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Immigrant-Ethnic Activity Space (IEAS), Ex-Prisoner Concentration, and Recidivism

Prior research measures immigration by only accounting for where immigrants live. We argue that this approach misses the activity spaces of immigrants, which also impact crime but are not always located in their residential communities. The present study uses an alternative definition of immigration—immigrant-ethnic activity space (IEAS)—that accounts for both the residential location and routine activities of immigrants. Additionally, given the crime-reducing effects associated with immigration, including for high-risk populations, we consider whether IEAS protects against reoffending for ex-inmates. Using Cox hazards models, we examine the relationship between IEAS and recidivism across the communities of five ethnic groups. Results show that the IEAS of all groups are inversely associated with recidivism. However, ex-prisoner concentration amplifies the risk for recidivism in the IEAS of some groups.

Over two decades ago, Martinez and Lee (2000) noted that the "latest wave of immigration is likely to have a more significant impact on society than any other social issue [and that the] immigration-crime relationship will be at the center of attempts to make sense of this impact" (p. 487). Their predictions have thus far held true as the 21st century has been defined by historic immigration levels and a growing interest in scholarship examining the effects of immigration on crime. A key theme from this research is that places with more immigrants are associated with lower rates of crime (Ousey & Kubrin, 2018). Indeed, this finding has been so well corroborated that scholars now rely on the immigration revitalization perspective to explain the inverse relationship between immigration and crime (Lee & Martinez, 2009). This framework argues that large or growing immigrant populations breathe new life into previously disadvantaged communities by strengthening social ties and informal social control, which then, reduces crime (Velez, 2009).

Along these lines, scholars have also considered whether the protective benefits of immigrant concentration extend to persons living within these communities with contextual-level studies. The evidence from this body of work reveals that individuals experience a lower risk for crime and victimization if they reside in places with more immigrants (Sampson, Morenoff, & Raudenbush, 2005; Wright & Benson, 2010; Xie & Baumer, 2018). Even more, research shows

that the protective effects of immigration extend to high-risk populations, such as previously adjudicated youth and formerly incarcerated adults (Wolff et al., 2015; Ramos, 2022).

Despite this impressive wealth of knowledge, there are issues that have yet to be addressed in the literature. One issue is that prior research tends to measure immigration by only accounting for where immigrants settle. While this approach is reasonable, it does not account for the activity patterns of foreign-born populations, such as where they work, shop, and attend social events—and most importantly, how these activity patterns influence crime across place (Kim et al., 2019; Jackson et al., 2016). We argue that including the routine activities of immigrants in the conceptual definition of immigration is warranted because these activities do not always occur in the neighborhoods where they reside, but they too have the potential to spur revitalization, higher levels of informal social control, and other characteristics that are essential for curtailing crime. To this end, we use a novel definition of immigration—immigrant-ethnic activity spaces (IEAS)—that accounts for where immigrants live, where they go to conduct their routine activities, and the spatial distance between the two (Kim et al., 2019).

Furthermore, while contextual-level studies have begun to highlight the protective role of immigrant concentration, notably absent from this research is whether the routine activities of immigrants also guard against criminal propensity, especially for justice-involved populations. One prior study by Kim et al. (2019) found that IEAS yielded a larger inverse effect on neighborhood crime than the typical measure of percent foreign-born. In the current study, we build on Kim and colleagues' (2019) work by using their conceptual definition of immigration to examine whether IEAS impacts recidivism among formerly incarcerated individuals in Florida. We do this by accounting for the IEAS of the five largest ethnic groups in the state: Cubans, Haitians, Mexicans, Nicaraguans, and Colombians.

We also consider whether the relationship between IEAS and recidivism is conditioned by the number of previously incarcerated individuals living in the community. One consequence of mass reentry is that many former prisoners return to live in neighborhoods with other previously incarcerated individuals (Morenoff & Harding, 2014; Rose & Clear, 1998). According to scholars, this spatial process exacerbates the already high risk for recidivism because it increases the chances that ex-inmates will reactivate their criminal ties, compete with others for limited resources, and erode both formal and informal sources of social control in the community (Chamberlain & Wallace, 2016; Clear, 2007; Hipp & Yates, 2009). Moreover, research reveals that communities with large numbers of previously incarcerated individuals have higher levels of crime, poverty, residential instability, and other characteristics (e.g., greater demand for resources) that increase recidivism (Kirk, 2015; Morenoff & Harding 2014).

In light of these issues, the present study considers whether the pro-social benefits (e.g., informal social control) associated with immigration dampen the risk for reoffending among returning inmates. Research shows that immigration protects against individual recidivism (Piatkowska & Camacho 2022; Ramos, 2022), but prior work has not considered whether this relationship also applies to the routine activities of immigrants—that is, IEAS—and when there is a large cluster of formerly incarcerated individuals living in the community. We also examine whether these relationships are the same or different across the IEAS measures of five ethnic groups. As such, our study outlines three goals focusing on the relationship between IEAS, ex-prisoner concentration, and recidivism: (1) does IEAS impact recidivism; (2) does the percentage of ex-prisoners in the community moderate the link between IEAS and recidivism; and (3) do these relationships differ across ethnicity?

Immigrant-Ethnic Activity Space (IEAS)

As noted above, one limitation of prior research is that studies only focus on where immigrants live. Although this approach makes sense, it pays little attention to the activity spaces of immigrant groups. We argue that not accounting for the routine activities immigrants is a critical omission because where immigrants reside and where they go to work, shop, and socialize are not always located in the same neighborhood, and thus, mischaracterizes and underrepresents the impacts of immigration across place. To be clear, we are not minimizing or excluding the role of immigrant concentration, but rather, making the case that residential context should be considered in conjunction with immigrant activity spaces to examine how these processes impact crime (Browning & Soller, 2014). Building on this point and the work of Kim and colleagues (2019), we incorporate three characteristics into our conceptual definition of IEAS: (1) the residential location of immigrants; (2) the site of their routine activities; and (3) the spatial distance between the two.

The first component of IEAS captures the settlement patterns of immigrants. While early studies on immigration and crime relied on the tenets of social disorganization theory to explain that immigration disrupted communities in ways (e.g., racial/ethnic heterogeneity, residential mobility) that were conducive to crime, recent work disputes this notion (Lee & Martinez 2009). Contemporary studies find that immigration exerts a null or inverse effect on aggregate crime and that this impact is applicable to numerous offense types (e.g., homicide, robbery, burglary, etc.) and spatial units (e.g., census tract, city, MSA, county) (Ousey & Kubrin, 2018). These findings lend credence to what scholars now refer to as the immigration revitalization perspective. The premise of this argument is that immigrant concentration promotes social organization due to the tendency for immigrants to settle in places with co-ethnics who share a

similar language, culture, and desire for upward mobility and familial norms (Kubrin, 2013; Ousey & Kubrin, 2009). Thus, ethnic communities provide immigrants with a sense of "home" and belonging, which promotes social networks and other institutions (e.g., two-parent households) necessary for effective crime control (Ramey, 2013).

The second component of IEAS captures the routine activities of immigrant groups. In the present study, we use ethnic business ownership to capture the activity spaces of immigrants. Our premise is that immigrants prefer to patronize co-ethnic businesses and shops and that these establishments are often located near cultural and religious centers that also serve as gathering spaces for ethnic groups (Portes & Jensen 1992; Zhou, 2004). More importantly, we argue that immigrant activity spaces can have organizing and pro-social effects on communities, even if they do not reside in these places. Research shows that ethnic businesses are a vital source of employment for immigrants, especially new arrivals, because such jobs do not require English fluency and yield higher wages and greater prospects for upward mobility than what is available in the secondary labor market (Martinez et al., 2004; but see Sanders & Nee 1987). Yet, assuming that immigrants work in the same communities as where they live is misguided. Kim (2009) found that the average work commute time for immigrants was between 26 and 29 minutes, suggesting that many travel outside their residential community for employment. At the same time, a high concentration of ethnic businesses can discourage crime by serving as a hub for immigrants to gather for work, promote social ties, and increase surveillance and guardianship in the community (Kubrin, Kim, & Hipp, 2019; Stansfield, 2014). These ideas align with prior studies on the routine activities of micro places (e.g., census tracts, block groups), which find that while some businesses (e.g., bars, motels) are conducive to crime because of the

services they provide or the clientele they attract, others suppress crime by increasing the social and economic viability of the area (Kim & Hipp, 2022; Papachristos et al., 2011).

Additionally, because activity spaces are places where immigrants gather and socialize, studies show that ethnic businesses strengthen neighborhood institutions (e.g., churches, schools) and other organizations that serve the immigrant population (Portes & Stepick, 1993; Velez, 2009). For instance, Zhou (2014) documents how ethnic entrepreneurship in the Chinese and Korean communities of Los Angeles spurred a plethora of private and nonprofit educational centers (e.g., after-school centers, college preparatory programs) that provide supplementary instruction for co-ethnic youth who live outside the enclave. Moreover, community organizations often rely on ethnic-owned restaurants and businesses to hold events, which serve as spaces for co-ethnics to meet and build social ties. Organizational meetings and events such as these also attract middle-class immigrants from outside the community, thus bolstering social capital and reducing the social isolation of the enclave (Ley, 2008; Zhou, 2014). Finally, criminological research reveals that neighborhood institutions help establish ties between communities and local officials, which increases trust, facilitates the recruitment of external resources, and curtails crime (Bursik & Grasmick, 1993; Lyons et al., 2013; Velez, 2001).

The third and final component of IEAS measures the movement and travel between immigrants' community of residence and their routine activity spaces. We posit that IEAS will have a greater crime-reducing effect when the residential context and activity spaces of immigrants are in the same community or are spatially proximate. The idea here is that immigrants (and residents in general) are more likely to patronize businesses, churches, and cultural centers that are closer to where they live (Briesch et al., 2009). Ethnic businesses are also more likely to grow and prosper when there is a reliable source of customers and employees

who reside nearby (Kim et al., 2019). For these reasons, we include a distance decay function in our operational definition of IEAS to denote the distance between immigrants' residential communities and their daily activity spaces.

Again, our principal argument is that where immigrants reside and where they go to work, shop, and socialize are not always located in the same space. Kim, Hipp, and Kubrin (2019) documented the residential and business locations of seven of the largest immigrant groups in Southern California. They found that less than 50 percent of immigrants reside in census tracts with a high density of ethnic-owned businesses (i.e., at least 10 ethnic businesses), implying that many travel to work, shop, and socialize. There were also notable differences across ethnic groups with 66% of Mexican immigrants and 52% of Chinese immigrants living in high ethnic business neighborhoods. In contrast, about 30% of Koreans, Vietnamese, and Armenians lived in high ethnic business tracts, while only 10% of Filipinos and 3% of Salvadorans did so.

The three components described above are what we use to construct the IEAS measures in the present study. Put simply, communities that function as both the residence and location of immigrant businesses (or where these two factors are spatially proximate) will have a larger IEAS value and are indicative of ethnic enclaves. Conversely, places that encompass only one of these two characteristics will have a lower IEAS, especially if there is a large distance between immigrants' residence and the site of their routine activities. Our operational definition also uses the total residential population and number of ethnic businesses (by ethnicity) to compute the IEAS values for each community. Figure 1 provides a visual illustration of the IEAS measure for Cuban immigrants in Florida. As seen in the figure, the residential areas of Cuban immigrants are somewhat distributed throughout the state, but most tend to reside in South Florida. The next

graph depicts the spatial distribution of Cuban-owned businesses throughout the state. The figure illustrates that most Cuban-owned businesses are in the Miami, FL area, which is consistent with prior research (Logan et al., 2003; Portes & Stepick, 1993; Wilson & Portes, 1980). The final graph denotes the IEAS scores for Cubans in Florida by combining data from the first two figures and calculating the distance between their areas of settlement and the location of their ethnic businesses. The highest IEAS scores are in the urban areas of Miami, Orlando, and Tampa with slightly lower scores appearing in the suburbs of these cities. The latter implies that Cuban immigrants living in the suburbs likely travel to the inner city to patronize Cuban-owned businesses.

Extending IEAS to Recidivism

Contextual-level research reveals that living in an immigrant community is associated with a lower risk for violent offending (Desmond & Kubrin, 2009; Sampson et al., 2005), victimization (Xie & Baumer, 2018), and intimate partner violence (Wright & Benson, 2010). Studies have also considered whether the crime-reducing effects associated with immigration impact justice-involved populations. Wolff and colleagues (2015) found that formerly adjudicated youth in Florida had a 6% lower likelihood of recidivating if they lived in census tracts with more immigrants. In another study, Piatkowska and Camacho (2022) evaluated nearly 30,000 arrest records from the Pinellas County (FL) Sheriff's Office. They found that ex-offenders who resided in communities with higher levels of immigration were significantly less likely to be rearrested. While these studies extend the protective role of immigrant concentration to justice-involved populations, they define immigration by lumping all foreign-born individuals into a single group (i.e., all foreign-born) and only account for where they live. This approach,

therefore, leaves open the question of whether the routine activities of immigrants or IEAS also impact recidivism and whether this effect differs across ethnicity.

Only one prior study has investigated the relationship between IEAS and crime. Kim and colleagues (2019) examined whether the IEAS of seven of the largest immigrant groups in Southern California impact neighborhood crime. They found that across all ethnic groups, IEAS was either inversely associated with aggregate crime rates or yielded no effect. More importantly, in almost all instances, IEAS had a stronger effect on crime than the typical immigration measure of percent foreign-born. This finding suggests that prior studies are likely underestimating the impacts of immigration on crime by not accounting for the activity spaces of immigrant groups, which as noted above, can play a pivotal role in curbing crime.

In the current study, we build on the work of Kim et al. (2019) by expanding their analysis to another context in Florida. Moreover, rather than examining how IEAS impacts crime rates, we investigate whether IEAS reduces recidivism among formerly incarcerated individuals in Florida. Building on the theoretical arguments set forth in the immigration revitalization perspective and our conceptual definition of IEAS, we outline three reasons why IEAS could prevent ex-inmates from recidivating. First, research shows that places with large numbers of immigrant residents and/or ethnic-owned businesses are associated with higher levels of informal social control, which is critical for reducing recidivism (Ousey & Kubrin, 2009; Stansfield, 2014). This line of reasoning is important considering that the typical ex-offender returns to neighborhoods characterized by high disadvantage and other social problems (e.g., residential instability) that impede residents from working together to address issues such as crime (Chamberlain & Wallace, 2016; Morenoff & Harding, 2014). Evidence also shows that immigration decreases crime for non-immigrant groups (Sampson, 2015). Ramos (2022) found

that immigrant concentration reduced the odds of recidivism for White and Black ex-inmates in Florida. Also, Light's (2017) analysis of established and new destination communities from 1990 to 2010 revealed that Latino immigration was inversely associated with homicide victimization for Blacks and Hispanics but had no effect for Whites. Taken together, we argue that IEAS should lessen recidivism because such communities are more likely to sanction deviant behavior due to higher levels of informal social control.

Second, ethnic businesses—a central component of IEAS—may discourage recidivism by providing ex-offenders with employment. Studies show that post-release employment is a robust predictor of recidivism (Berg & Huebner 2011; Kubrin & Stewart, 2006). Yet, finding work is one of the most daunting challenges that previously incarcerated individuals encounter when they reenter society. The difficulty in acquiring employment largely stems from ex-prisoners' poor work histories, their low human capital skills, transportation difficulties, and because of the stigma associated with being labeled as a convicted offender (Bellair & Kowalski, 2011; Pager, 2003). Another barrier is that many inmates return to communities with poor labor market conditions, which also increases recidivism (Wang, Mears, & Bales et al., 2010).

While ethnic businesses typically rely on co-ethnic labor, there is evidence to show that they also hire non-immigrants or those from other racial/ethnic groups (Logan, Alba, & Stults, 2003). Logan, Alba, and Stults (2003) found that the ethnic economy increased the odds of employment and annual earnings for African American males in New York City. Research also shows that immigrants create jobs rather than take them away from native-born Americans (Azoulay et al., 2022; Vigdor, 2013). Vigdor's (2013) analysis reveals that for every 1,000 immigrants living in a county, approximately 46 manufacturing jobs are created or preserved. The link between immigration and manufacturing jobs is critical considering that this

employment sector has been known to hire individuals with prior records and research shows that it reduces reoffending (Bellair & Kowalski, 2011; Wang et al., 2010).

A third reason for how IEAS could reduce recidivism is by expanding neighborhood institutions (due to ethnic businesses) that provide resources and social services to residents, including ex-prisoners. Aside from seeking employment, formerly incarcerated individuals encounter numerous other challenges that have been shown to affect recidivism, such as addressing unresolved substance abuse issues and mental health conditions, locating affordable housing, and acquiring a reliable source of food (Kubrin & Stewart, 2006; Petersilia, 2003). Given the link between immigrant concentration, ethnic-owned businesses, and neighborhood institutions outlined above, we contend that communities with high IEAS should have the organizational networks in place to assist ex-inmates in confronting the challenges of reentry (Ramos, 2022). Communities with higher levels of IEAS may also have the political ties to secure additional resources from government officials, which can then be used to increase the number of social service providers in the area and decrease competition for these resources, both of which have been shown to affect recidivism (Hipp et al., 2010; Wallace, 2015).

Moderating Role of Ex-Prisoner Concentration on IEAS and Recidivism

We also examine whether the percentage of formerly incarcerated individuals living in the community moderates the relationship between IEAS and recidivism. Research shows that the spatial clustering of ex-offenders makes reentry worse by increasing the likelihood that returning inmates associate with criminal others, exacerbating neighborhood conditions (e.g., residential instability, economic disadvantage) that impede informal social control, and placing greater demand on already strained resources (Hipp & Yates 2009). The implication of this spatial process is that former inmates are at a greater risk for recidivism when they return to

communities with a large density of other ex-offenders (Morenoff & Harding 2014). At the same time, studies show there are some neighborhood qualities that dampen the impact of ex-prisoner concentration on recidivism. Chamberlain and Wallace (2016) found that parolees who returned to communities with high concentrations of ex-prisoners were 67% more likely to reoffend than parolees who returned to communities with few to no ex-prisoners. However, the magnitude of this association was weaker in neighborhoods with low levels of residential instability. This suggests that places with high stability are better equipped and have the mechanisms (e.g., informal social control) in place to absorb a large number of former prisoners.

Given the protective role associated with IEAS and immigrant communities more generally, we examine whether ex-prisoner concentration moderates the relationship between IEAS and recidivism. In other words, does IEAS reduce recidivism, even when there is large cluster of formerly incarcerated individuals living in the community? The argument presented above suggests that places with high levels of IEAS may have the social and economic resources needed to promote successful reentry. Moreover, because of the dense social ties and robust networks of social control inherent in immigrant communities, such places may be better equipped to convey expectations and norms that discourage criminal activity and thwart recidivism, even when faced with a large ex-prisoner population. Finally, we consider whether the direct relationship between IEAS and recidivism and the possible moderating effect of ex-prisoner concentration is the same or different across ethnicity. Scholars argue that that the relationship between immigration and crime is not a uniform effect, but rather, differs across ethnic groups due to their varying human capital skills, "contexts of reception," the strength of their ethnic economies, and their political ties in the United States (DiPietro & Bursik, 2012; Kubrin et al., 2018; Tonry, 1997). As such, we test the relationship between IEAS, ex-prisoner

concentration, and recidivism across the five largest ethnic groups in Florida: Cubans, Haitians, Mexicans, Nicaraguans, and Colombians.

Methods

To examine the relationship between IEAS, ex-prisoner concentration, and recidivism, we rely on data from multiple sources. The first data source comes from the Florida Department of Corrections (FDC). The FDC dataset includes information on all offenders who were admitted to a Florida prison after August 1, 2000 and were released between January 1, 2004 and December 31, 2011 (N=250,232). However, because the FDC only tracks ex-offenders who return to live in Florida, cases were omitted if individuals were released to a non-Florida county or did not complete their entire sentence in the state (N=222,657). Cases were also omitted if they were missing information on place of residence or returned to prison for a supervision (conditional release) violation (N=182,466).[1] Additionally, because our contextual-level data come from the U.S. Census' 2009–2013 American Community Survey (ACS) 5-year estimates, we only retain those individuals who were released from prison between 2009 and 2011 to avoid issues with causal ordering (N=73,078).[2] Finally, since some individuals were incarcerated multiple times during the study period, we restrict our analyses to one randomly selected prison stay per person to prevent repeat offenders from unduly influencing the results. In all, the dataset consists of individual- and community-level data for 71,934 unique individuals.

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[1] It is important to note that parole and community supervision are not the same. Florida eliminated its parole system in 1983 and only offenders who committed offenses prior to October 1, 1983 are eligible for parole in the state. Community supervision or conditional release refers to post-prison supervision for inmates who are sentenced for certain violent crimes and who have served a prior felony commitment at a state or federal correctional institution, or who are sentenced as a habitual offender, violent habitual offender, violent career criminal, or court designated sexual predator. Offenders who meet these requirements must be placed on community supervision upon release from prison.

[2] Excluding those individuals who were released from a Florida prison between 2004 and 2008 resulted in a loss of 88,747 cases. However, omitting these cases did not alter our findings (results available upon request). Another reason for only retaining individuals released between 2009 and 2011 is because our ethnic business data from Reference USA is from 2011 and this same year is used to compute the 5-year estimates for the ACS data for 2009-2013.

The majority of the variables included in the dataset had missing cases of less than 1%. However, some variables had a much larger degree of missingness, such as education (4%), employment (10%), and marital status (35%). Rather than omit these cases, we implemented multiple imputation to address the missing data using chained equations with the *mim suite* package in Stata 17 (StataCorp, 2021). Specifically, we created 10 imputed datasets using all individual-level variables and our outcome measure. Estimates for our results were then calculated using Rubin's rules (1987).[3]

Dependent Variable: Recidivism

We define recidivism as the number of months between release and reimprisonment for a new felony offense. We created our measure by first accounting for whether a subject recidivated (i.e., failed), and second, the number of months until failure. Accounting for time to recidivism is preferable over measures that rely on censored data (e.g., recidivism within three years) because it can account for a larger proportion of offending and is less likely to be affected by time delays in the criminal justice system (Bellair & Kowalski, 2011). Individuals were followed until the end of the calendar year in 2015, which means that cases could have a maximum time at risk of four to six years depending on their release date. Overall, subjects spent an average time at risk of 52 months, with 40% recidivating after a mean of 30 months.[4]

Independent Variables

For our main independent variables, we include the IEAS for the five largest ethnic groups in Florida: Cubans, Haitians, Mexicans, Colombians, and Nicaraguans. To construct the

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[3] The parameter estimates for each relationship were computed by taking the average of all 10 regression coefficients from the imputed datasets, while the standard errors were calculated by combining both the within and between imputation variance (Allison, 2003).

[4] Given the differences in release years or exposure time, we re-ran our analysis with a cut-off of four years or 48 months at risk. The findings were consistent with our original models (results available upon request).

IEAS measures, we combined data on business establishments in 2011 from Reference USA and data on the residential locations of each ethnic group from the U.S. Census' 2009–2013 American Community Survey (ACS) 5-year estimates. We used the last names of business owners to identify the ethnicity of businesses. Specifically, we cross-referenced the names of business owners with the website http://forebears.io/surnames, which identifies the country where a given surname is most prevalent. The entire process enabled us to classify the ethnicity of the business firms. We then aggregated the counts of businesses for each ethnic group at the zip code level.

Following Kim et al. (2019), we constructed the IEAS measures by combining the number of ethnic businesses and immigrant population for each ethnic group:

$$E_{ij} = \sum_{k=1}^{K} \frac{p_{ij} \cdot b_{ik}}{(p_{ij} + b_{ik})} \cdot \frac{1}{e^{\beta d_{jk}}}$$

where, E_{ij} refers to the IEAS index for ethnic group i, for zip code j, p_{ij} represents the number of immigrants for ethnic group i in zip code j, while b_{ik} is the number of ethnic businesses for ethnic group i in zip code k, and d_{jk} is the Euclidean distance between zip code j and k. We added an exponential decay function of distance between the focal zip code i and all other zip codes (K) in the study area to incorporate the potential pattern that immigrants are more likely to visit ethnic businesses closer to their residential areas. We then computed z-scores of E_{ij} to standardize the values of the IEAS index. In all, IEAS measures were computed for 944 zip codes, which represent the total number of communities that the individuals in the sample returned to. Each zip code had an average of 199 individuals with a range of 1 to 1,091.

It is important to note that ethnic groups can share the same spaces—whether it is their residential communities, the location of their ethnic businesses, or both. For this reason, we

calculate an IEAS measure for each ethnic group. Additionally, we found that there was a large degree of overlap in the IEAS of the Latino groups. The correlation coefficients for Cuban, Mexican, Nicaraguan, and Colombian IEAS were at least .88. This finding is not surprising given that these groups share a common language and culture, and in some cases, similar migration motives. Portes and Stepick (1993), for instance, describe how Nicaraguan immigrants escaping their country's civil war during the 1980s were openly embraced by Miami's Cuban population considering that both groups migrated to the United States to escape communism in their home countries. As a result, many early Nicaraguan immigrants settled in the Cuban community of Little Havana and later established their own enclave 10 miles west in Sweetwater, FL.

Control Variables

We also control for factors that may influence the relationship between IEAS and recidivism. At the individual level, we control for gender, age at release, race/ethnicity (Non-Hispanic White, Non-Hispanic Black, Hispanic, other), count of prior felony convictions, by general offense (violent, property, drugs, other offenses), count of current felony convictions that led to the prison term, by specific offense (murder/manslaughter, robbery, sexual, other violent, burglary, other property, drugs, weapons, other), sentenced as a "habitual offender" in Florida, number of disciplinary infractions, number of prior supervision violations, number of prior prison commitments, marital status, employment status, education, and number of prison visits.

At the community level, we control for economic disadvantage, residential instability, percent young males (logged), percent manufacturing (logged), racial diversity, and ex-prisoner concentration. Community disadvantage is calculated using the following five variables: percent of the zip code population that is 16 years and older and not in the labor force, percent of

households receiving public assistance, percent of families living below the poverty level,

percent of the population 25 years and older with no high school diploma, and percent female-

headed households. Factor analysis revealed that these measures loaded on a single factor with

an eigenvalue of 3.06 and loadings above .64. The measures were standardized and combined to

form an additive index of disadvantage (α=.86). Next, a residential instability measure was

created by accounting for the percentage of the population that is renting and who moved within

the last year. Factor analysis indicated that percent rent and percent moved loaded on a single

factor with an eigenvalue of 1.43 and a loading above .84. These variables were also

standardized and combined to form an additive index of residential instability (α=.73). Measures

for both indexes are taken from the U.S. Census' 2009–2013 American Community Survey

(ACS) 5-year estimates.

We also accounted for percentage of the zip code population comprised of young males

(15-34 years) and who work in the manufacturing sector. Given the skewness in these measures,

we use the log transformation of both variables. Further, following prior research (Houser,

McCord, & Nicholson, 2018), we also included an indicator of racial diversity in each zip code

using Blau's (1977) formula:

$$1 - \left(\sum_{1}^{m} (p_m^2) \right)$$

where m represents each racial group for a given p or zip code. For every zip code, the

proportion for each racial group is squared, summed, and then subtracted from 1. Scores near 0

represent more homogenous zip codes, whereas a score closer to 1 denotes greater racial/ethnic

heterogeneity. Finally, ex-prisoner concentration was calculated by taking the sum of ex-inmates who returned to the community within the release period (i.e., 2009-2011) and dividing this figure by the total zip code population, then multiplying by 100.[5]

Analytic Plan

Cox proportional hazards models are estimated to examine the effects of IEAS and ex-prisoner concentration on recidivism. Cox proportional models have been widely used in recidivism studies and are preferred over other event history techniques because they make no assumptions about the underlying distribution of the hazards function (Berg & Huebner, 2011; Hipp et al., 2010). The benefit of Cox proportional models versus other regression analyses (e.g., logistic) is that they account for both the occurrence and timing of an event (i.e., recidivism), while also weighting cases according to their time at risk (Hosmer & Lemeshow, 1999). Cox proportional models also allow for community- and individual-level measures to be estimated simultaneously (Chamberlain & Wallace 2016). Since individuals were nested within zip codes, clustering was used to correct the standard errors of the community-level measures. We exponentiated the regression coefficients and present the hazard ratios (HR) in all models, which are similar to odds ratios (OR) in their interpretation.

Results

<Table 1 near here>

Descriptive statistics for all analytical measures are presented in Table 1. Focusing on the IEAS measures (unstandardized), Table 1 reveals that the values are highest for Mexicans (97.87), followed by Colombians (26.61), Cubans (8.29), Haitians (8.35), and Nicaraguans (4.29). To explain these findings, we examined the spatial distribution of the residential and

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[5] Although the ex-prisoner concentration measure does not capture the total number of former inmates living in the community, it should be an accurate indicator of the level of incarceration in each zip code.

business locations for all five ethnic groups (results not shown but available upon request). The results from these figures reveal that while Mexican immigrants are the fourth most populous group in the state (after Cubans, Haitians, and Colombians), they tend to be more dispersed throughout Florida (counted across a larger number of zip codes in the state) and have the highest number of ethnic businesses. In contrast, Nicaraguans have the smallest population and fewest number of ethnic-owned businesses in Florida.

<Table 2 near here>

Next, we present the correlation coefficients between percent immigrants in the zip code, number of ethnic businesses, and the IEAS measures for all five ethnic groups, separately. For brevity, we focus on the overlap between the residential location and ethnic businesses for each group considering that one of the primary arguments of this paper is that these two characteristics are not always situated in the same community. As seen in Table 2, the correlation values between percent immigrants and number of ethnic businesses vary considerably across groups with the highest overlap occurring for Haitians (.71) and Cubans (.68), followed by Colombians (.50), Nicaraguans (.26), and Mexicans (.11). Hence, although Mexican immigrants have the highest IEAS score (principally driven by their disbursement across Florida and high ethnic business count), they tend to live further away from the communities where they conduct their routine activities. These results are consistent with those found by Kim et al. (2019) noted earlier, illustrating that immigrants often do leave their residential communities to engage in their routine activities and that there are differences across ethnicity. Moreover, the findings show that by only accounting for where immigrants live, we are missing out on how the activity spaces of immigrants impact crime.

<Table 3 near here>

The primary objective of this study is to examine whether the activity spaces of immigrants reduce reoffending. We argue that our conceptual measure of immigration—IEAS—could impede recidivism by providing previously incarcerated individuals with a more favorable and resource-rich environment to promote successful reentry. We test these ideas using the estimates from our Cox proportional hazards models in Table 3 (with ex-prisoner concentration omitted). For ease of interpretation, the IEAS measures for all five ethnic groups are standardized and presented separately. Consistent with our arguments, the results reveal that the IEAS for each ethnic group is negatively and significantly associated with recidivism. This suggests that ex-inmates who return to communities with high levels of IEAS have a lower hazard for recidivism than those who return to communities with lower levels of IEAS, net of controls. When comparing the hazard ratios across our five IEAS measures, we see that they all have similar effect sizes. In general, for every one standard deviation increase in IEAS, the hazard risk for recidivism decreases by 6-8%, a modest impact overall.

<Figure 2 near here>

To illustrate these effects, Figure 2 displays survival curves for individuals returning to communities across three classifications of Haitian IEAS (largest effect): low (-2σ), average (X̄), and high (+2σ). As seen in Figure 2, individuals from all three groups display a similar hazard for recidivism upon release. However, after 24 months or two years, differences in survival or not recidivating between all three groups begins to diverge. By the end of the study period or 85 months, survival ranges from 63% for those residing in communities with high levels of Haitian IEAS versus 53% for those living in places with low levels of Haitian IEAS.

Turning to the control variables, the results in Table 3 are consistent with those found in other studies on recidivism (Piatkowska & Camacho, 2022, Ramos & Wenger, 2020).

Specifically, males, Black, having a current conviction for other offenses, "habitual offenders," and those with more prior prison commitments or prior supervision violations displayed higher hazard odds of recidivism. In contrast, being older at release, Hispanic, foreign-born, employed, married, having a higher level of education, receiving more prison visits, having a current conviction for murder/manslaughter, sexual assault, or other violent offenses were associated with a lower hazard ratio for recidivating. Interestingly, we found no statistically significant effects for any of the other community-level variables (though the effects for percent young males and racial diversity were marginally significant ($p <.10$)).[6]

<Table 4 near here>

The next set of results focus on the possible moderating effects of ex-prisoner concentration on IEAS and recidivism. To address this issue, Table 4 displays the estimates of the interaction effects between ex-prisoner concentration and IEAS for each ethnic group on recidivism, net of controls. The estimates for the individual- and other community-level covariates are included in the models but omitted from the table since their effects were similar to those identified above. Inspection of the table reveals that ex-prisoner concentration exhibits a significant and positive effect on recidivism across all five models, which is consistent with other research (Chamberlain & Wallace, 2016). Across all models, the results reveal that for every one percent increase in ex-prisoner concentration, the hazard risk for recidivism increases by 3-5%.

Moving on to the results for the interaction terms, we find that only the effect between Nicaraguan IEAS and ex-prisoner concentration is significant, but in the unexpected direction—positive (HR = 1.026; $p <.05$). We made the case that because of the social and economic

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[6] There were other variables (i.e., prior property convictions and current convictions for burglary or other property offenses) that were significantly associated with recidivism, though we do not mention them in the write-up since the hazards ratios (HR) revealed that their effects were not substantially different from zero.

resources associated with IEAS, such places would also discourage recidivism in communities with large clusters of formerly incarcerated offenders. For Nicaraguan IEAS, however, we found that ex-prisoner concentration amplified the risk for recidivism in these areas but yielded no effect for other ethnic groups (the interaction effect between Haitian IEAS and ex-prisoner concentration was significant at the p <.10 level). One possible explanation for these disparate findings is that Nicaraguan IEAS may be less likely than other ethnic enclaves to have the communal structures in place (e.g., informal social control) to attenuate recidivism when there is a large presence of ex-prisoners living in the community. We further discuss these results in the concluding section of the manuscript.

<Figure 3 near here>

To interpret the interaction effect, Figure 3 computes the predicted hazard ratio for recidivism by plotting Nicaraguan IEAS at its mean and ex-prisoner concentration from 0 to 10%. The figure illustrates that when Nicaraguan IEAS is at the mean and the percentage of ex-prisoners in the zip code at 0%, the hazard ratio for recidivating is 31%. However, when percent ex-prisoners increases to 10%, the hazard ratio for recidivating rises to 50%—a 38% increase ((31-50)/31).

<Table 5 near here>

The final set of results evaluate whether there is any empirical justification for including the activity spaces of immigrants in the conceptual definition of immigration. As noted above, our IEAS index accounts for both the residential settlement and number of ethnic businesses for each ethnic group. Thus, our finding that IEAS reduces recidivism may be entirely driven by immigrant concentration and not the activity spaces of these groups. To evaluate this point, Table 5 provides an overview of the effects of the five IEAS measures on recidivism, as well how these

results compare when we only consider the residential location and number of ethnic businesses for each group, separately. As seen in Table 5, both the business and residential trends of all five ethnic groups exert a negative effect on recidivism, though for some measures, these effects were not significant. For example, the residential patterns of Mexican immigrants exert no effect on recidivism, but their ethnic businesses do—which may be explained by this group's high rates of entrepreneurship. More importantly, across nearly all groups, the IEAS measures yielded a stronger inverse effect on recidivism than just residential settlement alone. These results show that ethnic businesses have independent effects on recidivism, and thus, by not capturing the activity spaces of immigrants, prior scholarship is underestimating the true impacts of immigration on crime.

Discussion

Previous scholarship has highlighted the importance of immigration for reducing crime at the individual and community level (Ousey & Kubrin, 2018). However, this work is limited in several ways. First, research often classifies immigration by only accounting for where immigrants live, which omits the activity spaces of this group and its impacts on crime. Second and related to this point, prior research has not considered whether the routine activities of immigrants affect the criminal behavior patterns of residents, especially high-risk populations. The present study addressed these gaps in the literature by investigating the relationship between the IEAS of five ethnic groups and recidivism among ex-inmates released from Florida prisons. Additionally, we examined whether IEAS interacts with the percentage of ex-prisoners living in the community to influence recidivism. The results yielded several important findings.

First, the IEAS indexes for all five ethnic groups were associated with a lower hazard for recidivism. These results support our first research question and lend credence to our argument

that ex-prisoners returning to places with higher levels of IEAS will be less likely to recidivate. We proposed that IEAS impedes recidivism by enhancing community social control and providing ex-offenders with legitimate work opportunities and other essential resources that are critical for decreasing recidivism (Hipp et al., 2010; Kubrin & Stewart, 2006). To this end, our study makes an important contribution to the existing literature by revealing that in addition to where immigrants settle, where they go to work, shop, and engage in leisure activities also matter for predicting levels of criminality such as recidivism. Hence, like prior research examining the effects of immigrant concentration on crime, the activity spaces of immigrants also revitalize communities in ways that reduce offending, even if these communities do not serve as their place of residence. More importantly, our finding that IEAS decreases recidivism highlights the importance of including the activity spaces of immigrants in the conceptual definition of immigration.

Second, consistent with prior research (Chamberlain & Wallace, 2016), we found that the presence of ex-prisoners in the community increased the risk for recidivism. While data limitations preclude us from identifying why this is the case, we did offer some possible explanations, including greater odds of associating with criminal others, increased competition for resources and social services, and diminishing the community's capacity to exert social control (Morenoff & Harding, 2014; Rose & Clear, 1998). Another possible explanation is that large clusters of formerly incarcerated individuals elicit a higher level of supervision from law enforcement, which then, increases the prospect of detection and arrest (Chamberlain & Wallace, 2016; Stahler et al., 2014).

Our study's results also reveal that immigrant communities are not all the same. Although the effects for all five IEAS measures were associated with lower odds of recidivism, when

combined with ex-prisoner density, only the interaction term between Nicaraguan IEAS and percent ex-prisoners was positive and significant. Thus, our study found no evidence to suggest that IEAS dampens the risk for reoffending when there is large cluster of ex-prisoners living in the community. Rather, the opposite was true but only for Nicaraguan communities. High levels of ex-prisoner concentration amplify the risk for recidivism in the IEAS of Nicaraguans, which offers no support for our second research question. When comparing Nicaraguan IEAS to all other groups, we found that Nicaraguans had the smallest immigrant population and fewest number of ethnic businesses in Florida, which likely explains their lowest mean IEAS score when compared to all other groups. This finding is not surprising as the last major wave of migrants from Nicaragua occurred in the 1980s, whereas immigrants from Cuba, Mexico, Haiti, and Columbia have been arriving in United States for decades (Padgett, 2023). Thus, because of their smaller population and weaker ethnic economies, it is possible that Nicaraguan communities lack the protective mechanisms to deter recidivism in places where there is a large presence of formerly incarcerated individuals. This result, too, offers some support for our third research question regarding differences in the effect of immigration on crime across ethnicity.

Our findings also have important policy implications. Given the protective effects associated with immigrant concentration, we echo that call of other scholars that advocate for enacting policies that focus on integrating and welcoming immigrants to the community (Lyons et al., 2013). Examples of such policies include providing newcomers with access to health care, legal services, and state-issued ID cards or driver's licenses. Another recommendation is for law enforcement agencies to implement initiatives that focus on enhancing cooperation and trust with immigrant communities. Research shows that jurisdictions that limit cooperation with federal immigration officials have lower rates of crime because such policies increase trust and the

willingness for immigrants to contact the police when they are witnesses or victims of a crime (Martinez-Schuldt & Martinez, 2021). Another recommendation is to promote policies that foster business and economic development within immigrant communities. Research shows that foreign-born individuals are 80% more likely than the U.S.-born to start a new business, and according to this study and others, ethnic entrepreneurship is associated with less crime (Azoulay et al., 2022; Kim et al., 2019; Stansfield, 2014; but see Kubrin et al., 2019). Examples of ways to foster business growth within ethnic communities, include providing tax breaks to potential immigrant entrepreneurs and opening a local office for cities to assist owners with permit requirements and other relevant information (Ramos, Hernandez, & Shelfer, 2023). Overall, policies that are receptive to newcomers and focus on promoting immigrant entrepreneurship and businesses are more likely to be linked with lower rates of crime and violence (Lyons et al., 2013; Martinez-Schuldt & Martinez, 2021; Stansfield, 2014).

While our research makes an important contribution to the existing literature on immigration and crime, our findings must be interpreted within the context of the study's limitations. First, we restricted our sample to individuals who served time in Florida prisons and were released to a county in the state. Hence, an important task for future research is to examine recidivism among ex-inmates in other states to assess the generalizability of our findings. Second, our operational definition of recidivism is relatively narrow—time to reimprisonment for a new felony offense. While this measure has been used in prior research (Bellair & Kowalski, 2011), we encourage scholars to examine how IEAS impacts recidivism using other operational definitions, especially those that capture earlier stages of the criminal justice process or less serious forms of offending (e.g., rearrest, reconviction for a misdemeanor). Another limitation is that we used zip codes to define communities, which was the smallest level of

aggregation possible in this study. While zip codes have been used in prior recidivism studies (Kirk, 2015; Wallace, 2015), it is possible that the empirical relationships we observed may be different—either in statistical significance, direction, or effect size—if we used smaller aggregates to denote communities (Wenger, 2021).

Furthermore, while we argue that the inverse relationship between IEAS and recidivism is due to higher levels of informal social control and other benefits in these communities, data limitations prevent us from evaluating the intervening processes that mediate this association. It is also possible that other processes may explain our study's findings. For example, the low probability of recidivism associated with living in a community with high IEAS may be due to less police enforcement in such places, not informal social control or any of the other mechanisms identified above. Research shows that immigrant communities have lower rates of crime reporting due to the fear of deportation (Gutierrez & Kirk, 2017). As such, individuals living in places with high IEAS may experience lower odds of recidivism not because of a lack of offending, but because they are less likely to be caught and arrested due to a lower police presence.

Also important, this study did not consider how IEAS impacts recidivism in communities where there is a multitude of ethnic groups in the area. This process is not uncommon in Florida considering that the IEAS scores among all Latino groups had a correlation coefficient of at least .88. Thus, communities where several groups share the same space may have a greater deterrent effect on crime due to their stronger ethnic economies, levels of informal social control, and other resources. Future research, therefore, should examine how IEAS impacts crime and recidivism when accounting for the variety ethnic groups that live in an area or that travel to a specific community to engage in their routine activities. Finally, we caution readers to interpret

our findings within the context of the high degree of missingness for marital status and other variables. Although multiple imputation was used to address these missing data, it is unclear whether our results would have differed if there was little to no missingness. As a robustness check, we reran our analyses using listwise deletion. The findings were comparable to our original results (results available upon request).

In closing, our study constitutes a step forward in furthering our understanding of the protective effects of immigration on crime. Results from our study reveal that ex-prisoners returning to communities with higher levels of IEAS are less likely to recidivate. They also show that ethnic enclaves are not all the same as the IEAS for Nicaraguans were less likely to reduce recidivism when there was a large cluster of formerly incarcerated individuals living in the community. Yet, the most important message of this study is that the activity spaces of immigrant groups are not always located in the same space as where they reside, but they too serve as a deterrent for crime. Moving forward, we call on scholars to integrate the routine activities of immigrants into the conceptual definition of immigration, as well as consider other ways (e.g., expanding tax base, strengthened communal institutions) immigrants benefit society and reduce crime.

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Table 1. Descriptive Statistics of Variables

	Mean	SD
Dependent Variable (N=71,934)		
Recidivated	.401	.490
Time to Recidivism (in Months)[a]	51.6	22.3
Individual-Level Variables		
Male	.872	.334
Race		
White	.440	.496
Black	.480	.500
Hispanic	.078	.269
Other Race	.002	.048
Foreign	.022	.146
Age at Release	34.8	11.0
Prior Violent Convictions	.952	2.12
Prior Property Convictions	2.95	6.93
Prior Drug Convictions	1.92	3.58
Prior Other Convictions	.794	1.69
Current Offense		
Murder or Manslaughter	.020	.169
Sexual Assault	.066	.871
Robbery	.103	.480
Other Violent	.279	.739
Burglary	.366	1.21
Other Property	.713	2.51
Drugs	.797	1.53
Weapons	.079	.370
Other	.269	.651
Habitual Offender	.077	.266
Prior Supervision Violations	4.29	4.02
Prior Prison Commitments	.646	1.01
Education	10.5	1.65
Married	.129	.336
Employment	.546	.498
Visitation	4.91	7.31
Community-Level Variables (n=944)		
Cuban IEAS	8.29	19.05
Haitian IEAS	8.35	12.92
Mexican IEAS	97.87	172.04
Nicaraguan IEAS	4.29	8.98
Colombian IEAS	26.61	45.0
Community Disadvantage	0.00	4.16
Residential Instability	0.00	1.89
Percent Young Males	13.61	4.00
Percent Manufacturing	5.61	2.69
Racial Diversity	.37	.151
Prisoner Concentration	.798	.731

SD=standard deviation. a=average time to recidivism for those who recidivated was 30 months.

Table 2. Correlations between Percent Immigrants, Number of Ethnic Businesses, and IEAS by Ethnic Group

		1	2
	Cuba		
1	IEAS Index	1.00	
2	% Immigrants	0.64	1.00
3	# Ethnic Businesses	0.63	0.68
	Haiti		
1	IEAS Index	1.00	
2	% Immigrants	0.56	1.00
3	# Ethnic Businesses	0.61	0.71
	Mexico		
1	IEAS Index	1.00	
2	% Immigrants	0.70	1.00
3	# Ethnic Businesses	0.02	0.11
	Nicaragua		
1	IEAS Index	1.00	
2	% Immigrants	0.32	1.00
3	# Ethnic Businesses	0.69	0.26
	Colombia		
1	IEAS Index	1.00	
2	% Immigrants	0.53	1.00
3	# Ethnic Businesses	0.47	0.50

Table 3. Cox Proportional Hazards Models Predicting the Effect of IEAS on Recidivism

| | Cuba IEAS | | | Haiti IEAS | | | Mexico IEAS | | | Nicaragua IEAS | | | Colombia IEAS | | |
	HR	SE		HR	SE		HR	SE		HR	SE		HR	SE	
Individual Variables															
Male	1.438	.020	**	1.440	.020	**	1.437	.020	**	1.436	.020	**	1.439	.020	**
Race															
Black[a]	1.056	.015	**	1.061	.015	**	1.055	.015	**	1.056	.016	**	1.058	.016	**
Hispanic[a]	.865	.025	**	.860	.026	**	.868	.025	**	.864	.025	**	.872	.026	**
Other Race[a]	.763	.147		.761	.147		.765	.147		.762	.147		.763	.148	
Foreign-Born[b]	.749	.053	**	.748	.053	**	.750	.053	**	.746	.053	**	.755	.053	**
Age	.961	.001	**	.961	.001	**	.961	.001	**	.961	.001	**	.961	.001	**
Prior Violent Conv.	.995	.003		.994	.003		.994	.003		.994	.003		.994	.003	
Prior Property Conv.	1.004	.001	**	1.004	.001	**	1.004	.001	**	1.004	.001	**	1.004	.001	**
Prior Drug Conv.	.998	.002		.999	.002		.999	.002		.998	.002		.999	.002	
Prior Other Conv.	1.011	.004	**	1.010	.004	**	1.011	.004	**	1.011	.004	**	1.011	.004	**
Offense															
Murder or Manslaughter	.639	.080	**	.641	.077	**	.637	.077	**	.637	.078	**	.642	.077	**
Sexual Assault	.892	.032	**	.891	.032	**	.892	.032	**	.892	.032	**	.892	.032	*
Robbery	.983	.013		.986	.013		.983	.013		.983	.013		.986	.013	
Other Violent	.976	.010	**	.976	.010	*	.975	.010	**	.975	.010	**	.976	.010	**
Burglary	1.012	.006	*	1.012	.005	*	1.013	.005	*	1.012	.005	*	1.013	.006	*
Other Property	1.013	.002	**	1.013	.002	**	1.013	.002	**	1.013	.002	**	1.013	.002	**
Drugs	1.000	.004		.999	.004		1.000	.004		1.000	.004		1.000	.004	
Weapons	.982	.018		.982	.018		.981	.018		.980	.018		.982	.018	
Other	1.105	.009	**	1.103	.009	**	1.104	.009	**	1.104	.009	**	1.104	.009	**
Habitual Offender	1.126	.024	**	1.133	.025	**	1.122	.024	**	1.126	.025	**	1.136	.024	**
Prior Supervision Viol.	1.026	.002	**	1.025	.002	**	1.026	.002	**	1.025	.002	**	1.025	.002	**
Prior Prison Comm.	1.294	.008	**	1.300	.007	**	1.300	.008	**	1.300	.008	**	1.300	.008	**
Married	.953	.025		.953	.025		.953	.025		.953	.025		.953	.025	
Employment Status	.887	.013	**	.886	.013	**	.887	.013	**	.887	.013	**	.886	.013	**
Education	.961	.004	**	.961	.004	**	.961	.004	**	.961	.004	**	.961	.004	**
Visitation	.984	.001	**	.984	.001	**	.984	.000	**	.984	.001	**	.984	.001	**
Community Variables															
Cuba IEAS	.941	.010	**												
Haiti IEAS				.923	.009	**									
Mexico IEAS							.939	.013	**						
Nicaragua IEAS										.943	.016	**			
Colombia IEAS													.929	.010	**
Disadvantage	.999	.002		1.000	.002		.999	.002		1.000	.002		.999	.002	
Residential Instability	.997	.005		1.000	.005		.998	.005		.996	.005		1.000	.005	
Young Males	1.045	.037		1.027	.036		1.038	.037		1.042	.037		1.022	.036	
Manufacturing	1.022	.020		1.015	.019		1.026	.020		1.02	.020		1.037	.020	
Racial Diversity	.887	.070		.941	.069		.909	.071		.902	.071		.904	.071	

Note: HR=Hazard ratio; SE=standard error. N=71,934 individuals nested within 944 zip codes.

*p < .05, **p < .01.

Table 4. Cox Proportional Hazards Models Predicting the Effect of IEAS, Ex-Prisoner Concentration, and Multiplicative Terms on Recidivism

	Cuba IEAS			Haiti IEAS			Mexico IEAS			Nicaragua IEAS			Colombia IEAS		
	HR	SE		HR	SE		HR	SE		HR	SE		HR	SE	
Cuba IEAS	.943	.014	**												
Haiti IEAS				.918	.012	**									
Mexico IEAS							.940	.015	**						
Nicaragua IEAS										.934	.015	**			
Colombia IEAS													.932	.013	**
Ex-Prisoner Concentration	1.044	.014	**	1.046	.014	**	1.044	.014	**	1.047	.016	**	1.036	.014	*
Multiplicative Terms															
Cuba IEAS x Prisoner Density	1.010	.016													
Haiti IEAS x Prisoner Density				1.051	.013										
Mexico IEAS x Prisoner Density							1.021	.015							
Nicaragua IEAS x Prisoner Density										1.026	.010	*			
Colombia IEAS x Prisoner Density													1.008	.015	

Note: Analyses include all individual- and community-level controls. HR=Hazard ratio; SE=standard error. N=71,934 individuals nested within 944 zip codes.
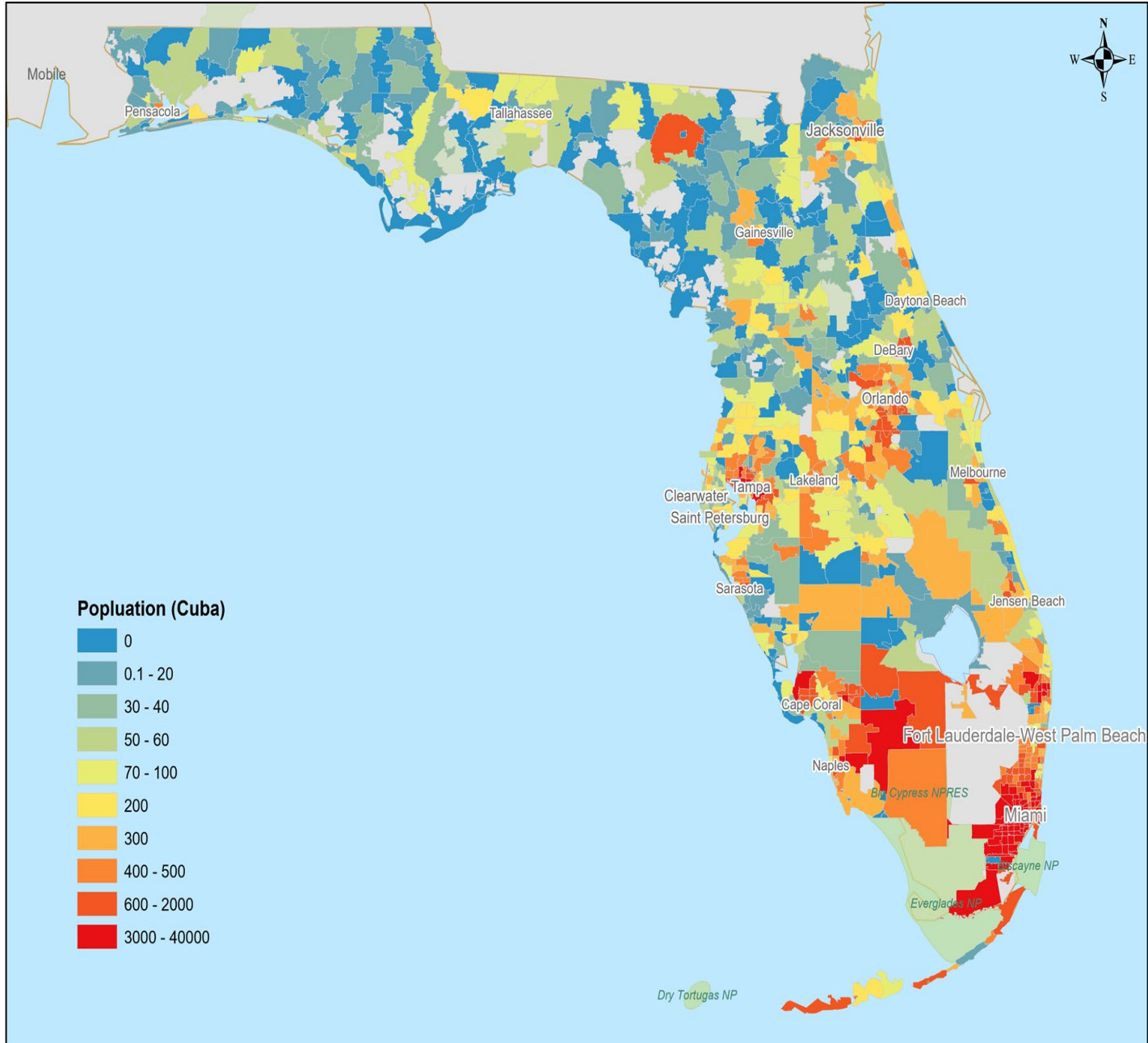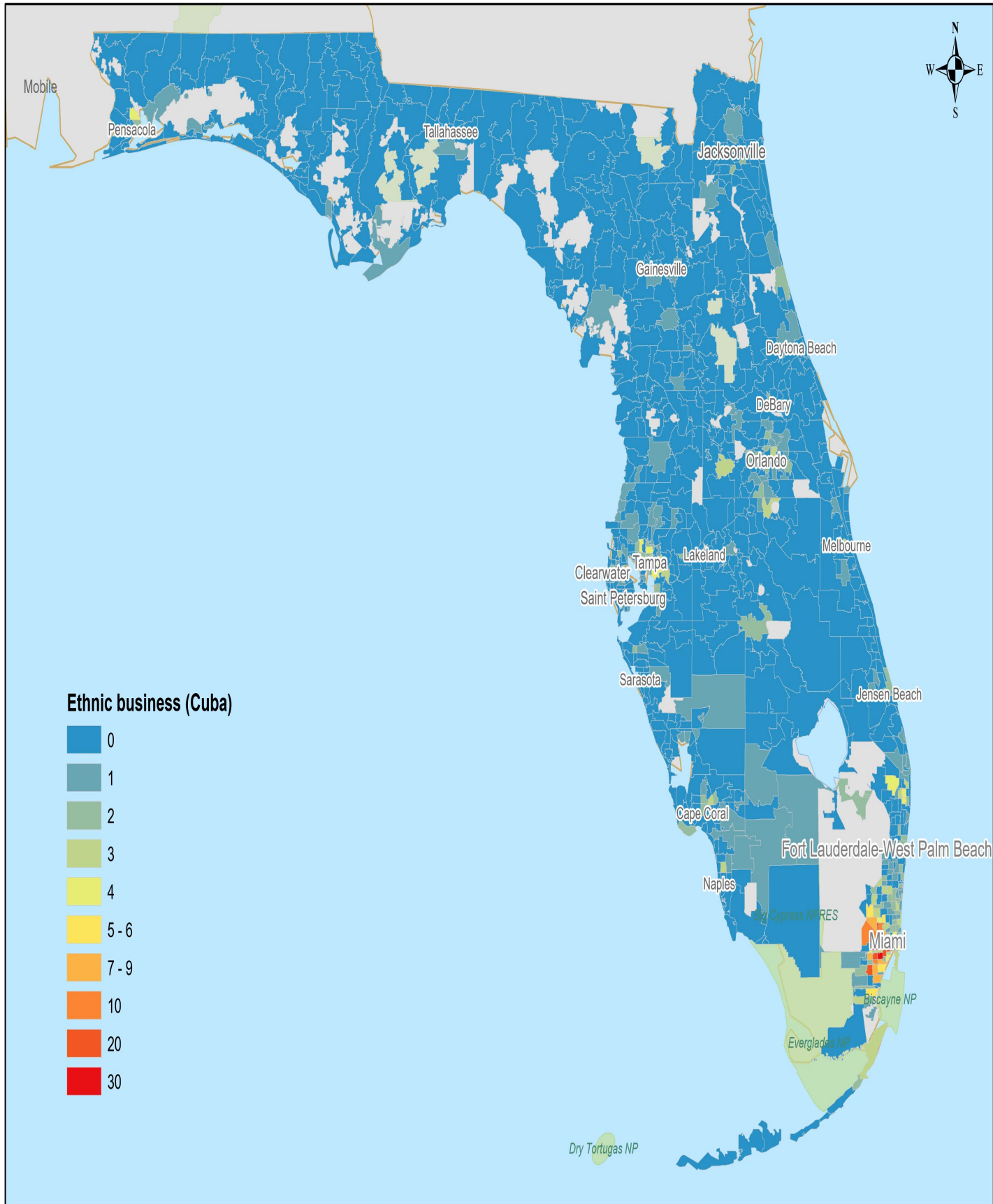
*p < .05, **p < .01.

Table 5. Standardized Coefficients for Various Conceptual Definitions of Immigration on Recidivism

	HR	SE	
Cuba			
IEAS (Combined)	.943	.014	**
Residential Population	.979	.009	*
Ethnic Businesses	.981	.010	
Haiti			
IEAS (Combined)	.918	.019	**
Residential Population	.941	.010	**
Ethnic Businesses	.968	.009	**
Mexico			
IEAS (Combined)	.940	.015	**
Residential Population	.995	.008	
Ethnic Businesses	.972	.010	**
Nicaragua			
IEAS (Combined)	.934	.016	**
Residential Population	.975	.012	*
Ethnic Businesses	.977	.008	**
Colombia			
IEAS (Combined)	.932	.010	**
Residential Population	.945	.010	**
Ethnic Businesses	.981	.009	*

Note: Analyses include all individual-level controls. All immigration measures are standardized. HR=hazard ratio; SE=standard error. N=71,934 individuals nested within 944 zip codes.
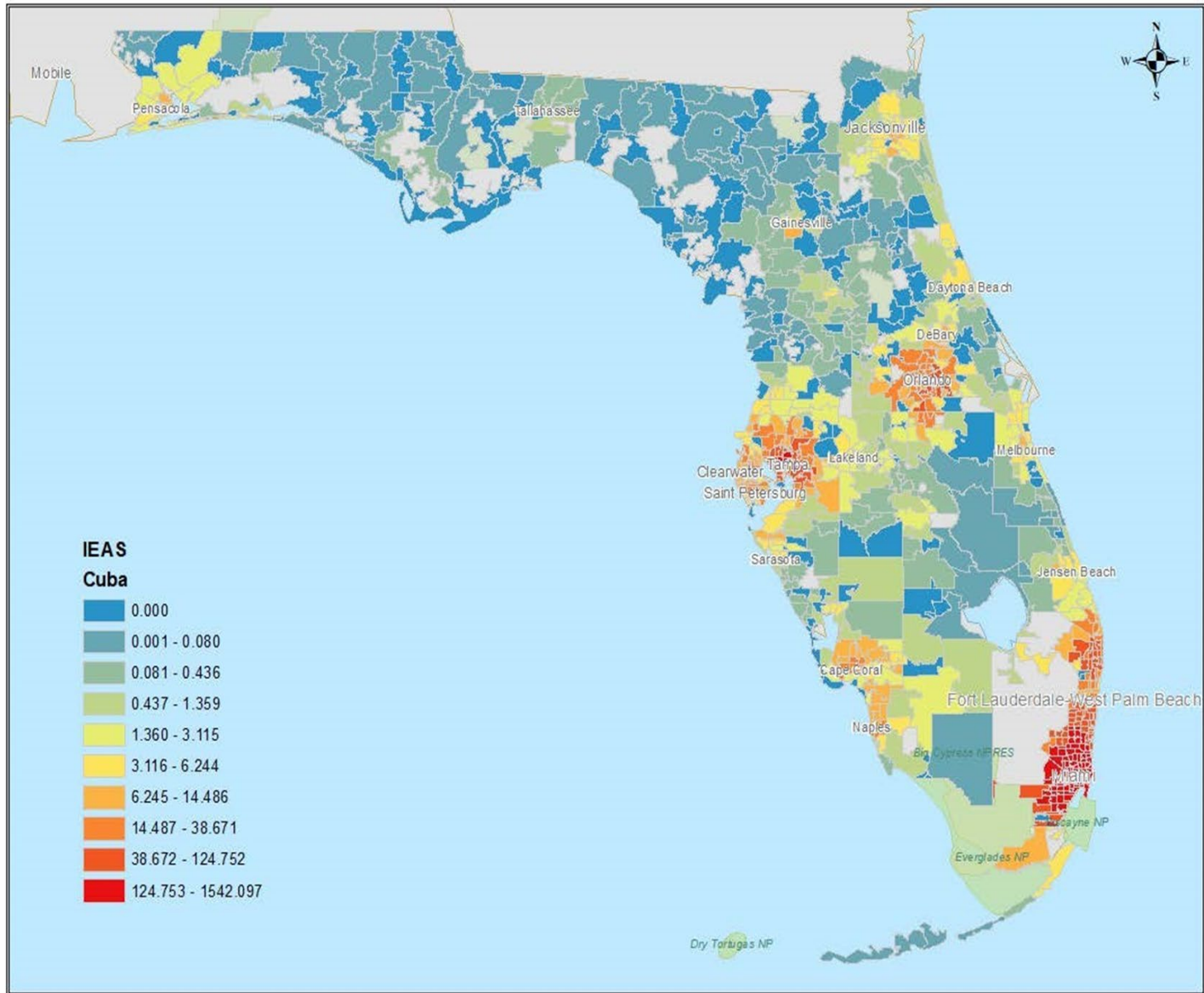
*$p < .05$, **$p < .01$.

Poplulation (Cuba)

- 0
- 0.1 - 20
- 30 - 40
- 50 - 60
- 70 - 100
- 200
- 300
- 400 - 500
- 600 - 2000
- 3000 - 40000

Ethnic business (Cuba)

- 0
- 1
- 2
- 3
- 4
- 5 - 6
- 7 - 9
- 10
- 20
- 30

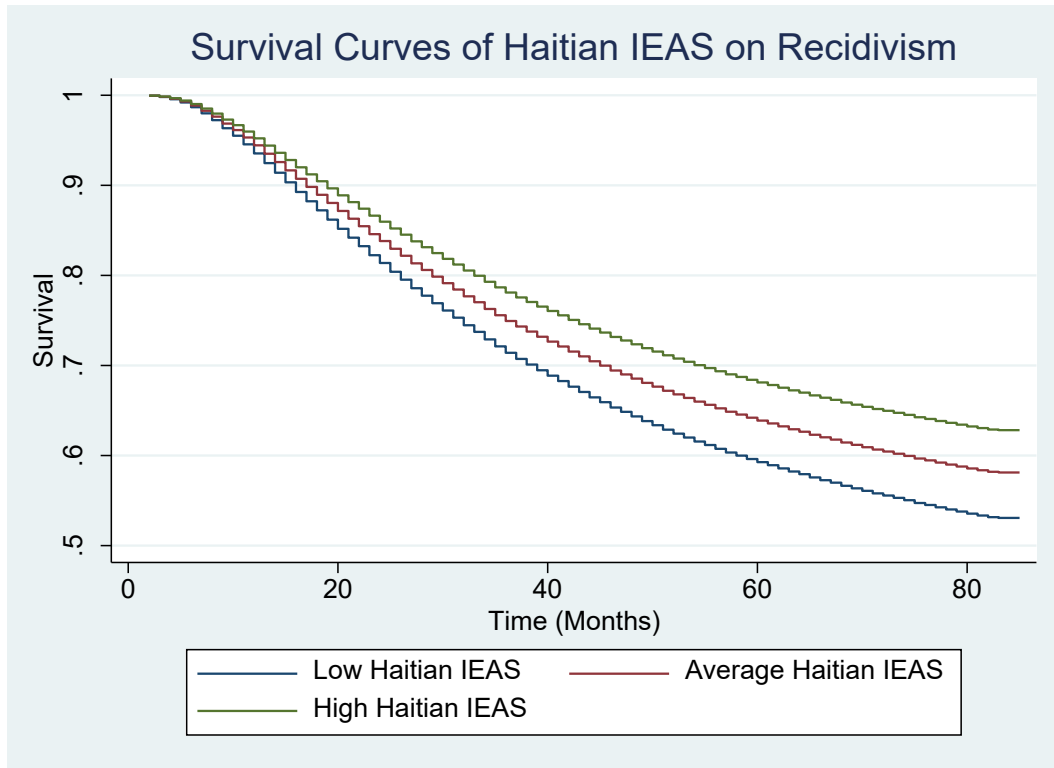**Figure 1. Immigrant Population, Number of Ethnic Business and Immigrant Activity Space (Cuban).**

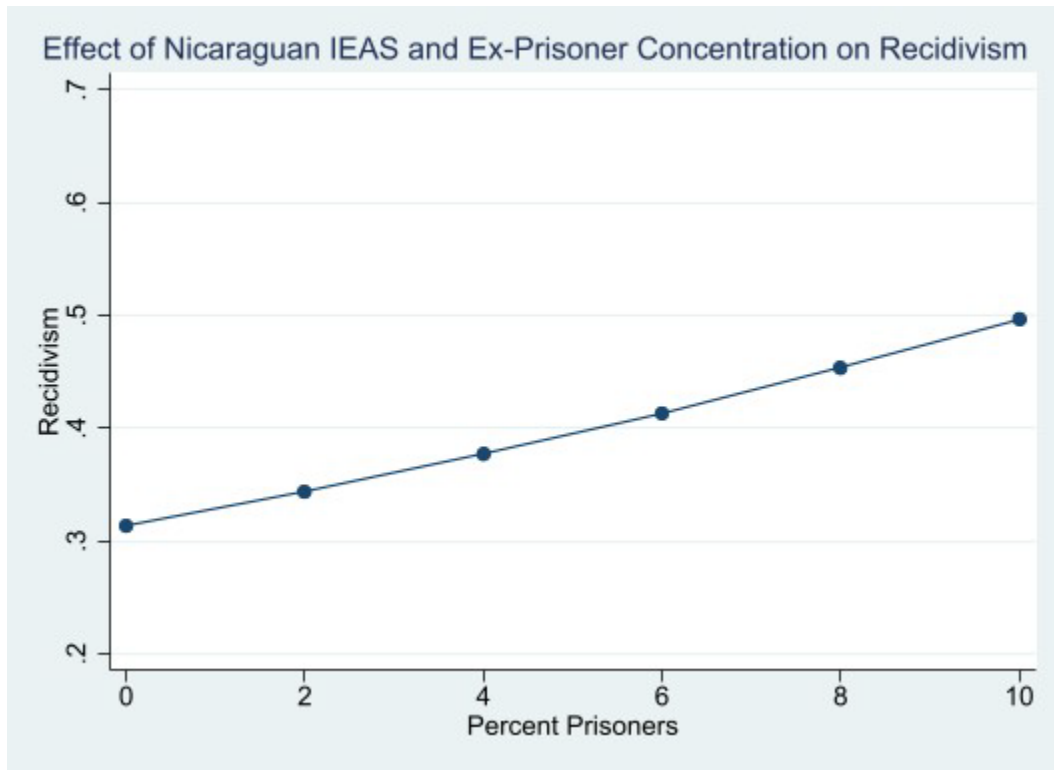**Figure 2. Survival Curves of the Effect of Haitian IEAS on Recidivism**

Figure 3. Interaction Effect of Nicaraguan IEAS and Ex-Prisoner Concentration on Recidivism