Feldmeyer et al. 2015), no previous study has properly operationalized the concept of immigrant enclave and so this assumption remains untested.

While a test of this assumption is beyond the scope of the current study, my findings provide some useful insights on this issue. Indeed, using the classification schema described in Chapter 3 I did not find Latino enclaves in any of the states that are generally considered to be new immigrant destinations.[32] However, these states did contain at least some Latino niches, ghettos, and middleman minority counties. Hence, further research on crime in new immigrant destinations using a more complex typology of immigrant community types like the one developed here is needed.

In addition to proposing that immigrant communities will vary in their ability to buffer crime, the theoretical framework developed in this dissertation posits a set of assumptions regarding the direction of these differences. Hypotheses 2 through 7 test

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[32] I used the new destination states identified by Portes and Rumbaut (2014). Note also that units of analysis, levels of aggregation, and definitions of new and traditional destinations vary widely between studies.

these assumptions. While a number of the differences were not statistically significant, the majority were in the direction consistent with theoretical expectations.

While none of the differences between Latino enclaves and Latino employment niches were statistically significant, in all models except for one, enclaves had lower expected violent crime and victimization rates than niches. These results are consistent with the theoretical assumption that niches should have lower informal social control capacity than enclaves because the lack of shared ethnicity between business owners and the majority of their workforce can attenuate connections between the interpersonal networks and organizations, making the latter less responsive to incentives to control crime.

As was noted earlier, the role of employment niches for crime has not been explored in immigration and crime studies and macro-criminological research more generally. Still, some findings of previous ethnographic studies of labor market participation and crime in urban ethnic communities are pertinent. Sullivan (1989) found that when a local business was burglarized the owners of the business often turned to neighborhood residents for information on the perpetrators' identity. In the Latino neighborhood examined by the author most businesses employed a large number of Latinos from the local area but were not owned by a Latino. When these businesses were burglarized by local youths, the workers often refused to help the owners to identify the perpetrators.

On the other hand, in a predominantly white neighborhood studied by Sullivan (1989) there was much less social separation between white owners and managers and their predominately white workers. In this community the managers "knew the local

youths, had access to local sources of information, and used it to invoke sanctions against local youths…" (Sullivan 1989: 180-1). Although Sullivan does not utilize the concepts of ethnic enclave or employment niche, his observations are consistent with the theory and findings of my analyses that point to differences in protective effects between these forms of immigrant community organization.

In all models, Latino enclaves had lower expected violent crime rates than middleman minority communities. However, this difference was statistically significant only in the models predicting homicide victimization among foreign-born Hispanics. In all except for one model, middleman minority counties also had higher predicted crime rates than the Latino employment niches. This difference was statistically significant in the model predicting robbery incident rates.

These findings are generally consistent with the assumptions of the theoretical framework developed in this dissertation. While middleman minority communities have high rates of ethnic business ownership, these business do not have access to a large co-ethnic workforce or co-ethnic consumer base and so operate in disadvantaged minority communities underserved by mainstream enterprises (Bonacich and Model 1980; Logan et al. 1994; 2000). This form of economic activity provides immigrants with connections to organizations but leaves them disconnected from interpersonal ties in the community. For this reason, middleman communities have higher expected violent crime rates than enclaves and niches where interpersonal and organizational networks are well connected (in the former) or at least somewhat connected (in the latter).

Although I am unaware of any quantitative research on the connection between middleman minority presence and crime, the findings of the current study are consistent

with observations made in a number of ethnographic studies. Scholars have discovered that residents of minority neighborhoods are often resentful of foreign business owners from ethnic and racial backgrounds different from their own (Sanchez-Jankowski 2008; Light 1972; Venkatesh 2006). Venkatesh (2006) found that these businesses were often burglarized and/or vandalized and that immigrant owners often had to pay higher taxes to the local gang than firms owned by African Americans. Much of this was due to the disconnection from local interpersonal networks as was made evident by the observation that some owners had to hire local hustlers to negotiate conflicts with the local residents and gang members (Venkatesh 2006).

The most robust set of differences in predicted crime rates is between Latino enclaves and Latino ghettos. In all models, Latino ghettos had higher expected violent crime rates than Latino enclaves and all of these differences were statistically significant. The theory developed here suggests that immigrant ghettos should have higher violent crime levels because such communities tend to develop strong interpersonal networks which can facilitate and/or conceal criminal activity and so erode informal social control capacity of communities. This dark side of social capital is made possible by the lack of conventional organizational connections in immigrant ghettos.

The lack of connection to local businesses through ethnic ownership or niche employment breeds the belief among the minority group members that their community is being colonized and that they have no control over local political and economic processes (e.g., Blauner 1969). This structural context creates a social environment in which attitudes conducive to crime proliferate and informal social control capacity is eroded (Wilson 1996). Furthermore, without support from local business, the ability of an

immigrant group to maintain cultural institutions may be reduced. Hence, interpersonal networks in immigrant ghettos lack positive cultural influences and role models often observed in enclave studies (Portes and Rumbaut 2014; Zhou and Bankston 1998; Lee and Zhou 2013).

While a large literature exists on ghetto communities occupied by native born minority groups (for a review see Haynes and Hutchison 2008), much less attention has been paid to immigrant ghettos and to their informal social control capacity. Only two immigration and crime studies have discussed immigrant enclaves and immigrant ghettos or barrios as distinct types of immigrant communities and have examined crime rates in these communities.[33] Martinez et al. (2004) proposed that while some immigrants settle in ethnic enclaves others reside in the more disadvantaged barrios. They further argued that interpersonal and organizational networks in barrios may not be as strong as they are in enclaves and so barrios may have less of a protective effect. While this argument is similar to the one developed in this dissertation, Martinez and colleagues (2004) did not operationalize the difference between ethnic enclaves and barrios and based their measures of these concepts on qualitative information about a set of immigrant communities in Miami and San Diego instead. Their study examined the connection between these community types and drug-related homicides at the census tract level. Unlike the current study, the authors did not find any significant differences in violent crime rates between enclaves and barrios.

Feldmeyer et al. (2015) also proposed that the link between immigrant concentration and violent crime rates may depend on the type of immigrant community.

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[33] Some studies discussed this difference but did not attempt to assess it empirically (e.g., Desmond and Kubrin 2009)

They differentiate between immigrant enclaves which should help buffer the effects of social forces linked with crime and ghettos of last resort which create social isolation and so have higher crime rates. While the authors' thesis and terminology overlap with those developed here, their study used measures of immigrant segregation and structural disadvantage to differentiate between the community types. In view of the theory and evidence presented in this dissertation, this operationalization of enclaves and ghettos is problematic.

While Feldmeyer and his colleagues (2015) do note that ethnic entrepreneurial activity is theoretically important for identifying immigrant enclaves, they rely on measures of structural disadvantage instead. To be valid, this measurement strategy requires an assumption that structural disadvantage either approximates or fully mediates the effects of ethnic economy (i.e., lack thereof) on crime rates. The results of the current study, however, show that this assumption is not warranted. Mainly, the levels of Latino disadvantage in Latino enclaves are actually higher than in the overall sample (see Table 6). When overall disadvantage is considered, the areas where Latino enclaves emerge are actually more disadvantaged than the places where any other type of immigrant community is located. There is also a strong positive correlation between ethnic enterprise development and overall levels of structural disadvantage. This is not an unexpected finding from a theoretical standpoint. Immigrant groups often (although not always) form ethnic enclaves as a reaction to the lack of opportunities for upward mobility in a receiving society (Portes and Rumbaut 2014). Hence, high levels of overall disadvantage in immigrant enclave counties should be seen as incentives for, rather than

consequences of, growth of enclave economies. This also means that structural disadvantage is not an appropriate measure of immigrant enclaves.

In my study, the consistent differences in predicted crime rates between Latino enclaves and ghettos were observed net of the effects of structural disadvantage. This finding is important because it has the potential to, at least in part, address the immigrant paradox. The immigrant paradox revolves around the question of how immigrant communities manage to stay relatively safe despite being exposed to high levels of structural disadvantage (Sampson and Bean 2006). My study shows that when proper measures of different forms of immigrant community organization are used, enclave theory can indeed provide an answer to this question. The results of the current study suggest that despite relatively high levels of disadvantage, *some* immigrant communities manage to maintain lower levels of violent crime by forming immigrant enclaves. The structure of social networks in immigrant enclaves maximizes the communal capacity for informal social control and minimizes opportunities for negotiated coexistence irrespective of disadvantage or other external structural influences.

There is an additional problem with the enclave measures used by Feldmeyer and his colleagues. While the use of immigrant segregation measures to identify immigrant ghettos is consistent with the strategy I used, Feldmeyer et al. (2015) maintain that immigrant segregation is a necessary feature of an ethnic enclave as well (see also Barranco 2013). The latter assumption is inconsistent with the theory developed here and with much of the sociology of immigration scholarship. In the current study, I use a measure of immigrant/Latino concentration in a larger geographical area (i.e., county) and not segregation as the second key characteristic of Latino enclaves. This

operationalization is more consistent with enclave literature which suggests that as enclaves develop, many immigrants move to satellite communities close to routes of public transportation (Bankston 2014; Zhou 1992), and that owners of ethnic business move out of segregated communities as well (Portes and Bach 1985; Portes and Jensen 1987).

The results of my study also suggest that immigrant/Latino concentration and segregation play very different roles in shaping the community context as well as for crime. In the bivariate correlation analysis segregation is positively associated with each of the crime measures while concentration is associated only with the NVSS and UCR homicide measures and the strength of the latter associations is much weaker. Furthermore, while the correlation between concentration and ethnic economy development is very strong, the correlation between segregation and ethnic economy is weak and not statistically significant. These differences are remarkable considering that concentration and segregation are highly correlated.

When Latino concentration and segregation were included as independent variables in supplementary analysis, concentration had significant and negative effects on crime in most models. The effects of immigrant/Latino segregation, on the other hand, were significant and positive only in one model. Feldmeyer et al. (2015) did include a measure of immigrant concentration in a larger area (i.e., Census place)[34] as a control variable and found that its effects on crime were mostly not statistically significant.

These inconsistencies in research findings describing the connections between immigrant concentration, segregation, and crime are not entirely surprising. Studies on this topic have so far produced inconsistent results. Barranco (2013), for example, found

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[34] Their measure is percent of recent immigrants in Census place.

that some forms of Latino immigrant segregation are associated with lower Latino homicide victimization rates. Xie (2010), on the other hand, found that segregation among Latinos leads to higher Latino homicide victimization rates. One possible reason for these inconsistencies is the use of different segregation measures, use of different groups as inputs in segregation index formulas, and use of different geographical areas as proxies for larger communities and neighborhoods within them. Future research on this topic is needed. The theoretical framework developed here can help guide this research.

Despite some key differences in research design, the general conclusions of the study conducted by Feldmeyer and his colleagues were similar to those of the current study. Specifically, they found that immigrant enclaves have lower violent crime rates while immigrant ghettos have high levels of violence. These findings challenge the idea that all forms of immigrant communities have protective effects. Hence, more research is needed to examine immigrant community types and how they shape crime patterns at the macro-level.

There were also a number of important differences in predicted crime rates between Latino ghettos and Latino niches and middleman minority counties. Latino ghettos typically had higher expected violence rates than Latino niches and middleman minority communities. As was noted earlier, research on the connection between niche employment, middleman minorities, and crime is very limited. No previous immigration and crime study has attempted to differentiate between these immigrant community types.

However, these findings are consistent with the theoretical framework developed here. While both Latino niches and ghettos do not have high levels of ethnic business

ownership, interpersonal networks created in the former are better connected to community organizations through what Waldinger and Lichter (2003) call closure. Closure can provide an immigrant group with considerable leverage in the labor market while, at the same time, increasing the stakes associated with criminal behavior because it can jeopardize future network hiring. Furthermore, immigrant groups have to make sure that niche firms stay in business and do not relocate. Since crime can lead to both bankruptcy and relocation (Sanchez-Jankowski 2008), informal social control of crime becomes more important. While middleman minority communities do not form extensive interpersonal networks because there are too few co-ethnic immigrants in the larger geographical area, their communities still have more informal social capacity than do immigrant ghettos. Sanchez-Jankowski (2008), for example, found that small business owners often police the behavior of their customers inside and nearby their businesses (see also Anderson 2001).

A few other results of the current analysis deserve more attention. Both the theoretical model and the classification schema developed here leave a number of communities unclassified. I provided a brief theoretical discussion of these communities in Chapter 2. I also examined the differences in expected violent crime rates between the unclassified counties and the other forms of immigrant community organization in the previous chapter. The unclassified counties include places with high levels of immigrant/Latino concentration (i.e., above the mean), low levels of ethnic enterprise development, and where levels of immigrant/Latino segregation and niche employment are also low. Counties were also not classified if they had low levels of ethnic enterprise

development, immigrant/Latino concentration, and low levels of segregation (these may or may not have employment niches).

As was noted in Chapter 2, this category is not entirely theoretically meaningless. In general, these are places where co-ethnic immigrants are not segregated residentially or in the workplace. This situation closely resembles the mode of incorporation of immigrants who do not rely on their ethnic ties for support, enter the mainstream economy, and reside in integrated communities upon their arrival (e.g., Bankston 2014; Portes and Rumbaut 2014). I was unable to provide a specific set of hypotheses regarding crime rates differences between these communities and other forms of immigrant community organization for theoretical reasons. Ethnic economy scholarship does not discuss the economic activity of immigrants who enter the mainstream economy as workers. From the standpoint of the social capital theory, these communities should not produce strong interpersonal networks or connections to organizations. Hence, the informal social control capacity (as well as the potential for negotiated coexistence) in these communities should come from other sources.

I chose to explore the differences in expected crime rates between the unclassified counties and different forms of immigrant community organization in hopes that these findings will help to further elaborate the theoretical framework in future studies. This analysis produced two major findings. First, the expected violent crime rates were not significantly higher in any of the forms of immigrant community than in unclassified counties. Even immigrant ghettos did not have higher rates of violence than unclassified counties. This is an important observation because making predictions regarding the differences in social control capacity between immigrant ghettos and unclassified

counties based on the theory developed here is especially difficult. One theoretical possibility is that immigrant ghettos should have higher crime rates than unclassified communities because strong interpersonal networks disconnected from organization are more likely to lead to negotiated coexistence than weak or non-existent interpersonal networks. Future attempts to elaborate the theoretical framework developed here must address this issue.

Second, in most models, Latino enclaves and niches had significantly lower expected violent crime rates than the unclassified counties. These findings should be interpreted with caution because I did not provide a *priori* hypotheses. Yet, what these findings seem to suggest is that the protective effects of immigrant communities may be limited to enclaves and niches. Conversely, the structure of interpersonal networks in immigrant ghettos and middleman minority communities does not facilitate additional informal social control capacity. Again, further theoretical elaboration and empirical research are needed on this subject.

The implications of disaggregation of homicide victimization rates by ethnicity and nativity also deserve a close look. By using ethnic and nativity-specific homicide victimization rates, I sought to examine whether the forms of immigrant community organization have an effect on the safety of large community or if their crime-related costs and benefits are limited to specific ethnic or immigrant groups. Overall, there was little reason to believe that the protective effects of Latino enclaves accrue only to Latinos or foreign-born Latinos. The results show that overall homicide and robbery rates vary across different forms of immigrant community organization. In a way, these findings are similar to the study by Lee et al. (2001) that discovered that immigrant

concentration leads to lower black homicide victimization rates in Miami neighborhoods (see also Nielsen et al. 2005). The examination of whether Latino ethnic economies reduce crime and victimization rates in other ethnic and racial groups was beyond the scope of the current research. However, future research should address this question in greater detail.

LIMITATIONS

The current study has a number of important limitations. First, I will discuss the use of counties as a unit of analysis and the related assumption that county is an appropriate measure of a larger geographical area. Second, I will discuss the limitations associated with the use of NVSS homicide victimization and UCR crime incident data. Third, I will discuss various caveats associated with the construction and application of the classification schema used to differentiate between different forms of immigrant community organization. Fifth, I will discuss the limitations associated with focusing the study on the Latinos. Sixth, I will highlight the limitations associated with missing data and use of cross-sectional data in this study. I will conclude this section with a discussion of some alternative theoretical interpretations of the study findings.

Counties as a Unit of Analysis

The review of the sociology of immigration literature suggests that while ethnic enclaves, as well as the other forms of immigrant community organization, shape community-level processes, their measures should be based on data from larger geographical areas (Logan et al. 1994). Most enclave studies have focused on large cities or metropolitan areas (e.g., Portes and Jensen 1987; Logan et al. 1994; 2000; Zhou 1992). However, I used U.S. counties and county equivalents as units of analysis.

Many counties include large cities and the surrounding areas within their borders and so county-level data should provide good measures of different forms of immigrant community organization. However, economic activity and labor markets often reach well beyond county borders, especially if counties are embedded in broader regional economies. Hence, by using counties as the units of analysis, my study may have failed to capture some of the broader social and economic patterns that could have been more accurately measured if metropolitan regions such as Metropolitan Statistical Areas (MSA) were used as the units of analysis.

In studies of crime at the macro level, researchers often use metropolitan areas or cities instead of counties because many counties in the United States have very small populations. The crime data in general and homicide data in particular collected from less populated counties are less reliable and the rates based on these data may vary widely (Pridemore 2005). Pridemore (2005) also points out that county-level homicide data are likely to contain many zeros and so may violate the distributional assumptions of most count regression models.

While these issues are important, the study design should have at least partially addressed some of them. All counties included in the study sample have populations greater than 10,000 (and 84 percent have population of 100,000 or greater), which is well above the threshold set by many studies using city or metropolitan data. Some counties, however, did contain fairly small populations of Hispanics and foreign-born Hispanics. The minimum Hispanic population in a country was 454 and for foreign-born Hispanics it was 65 residents. However, only three counties in the sample had Hispanic population of less than 1,000 and only 45 (15 percent) had immigrant Hispanic population of less

than 1,000 which is the study inclusion threshold set by most criminological studies. I re-estimated the models predicting Hispanic and immigrant Hispanic homicide victimization using only the counties with 1,000 Hispanics and immigrant Hispanics, respectively, and found no substantive differences between the results obtained and those presented in the previous chapter.

My exploratory analyses also showed that the number of counties with no homicides or robberies was not a cause for concern in most cases. As was noted earlier, the dependent variables in the models predicting Hispanic and immigrant Hispanic homicide victimization did contain a substantial number of zeroes. However, the results of ZINB estimation designed to address this issue were substantively the same as those reported in the previous chapter.

Reliability and Validity of the Crime Measures

There are some reliability and validity issues associated with NVSS homicide victimization data. Wiersema et al. (2000) noted that NVSS homicide statistics include justifiable homicides perpetrated by citizens. Justifiable homicides are excluded from the FBI crime statistics and from most criminological studies. While their inclusion in the current study may reduce the validity of the homicide measures, Wiersema and colleagues (2000) note that justifiable homicides perpetrated by citizens are rare enough that their effects on homicide measures are likely to be negligible. Studies that compared NVSS data to the Supplemental Homicide Report data collected by the FBI found that NVSS sometimes undercounts homicides (Rokaw et al. 1990; Wiersema et al. 2000). This may occur if a homicide victim is transported to a hospital in a different county

(Wiersema et al. 2000). Since I used county of occurrence FIPS to calculate county-level homicide counts, my measures are likely to be affected by this issue.

There are also some concerns associated with the validity and reliability of the Hispanic origin information on the death certificates and with how it compares to information included in Census data. Arias and her colleagues (2010) note that while the Census survey allows respondents to self-select ethnic origin for themselves and for the people in their household, "[t]he ethnic identity of the decedent is recorded on the death certificate by the funeral director" who may or may not "[consult] with the family of the deceased" (p. S171). Recent studies conclude that the level of compatibility between Hispanic origins recorded on death certificates and self-reported by respondents in the Current Population Survey (CPS) subsamples is high. On average, the CPS identifies an additional 4 percent of individuals of Hispanic origin compared to death certificates (Arias et al. 2008; 2010).

Decedents who were foreign-born and those who died in counties with high concentrations of co-ethnics were more likely to be correctly identified (according to CPS) as Hispanic on the death certificates (Arias et al. 2008; 2010). Since the studies by Arias and her colleagues examined total mortality rates and not homicide victimization specifically, it is not clear how the under-reporting of Hispanic origin may have affected the results of the current study. If the effects of immigrant and Latino concentration on under-reporting of Hispanic origin in homicide cases is in the direction predicted by Arias et al. (2008; 2010), all else equal, we can expect that homicide victimization counts in counties with more immigrants and Latinos will be elevated as a result of additional

victims being correctly identified as Hispanic on the death certificates. Hence, the current study likely provides a conservative assessment of the immigrant paradox thesis.

The limitations of crime measures based on UCR data have been explored in a number of previous studies. In a summary of this research Mosher et al. (2002) state that UCR data are affected by failure of citizens to report crime and victimization, failure of some departments to submit records to the FBI, and accidental and purposeful miss-classification of some crime types by reporting agencies. I have attempted to address some of these issues in the current study. I used only the county-years for which no more than 10 percent of data were imputed (i.e., under-reported by law enforcement). I also focused on homicide and robbery incidents since these are more serious crimes and so are more likely to generate reliable records than other index crimes.

Still, Mosher et al. (2002) point to some potential problems associated with the use of homicide and robbery data from UCR. Some departments may under-report homicide incidents due to follow-up procedures if, for example, an assault victim dies of injuries after the department submitted the report. On the other hand, some justifiable or accidental killings may be erroneously classified as homicides. Mosher et al. (2002) also point out that some departments may misclassify robberies as larcenies and vice versa. While these data related issues are important to consider, they generally occur at random and so should not bias the results. The willful manipulation of crime statistics by police departments is of greater concern. I am not aware of a strategy to address this limitation and so the results using UCR data should be viewed with caution.

Validity and Reliability of the Classification Schema

The classification of different forms of immigrant community organization was done in two steps and so the limitations of each step must be considered. In the first step, composite measures of immigrant/Latino concentration, segregation, ethnic enterprise development, and niche employment were computed. The immigrant/Latino segregation measure was based on the indexes of dissimilarity and isolation. While these indexes are widely used, a variety of problems associated with these indexes are known (Reardon 2006; Reardon and Firebaugh 2002). One major issue is what is called the "checkboard problem" (Grannis 2002; Xie 2010). Both the dissimilarity and isolation indexes rely on Census-based geographical definitions of communities (here census tracts) and cannot detect segregation patterns that may be embedded in how these communities are arranged in the larger area (here counties). Hence, these indexes may not be fully accurate measures of actual segregation patterns.

There are also a number of limitations associated with the measure of niche employment. The niche measure is fully accurate only if all workers are employed in firms located in their county of residence. If a large number of workers travel outside their county for work, this may affect the measures of ethnic concentration in certain industries and so reduce the reliability of niche employment measures. Furthermore, there is no consensus in the literature on industrial niches as to what industry classification (here 80 industries) and index of representation (here 2.0) should be used or how many people should be employed in an industry (here 100) for it to be included in the calculation. Hence, there are some differences between the measures used here and those used in previous studies. For example, in the current study I considered any industry with

the Latino index of representation of 2.0 or higher as a Latino niche while some previous studies have used indexes of 1.5 or even 1 (e.g., Logan et al. 1994; 2000). Hence, my index of representation is more conservative and may miss some Latino niches.

The ethnic enterprise development measure is based on SBO data. These data exclude certain industries and businesses with receipts of less than $1,000 which may include a large number of Latino owned businesses (e.g., a large proportion of Hispanic owned businesses have no paid employees). The data also do not capture informal ethnic enterprises which may represent a substantial part of ethnic economies. Hence, this may lead to an underestimation of ethnic enterprise development. These data may also underestimate the number of Latino business owners because firms with multiple owners are counted as Hispanic-owned only if Hispanics own more than 50 percent of the firm's equity. Also, SBO counts firms that have one or more establishments in each county and not the number of owners these firms have.

While the Census Bureau applies a variety of sophisticated data quality control measures in the collection of SBO data, there are some additional concerns pertaining to data validity and reliability. Most data in SBO are obtained by using a stratified random sampling design. About one-fifth of the over 2 million businesses sampled did not respond to the survey. Missing information for non-responding firms was either obtained from the 1997 survey and added to the 2002 data or were imputed by the Census Bureau (U.S. Census Bureau 2002). The Census Bureau also cautions that some of the SBO estimates may be affected by sampling as well as nonrandom errors and so caution should be used when considering accuracy of these estimates (see also Stansfield 2013).

In the second step, the classification schema was used to identify different forms of immigrant community organization based on levels of immigrant/Latino concentration, segregation, ethnic enterprise development, and niche employment that were discussed above. One major assumption underlying this classification schema is that a county cannot contain more than one type of ethnic economy. This assumption is not entirely consistent with some immigrant enclave scholarship (e.g., Portes and Jensen 1987; Portes and Manning 1986), and with the results of previous studies (Logan et al. 1994; 2000). Hence, when a county is identified as a particular form of immigrant community this means that the county most closely resembles this form but may contain other forms of immigrant economic activity as well. The reader should consider this issue when interpreting the results of the current study.

Similar to measures used in previous research, the current classification schema makes probabilistic assumptions about co-ethnic employment patterns since Census data do not provide information needed to link the ethnicity of employees with the ethnic composition of their companies (Logan et al. 1994; 2000). Specifically, in the current study I assume that Hispanic-owned businesses are more likely to hire their co-ethnics than outgroup members if there is a large co-ethnic population in the larger geographical area. The validity of the enclave measures used here is reduced if this assumption is not met.

There are also problems with the timeframe covered by some of the composite measures used in the classification schema. The measures of concentration, segregation, and niche employment are based on the 2000 decennial Census data. The measure of ethnic enterprise development is based on the Survey of Business Owners which is

collected only in the years ending in 2 and 7. However, the schema assumes that these measures are compatible. While it is unlikely that the business ownership patterns could have changed dramatically in a two-year period, this mismatch should be considered as a limitation of the current study.

Latino Pan-ethnicity as a Basis for Solidarity

Some sociology of immigration scholars point to a number of problems associated with use of the Hispanic or Latino pan-ethnic label in research (e.g., Portes and Rumbaut 2006; Portes and Tuelove 1987; Rumbaut 2006). This label was created by the U.S. government in the 1970s to identify individuals who were born in or were descendants of people from Latin American countries and Spain in official government statistics (Mora 2014; Rumbaut 2006). Rumbaut (2006) also points out that the terms Hispanic and Latino are generally not accepted outside of the United States and that first generation immigrants from Latin American are more likely to identify their ethnicity based on their country of origin. Similarly Portes and Truelove (1987) argue that Hispanic is "a term of convenience for administrative agencies and scholarly research" (359) and that the groups included in this category are highly heterogeneous with respect to their social and economic circumstances.

The central question that emerges as a result of the focus on Latinos in the current study is whether this pan-ethnic label can provide a sufficient basis for ethnic solidarity. There are a number of reasons to suspect that it may not. Portes and Truelove (1987) argue that there are several important differences in modes of incorporation and in the political and socio-economic backgrounds of different Latino groups (see also Portes and Bach 1985; Portes and Rumbaut 2014). Recent studies have shown that such differences

can attenuate ethnic solidarity even within groups of the same ethnic origin (Menjivar 2000; Portes and Puhrmann forthcoming).

Lack of ethnic solidarity associated with the Latino label creates another problem for the probabilistic assumptions discussed in the previous section. Specifically, if Latino owners and workers in a particular county come from different national origin groups, this reduces the odds of co-ethnic employment and so reduces the validity of the enclave measure. Similarly, it also reduces the validity and reliability of the industrial niche and Latino segregation measures.

Sample Selection

The sample used in the current study consists of 303 out of a total of 3,141 U.S. counties. Several counties were excluded from the sample because they were located outside of the contiguous U.S. territory. The remaining reduction in sample size can be solely attributed to data restrictions in the SBO data on Hispanic owned businesses. The SBO data do not provide information for any county with fewer than 100 Hispanic owned businesses and omit information for other variables used here if the estimates did not meet publication standards or if publication of these estimates could result in reporting firms being identified. There were no missing data on any of the study variables for the counties with valid SBO data.

Requiring counties to have at least 100 Hispanic owned businesses to be included is a significant limitation in the current study. This restriction affects the classification of the forms of immigrant community organization. Due to the restriction, even the counties that have low levels of ethnic enterprise development will have at least 100 Hispanic

owned businesses. This limitation must be considered when interpreting the results of the current study.

Cross-sectional Design

The current study uses cross-sectional data and so the limitation associated with this design should be considered. The main consequence of using this design is the inability to infer the causal order from the relationships between the study variables. For example, it is possible that higher levels of violent crime lead Latinos and their businesses to move to other counties and so enclaves are formed in places that are safer on average. Similarly, high levels of Latino segregation and poverty may be produced by high crime rates because of their effects on property and rent prices.

Interpretation of Results

The interpretation of the results of the current study was guided by the theoretical framework discussed in Chapter 2. While this theoretical framework was informed by immigration and crime literature as well as by more general criminological theories, it does not integrate all possible explanations of why immigrant enclaves have lower crime rates than other communities. Some theorists have suggested that the protective effects of immigrant enclaves stem from the attachments that immigrants form with the world of work (Martinez 2002; Martinez and Lee 2000). This explanation suggests that while immigrant communities may be exposed to high levels of poverty, this exposure does not coincide with chronic unemployment, which is a major issue in communities occupied by some ethnic minority groups (Wilson 1987). On the contrary, enclaves have protective effects because they supply jobs and so keep their residents employed (Martinez 2002; Martinez and Lee 2000).

My theoretical framework puts a greater emphasis on the structure of interpersonal and organization networks and so views unemployment as an important factor only if it shapes this structure. I also focus on co-ethnic employment rather than on employment more generally because the former helps build connections between interpersonal social networks and organizations. The measures of structural disadvantage used in the current study included indicators taping the overall and Hispanic-specific unemployment rates. The inclusion of these measures in multivariate models should have accounted to some extent for this alterative explanation (i.e., the crime rate differences between different forms of immigrant community organization were observed net of the effects of unemployment rates on violence). However, since the data on the structure of interpersonal and organizational networks were not available, it is not possible to fully adjudicate between these two theoretical explanations.

DIRECTIONS FOR FUTURE RESEARCH

Some of the limitations of the current study can be addressed by future research. Future studies should test the theoretical framework developed here using cities or metropolitan areas as the unit of analysis. Most data sources used in this dissertation provide information at those levels of aggregation. While this would require scholars to focus solely on the urban context and would likely reduce the sample size, there are some advantages to working with city-level and metropolitan data.

First, most cities and metropolitan areas have large population sizes and so analyses would be less affected by high levels of measurement error in less populated places. Second, since metropolitan areas are generally larger than counties, they may be better at capturing social and economic characteristics of immigrant communities that

may cross county borders. For example, Metropolitan Statistical Areas (MSA) and, since 2003, Core Based Statistical Areas (CBSA) were specifically designed to capture social and economic interconnections between cities and counties (U.S. Census Bureau 2015).

Third, there are fewer data restrictions at higher levels of aggregation. For example, SBO data for metropolitan areas includes information on Mexican, Cuban, Puerto Rican, and Other Hispanic owned businesses as well as on the type of business (i.e., industry type) for all metropolitan areas with 100 or more Hispanic owned businesses. One of the challenges in conducting studies with SBO data at the metropolitan level of aggregation is that the 2002 SBO (and later) data use Core Based Statistical Areas (CBSA) while 2000 decennial Census provides statistics for Metropolitan Areas (MA) and not the CBSAs. Boundaries of MAs and CBSAs do not match and so caution is needed when merging the data. Future studies should use data from American Communities Survey which, like SBO, provides statistics at CBSA level.

Future studies should also test the theoretical framework developed here using Public Use Microdata Sample (PUMS) data to create measures of different forms of immigrant community organization. For example, Logan et al. (1994; 2000) used PUMS data from several MSAs to identify ethnic enclaves, employment, and entrepreneurial niches (similar to middleman minorities). Their study identified different forms of immigrant economies using the index of representation like the one used here but applied to business owners as well as workers. Calculation of the index of representation for business owners was not possible with the data used in the current study[35] but is possible

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[35] Summary file 4 (SF4) of the 2000 decennial Census also provides information on race and ethnicity of self-employed individuals at the county and other levels of aggregation. However, SF4 does not provide information on the industry the self-employed respondents are in.

with PUMS data.[36] One downside of this measurement strategy is that it assumes that enclaves require the clustering of owners in industries which is not something suggested by the enclave literature. On the contrary, diversification of business strategies is important for the economic wellbeing of ethnic enclaves (Wilson and Martin 1982). However, this strategy would allow researchers to identify multiple types of immigrant community organization within the same metropolitan area and so would overcome one of the limitations of the current study.

Future studies should also test the theoretical framework developed here using multilevel data. Specifically, researchers should examine whether and how different forms of immigrant community organization measured at higher levels of aggregation shape neighborhood level processes associated with crime. A multilevel test of the theory would also be able to directly address the question of whether different forms of immigrant community organization shape crime rates in larger areas or if their effect is limited to immigrant or ethnic communities.

Future research should test my theoretical framework using different crime measures. A study using property crime rates to test the framework would be a particularly important next step. The research on the relationship between immigrant residential concentration and crime is very limited (but see Stansfield 2013; Stansfield et al. 2013). No previous studies have examined how ethnic economies may shape property crime rates (but see Stansfield 2013). While it is likely that property crime rates will vary between the different forms of immigrant community organization, some new patterns may be discovered. For example, Sullivan (1989) found that interpersonal networks were

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[36] As was noted earlier, SBO at CBSA level also provides information on industry of Hispanic-owned firms. However, PUMS provides much more detailed industry information and so can be used to calculate the index of representation with greater accuracy.

more likely to cover up property crimes committed by local youths, while violent crimes generally provoked a backlash and greater efforts at control in the community.

The theoretical framework should also be tested using data from ethnic and pan-ethnic groups other than Latinos. Future studies may use data on a different pan-ethnic group such as Asians. The Asian pan-ethnic group consists of a large number of groups with different ethnic origins. Unlike Latinos, Asians do not share a common language. However, scholars have noted that this label can serve as a basis of ethnic solidarity (Portes and Rumbaut 2014; Zhou 2009). Future research should also test the framework using data on specific ethnic or nationality groups.

There are also a number of important issues that were beyond the scope of the current study and so future research should address these as well. The current theoretical framework can help guide future research on immigration and crime in new and traditional immigrant destinations. One of the key questions in this area of research is whether the relationship between immigration and crime varies between new and traditional destinations because immigrant enclaves exist only in the latter. This question can be addressed with the help of the theoretical framework and measures developed here.

CONCLUSION

Despite the critical importance of immigration in American history, in this country newcomers are often met with fear and anxiety. Fear of the criminal alien is but one specter haunting the imagination of the American public. People fret over how immigrants will impact the economy, culture, education, politics, and the American way of life more broadly. In the past, these fears have helped pass isolationist policies and

promote forced assimilation (Portes and Rumbaut 2014). The direct costs of these largely

misguided policies have been astounding. Billions of dollars have been spent on the

militarization of the U.S./Mexico border, immigrant detention and deportation, and on

various surveillance programs (Barry 2011; Massey 2013; Massey and Pren 2012).

But what about the indirect costs of these largely unfounded fears? The failure to

recognize the benefits that immigration has for America may be just as costly. The results

of my study add new insights to over a century of research that identified various benefits

of immigration. My dissertation reaffirms what Lee and Martinez (2009) call the growing

consensus that immigration does not increase crime. However, my study goes beyond

previous research by investigating in depth the mechanisms underlying the immigrant

paradox.

The findings reported here suggest that some forms of immigrant economic

activity make communities safer. Consistent with the assumptions made but not yet tested

by most criminologists, I found that immigrant enclaves have powerful protective effects

capable of shielding communities from socially disorganizing structural forces. The

vibrant economic activity hinging on high rates of ethnic business ownership and

residential concentration of co-ethnics in larger geographical areas is the secret to the

success of immigrant enclaves. Hence, policies that encourage immigrants to become

entrepreneurs and help ethnic businesses to succeed could benefit American communities

more broadly.

However, I have also found that the protective effects are not exclusive to

enclaves. Immigrant employment niches have protective effects as well. In these

communities, immigrants are connected to local businesses not through co-ethnic

ownership but through closure that gives them control over the vital functions of these organizations such as hiring and training of workers. This means that policies that make it easier for immigrants to gain and maintain employment may have added benefits of helping communities to control violent crime.

While human beings have migrated since the dawn of humanity, levels of global migration today are unprecedented. Changing economies and developments in transportation technologies are likely to further accelerate global migration in the future. America cannot afford to fail to realize the benefits of immigration. Perhaps the survival of the criminal alien myth in spite of over a century of research debunking it is the paradox that should be solved next.

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Map of the U.S. Counties showing Counties Included and Counties Excluded from the Study Sample
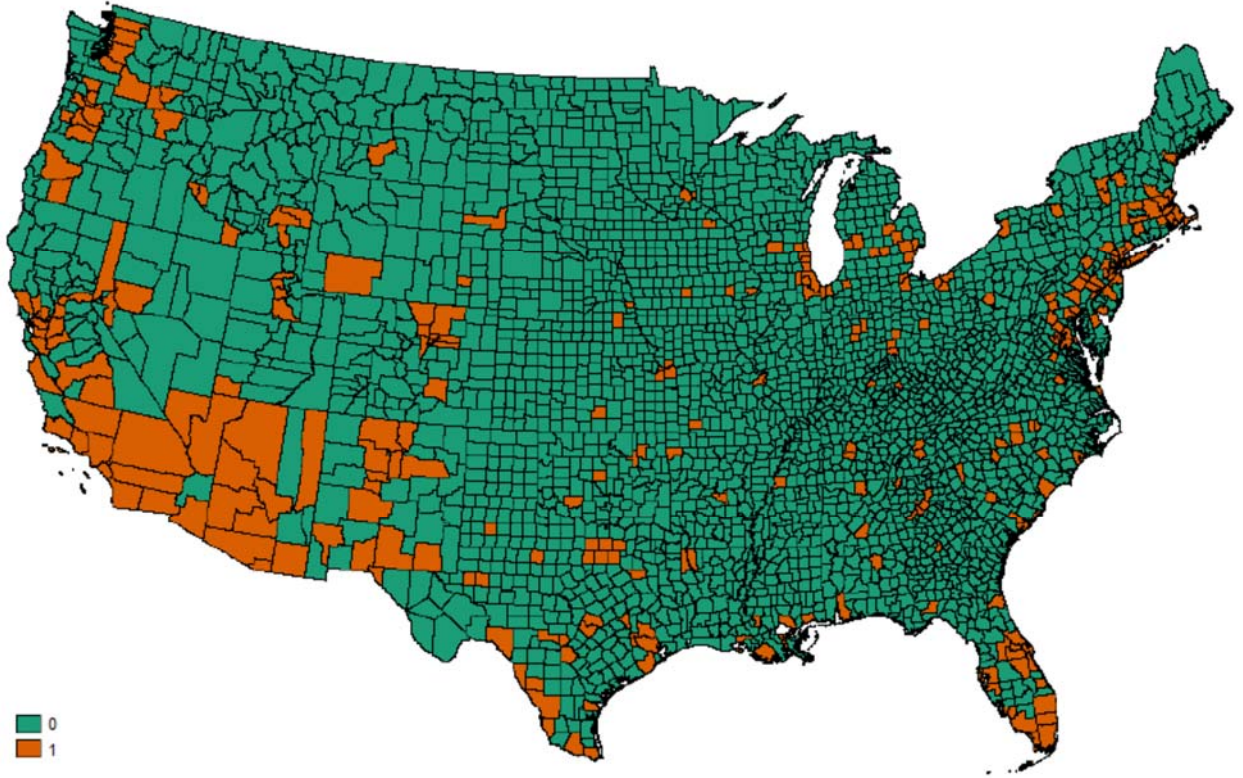
Notes: 0 (green) means a county was not included in the study; 1 (orange) means county was included in the study.

APPENDIX B

Mean, Standard Deviation, Number of Observation and Results of a Means Comparison Test by Study Inclusion

	County Included in Study Sample			County not Included in Study Sample			
	Mean	SD	n	Mean	SD	n[a]	t-test[b]
Homicide rate (CDC)[c]	5.96	6.05	303	3.69	4.74	2836	-6.31**
Hispanic homicide[c]	8.51	7.27	303	8.12	60.62	2824	-0.32
Immigrant Hispanic homicide[c]	12.71	18.52	303	19.49	342.9	2671	1.01
Homicide rate (UCR)[c]	5.34	5.58	302	3.39	5.05	2639	-5.83**
Robbery rate (UCR)[c]	129.61	122.51	302	31.84	49.29	2639	-13.74**
Percent Hispanic	15.72	18.91	303	5.11	10.59	2838	-9.61**
Percent immigrant Hispanic	5.19	6.54	303	1.45	2.95	2838	-9.85**
Hispanic dissimilarity	35.86	11.32	303	26.53	14.09	2826	-13.29**
Hispanic immigrant dissimilarity	43.35	11.4	303	41.17	19.67	2671	-2.88**
Hispanic isolation	23.73	21.34	303	6.66	11.71	2826	-13.7**
Hispanic immigrant isolation	10.64	9.8	303	2.6	4.24	2671	-14.12**
Hispanic firms per Hispanic[d]	46.2	29.68	303	47.57	28.93	169	0.49
Percent sales by Hispanic firm	2.01	4.88	303	1.7	5.5	144	-0.57
Percent workers in Hispanic firm	3.79	7.44	303	0.97	0.59	32	-6.4**
Immigrant niche count	16.49	8.12	303	6.86	5.18	1767	-19.96**
Percent work in niche	29.12	14.3	303	40.93	19.62	1767	12.5**
Percent low-wage jobs	16.43	3.83	303	19.43	3.55	2838	13.05**
Percent unemployed	5.88	2.57	303	5.81	2.9	2838	-0.44
Percent professionals	34.07	7.11	303	27.87	6.02	2838	-14.62**
Percent female head	11.59	3.31	303	10.02	4.17	2838	-7.68**
Percent high school graduates	81.34	8.06	303	76.96	8.72	2838	-8.93**
Percent below poverty	12.19	6.21	303	14.38	6.55	2838	5.81**

Notes: [a] The n includes all cases that were not included in the study sample and had data for the respective variable.
[b] Independent sample t-test with equality of variance not assumed;
[c] Rate per 100,000 population
[d] Number of Hispanic firms per 1,000 Hispanics county residents.

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APPENDIX C

List of Counties by Form of Immigrant Community Organization

Latino Enclaves (n=56)

Cochise County, Arizona
Santa Cruz County, Arizona
Yuma County, Arizona
Imperial County, California
Kern County, California
Los Angeles County, California
Riverside County, California
San Bernardino County, California
San Francisco County, California
Solano County, California
Tulare County, California
Pueblo County, Colorado
Broward County, Florida
Collier County, Florida
Hillsborough County, Florida
Miami-Dade County, Florida
Monroe County, Florida
Orange County, Florida
Osceola County, Florida
Palm Beach County, Florida
Gwinnett County, Georgia
Montgomery County, Maryland
Hudson County, New Jersey
Bernalillo County, New Mexico
Dona Ana County, New Mexico
Otero County, New Mexico
Rio Arriba County, New Mexico
Sandoval County, New Mexico
San Miguel County, New Mexico
Santa Fe County, New Mexico
Socorro County, New Mexico
Taos County, New Mexico
Valencia County, New Mexico
Bronx County, New York
Kings County, New York
New York County, New York
Queens County, New York
Bexar County, Texas
Brazos County, Texas
Cameron County, Texas

Dimmit County, Texas
Ector County, Texas
El Paso County, Texas
Harris County, Texas
Hidalgo County, Texas
Kerr County, Texas
Maverick County, Texas
Midland County, Texas
Nueces County, Texas
Val Verde County, Texas
Waller County, Texas
Webb County, Texas
Zapata County, Texas
Fairfax County, Virginia
Alexandria city, Virginia
Manassas city, Virginia

Latino Ghettos (n=30)

Gila County, Arizona
Pima County, Arizona
Pinal County, Arizona
Contra Costa County, California
Fresno County, California
Placer County, California
San Joaquin County, California
Stanislaus County, California
Adams County, Colorado
Weld County, Colorado
Hartford County, Connecticut
Will County, Illinois
Lake County, Indiana
Bristol County, Massachusetts
Hampden County, Massachusetts
Plymouth County, Massachusetts
Ottawa County, Michigan
Clark County, Nevada
Washoe County, Nevada
Cumberland County, New Jersey
Erie County, New York
Orange County, New York
Rockland County, New York

Cuyahoga County, Ohio
Lorain County, Ohio
Lehigh County, Pennsylvania
Weber County, Utah
Benton County, Washington
Skagit County, Washington
Yakima County, Washington

Latino Employment Niche (n=28)

Maricopa County, Arizona
Alameda County, California
Monterey County, California
Orange County, California
San Diego County, California
Santa Barbara County, California
Santa Clara County, California
Sonoma County, California
Ventura County, California
Denver County, Colorado
Hall County, Georgia
Whitfield County, Georgia
Canyon County, Idaho
Cook County, Illinois
Kane County, Illinois
Lake County, Illinois
Wyandotte County, Kansas
Suffolk County, Massachusetts
Essex County, New Jersey
Union County, New Jersey
Westchester County, New York
Marion County, Oregon
Providence County, Rhode Island
Dallas County, Texas
Tarrant County, Texas
Travis County, Texas
Arlington County, Virginia
Franklin County, Washington

Middleman Minority (n=40)

Shelby County, Alabama
Apache County, Arizona
Brevard County, Florida
Duval County, Florida
Manatee County, Florida

Pinellas County, Florida
Seminole County, Florida
Madison County, Indiana
Iberia Parish, Louisiana
Jefferson Parish, Louisiana
Orleans Parish, Louisiana
St. Tammany Parish, Louisiana
Terrebonne Parish, Louisiana
Cumberland County, Maine
Baltimore County, Maryland
Calvert County, Maryland
Charles County, Maryland
Frederick County, Maryland
Barnstable County, Massachusetts
Franklin County, Massachusetts
Norfolk County, Massachusetts
Churchill County, Nevada
Bergen County, New Jersey
Nassau County, New York
Saratoga County, New York
Warren County, New York
Hamilton County, Ohio
Medina County, Ohio
Rogers County, Oklahoma
Dorchester County, South Carolina
Blount County, Tennessee
Knox County, Tennessee
Williamson County, Tennessee
Collin County, Texas
Henderson County, Texas
Kendall County, Texas
Montgomery County, Texas
Rutland County, Vermont
Prince William County, Virginia
Spotsylvania County, Virginia

APPENDIX D

Map of the U.S. Counties showing the Location of Latino Enclaves, Niches, Ghettos, Middleman Minority, and Unclassified Counties.
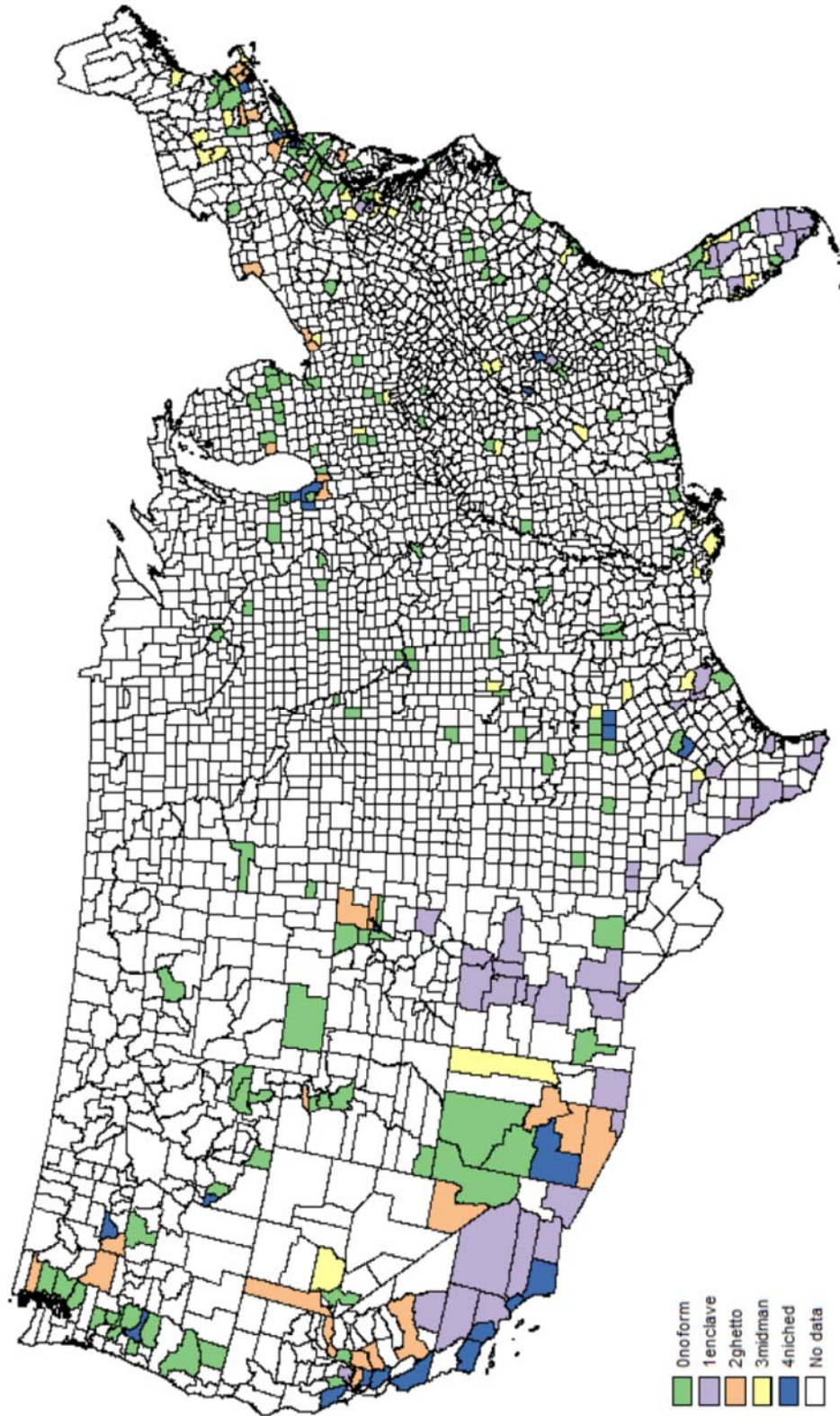
Notes: Unclassified counties are green, Latino enclaves are *violet*, ghettos are orange, middleman minority are yellow, niches are blue, excluded counties are white.

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