The Influence of Age at Migration on Criminal Offending Among Foreign-Born Immigrants

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The Influence of Age at Migration on Criminal Offending Among Foreign-Born Immigrants

by

Omar Melchor-Ayala

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
Sociology

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ABSTRACT

Domestic and international events—such as the recent migrant caravans from Central and South America, and the records number of migrant children detained at the border—have brought renewed attention to the adaptation of immigrants in the United States. More specifically, questions regarding whether the population of immigrants is driving the ‘crime problem,’ have taken center stage (Light 2017). Immigrants vary significantly in terms of when they migrate into the country. According to the Current Population Survey (CPS) (2012), the population of approximately 12 million foreign-born immigrant children living in the United States is split in terms of their age and developmental stage at arrival (40% arrived during early childhood; 30% during middle childhood; 30% during adolescence). Although previous research has found support for the influential nature of age at migration in explaining other adaptation outcomes such as mental health, language acquisition, educational attainment, and occupational attainment (see for instance Beck, Corak, and Tienda 2012; Clarke 2018; Myers, Gao, and Emeka 2009; Oropesa and Landale 1997), age at migration in the context of criminal offending has received little attention. It is important to understand how age at migration increases or decreases the likelihood for immigrants to engage in crime. A better understanding of the relationship between age at migration and offending can inform not only immigration policies and policies related to the control of crime, but also policies related to immigrant-receiving institutions such as schools and social services.

Using data from The National Longitudinal Survey of Youth 1997 (NLSY97), the current dissertation aims to fill this gap by exploring the influence of age at migration on criminal offending among foreign-born immigrants who migrated prior to adulthood.
Using binary logistic regression, the analysis compares the effect of age at migration (i.e. early childhood, middle childhood, or adolescence) on “any crime,” after controlling for theoretically important criminological covariates. Supplemental analyses also consider this effect on specific types of self-reported offending (property, violent, and drug offenses), and among Hispanic foreign-born immigrants—the largest and fastest growing immigrant group in the United States. Given previous research findings pointing to influential nature of age at migration (e.g., those who arrive at young age are more likely to do well in terms of educational and occupational outcomes) and theoretical notions pointing to the salience of age at migration, I hypothesized that statistically significant differences would exist in offending among the age at migration groups.

The overall results of the analysis did not provide support for my hypothesis. More specifically, migrating during early childhood or middle childhood did not differentially affect the odds of offending, relative to migrating in adolescence (the group reporting the lowest level of offending). However, supplemental analyses revealed that age at migration was significant in predicting drug offending (but not property or violent offenses). Compared to those who migrate during adolescence, migrating during early childhood or middle childhood was negatively associated with the odds of drug offending, all other variables constant. In addition to a full discussion of the results, implications of the findings, study limitations, and suggestions for future research are also provided. Lastly, a note is offered on the value of incorporating null results in our understanding of the immigration-crime nexus, and our overall sociological knowledge.
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CHAPTER 1: INTRODUCTION AND STATEMENT OF THE PROBLEM

The Migration Policy Institute reports that in 2014, the population of immigrants and their children in the United States reached more than one quarter of the total population in the country (Zong and Batalova 2017). It is estimated that the children of immigrants—who are either foreign-born or born in the United States to immigrant parents—now account for one-fourth of the nation’s children, and are projected to account for one-third of this population by 2050 (Passel 2011). Among the foreign-born, immigrant children vary significantly in term of their age at migration\(^1\) (i.e. early childhood, mid-childhood, or adolescence). Given the highlighted demographic growth among immigrants, their adaptation outcomes generally, and offending specifically, have become of central concern among politicians, media outlets, and the public alike (Portes, Fernández-Kelly, and Haller 2009). Although empirical work has accumulated over the last several decades to assess the link between criminal offending and immigrant status, this literature has focused almost exclusively on adults, on generational differences between the first and second generation, and on examining the detrimental role of increased assimilation on offending (Garcia Coll and Magnuson 1997; Portes et al. 2009; Portes and Zhou 1993; Rumbaut 1991, 1997).

Investigating whether the distinct ages at which foreign-born immigrant children arrive in the country influence their likelihood for offending has important theoretical,

\(^1\) Distinct age at migration is important in this context because it represents differences in terms of the developmental life stages at migration. This dissertation follows the lead of Rumbaut (2008) and others in using age at migration categories to represent early childhood, middle-childhood, and adolescence, instead of using age as a continuous measure.
empirical, methodological and policy related implications. First, as a theoretical backdrop, Segmented Assimilation Theory and Child Development Theory suggest that age at migration can differentially affect immigrant children. This study will contribute to the literature in this area by investigating the effect of age at migration on offending specifically. Second, it is possible that those who migrate during different ages exhibit important differences in term of variables that predict offending. Measures of control theory and general strain theory are included to estimate the effect of these variables on crime for foreign born and U.S. born respondents. Third, little is known empirically about the 'distribution' of offending among those who migrated during distinct ages before adulthood within the foreign-born population, and whether migrating during certain ages is especially problematic in terms of offending. This work will be an important initial step in addressing this gap. Fourth, in terms of methodology, several scholars have called to restructure the classification of immigrants in research, by using age at migration to construct 'finer-grained' decimal categories rather than the traditional dichotomous distinction between first and second generation (i.e., 1.75, 1.5, and 1.25 generations). Several studies have performed empirical tests of the alternative classification system utilizing other outcome measures (see for example Myers et al. 2009; Oropesa and Landale 1997, 2009; Rumbaut 1991, 2004). This study will contribute to this literature by analyzing differences among the decimal categories in terms of offending. For instance, finding significant differences in offending among the age at migration groups would provide support for using the finer-grade decimal categories. Fourth, if the study finds that migrating during certain ages is especially beneficial or detrimental in terms of offending for instance, the results can inform not only immigration policies and policies
related to the control of crime, but also policies related to immigrant-receiving institutions such as schools and social services. Each of these topics will be discussed in more detail in the upcoming chapters.

Background

Claims regarding a positive association between crime and immigration in the United States have remained pervasive and resilient. Results from nationally representative data sources\(^2\), consistently find that Americans believe that immigration is causally and positively related to crime (Rumbaut et al. 2006). Scholars have pointed to several factors contributing to this perceived link. For instance, the era of mass migration over recent decades has unfolded alongside an era of mass imprisonment. The fact that the majority of adults incarcerated today are males between 18 and 39 years of age—and the fact that this population resembles the majority of labor\(^3\) immigrants today—has contributed to the mythology (Rumbaut et al. 2006; Sampson 2008). Furthermore, the practice of linking crime to immigration has perhaps never been so apparent in politics as in the recent presidential race in 2016. While Donald Trump announced his official intent to pursue the presidency, he gained notoriety for his famous remarks regarding immigrants as problematic and crime ridden. Trump’s now famous quote asserted that “When Mexico sends its people, they’re not sending their best…they’re sending people that have lots of problems, and they’re bringing those problems with us. They’re bringing

\(^2\) See for instance results from the General Social Survey in 2010, which find that a majority of United States residents believe immigration is causally related to crime.

\(^3\) The label is typically applied to the type of young, male immigrants that are attracted by low-skill, low-paying jobs such as those in agriculture and construction.
drugs. They’re bringing crime. They’re rapists. And some, I assume, are good people” (Phillips 2017).

Contrary to popular belief, a wealth of research has been produced and accumulated over the last several decades, overwhelmingly suggesting that the perceived link between immigration and crime is more a mythology than an empirical reality (Ousey and Kubrin 2014; Portes et al. 2009). Research at the macro level finds either a negative or a null relationship between crime rates and concentration of immigrant populations (Bianca E Bersani 2014; M. T. Lee et al. 2001; Reid et al. 2005). Research at the individual and group level arrives at similar conclusions, suggesting that immigrants are at least no more likely to be involved in crime than their native-born counterparts (Bianca E Bersani 2014; Butcher and Piehl 1998; Samaniego and Gonzales 1999).

Immigrants, however, are a not a homogenous group and vary significantly in terms of a variety of factors, including their nationality, race, ethnicity, levels of education, socioeconomic status, and generation for example. Among these variants, research consistently finds that immigrant generation (e.g. 1st generation, 2nd generation) is especially salient in explaining criminal offending patterns among immigrants (Bersani, Loughran, and Piquero 2014; Bui 2009; Chun and Mobley 2014; Gans 1992; Rumbaut et al. 2006). The most notable of these patterns is that offending increases with subsequent generations—where U.S.-born (2nd generation) immigrants offend at higher rates than foreign-born (1st generation) immigrants. Thus, one of the most pressing recent issues in research has been to investigate what accounts for these differences. Scholars have suggested that compared with second or third-generation immigrants and the native-born, first-generation immigrants may possess a more positive frame of reference (Chen
may be more family oriented (DiPietro 2010), and may be less affected by socialization and assimilation in the country (Morenoff and Astor 2006).

As a concept, immigrant generation is important because it represents and captures group differences in experiences, nativity status, and the context in which immigrants or their children are raised and socialized (Rumbaut 2004; Ryder 1985; White Riley 1987). In fact, generational status has been recognized as a key predictor of a multitude of outcomes for immigrants, such as education (Portes et al. 2009), discrimination (Medvedeva 2010; Stone and Han 2004), socioeconomic status (Myers et al. 2009; Portes and Rumbaut 2005; Rumbaut 2005), and offending (Bianca E Bersani 2014; Bersani and DiPietro 2013; Bui 2009; Butcher and Piehl 2006; Rumbaut et al. 2006). Research to date has established that important differences exist among the first and second generation in terms of several factors that influence offending patterns among immigrants—factors such as family cohesion (DiPietro and Cwick 2014), father involvement (Bronte-Tinkew et al. 2006), level of socializing with deviant peers (DiPietro and McGloin 2012), rates of marriage and cohabitation (Bersani and DiPietro 2013), level of conflict among parents and children (Bui 2009), and views and attitudes towards law and the legal system (Orrick, Compofelice, and Piquero 2016) for example.

In research, immigrants are grouped according to generation because of the assumption that there are significant categorical differences among these groups—in terms of the context in which first and second generation immigrants are raised and socialized for example—and that these differences matter for future adaptation outcomes (Oropesa and Landale 1997; Rumbaut 1997, 2004). However, the traditional
categorization dichotomy between first and second generation assumes little variation within each generation. While this may be true for the children of immigrants who are born and socialized in the United States, there is significantly more variation among foreign-born immigrants who migrate into the country at distinct ages, and begin their socialization, assimilation, and adaptation process at very different social contexts in the United States (Bui 2009; Oropesa and Landale 1997; Portes 2003; Rumbaut 1991, 2004).

Ignoring age at migration can potentially alter conclusions about immigrant populations in research. For example, a study by DiPietro and McGloin (2012) considers the role of peer influence on the relationship between offending and generational status. The main argument is that immigrant youth experience less exposure to peer-based criminogenic risks—likely because of greater parental control and family obligations, which in turn reduces their likelihood of offending (713). Although immigrants in general are at least no more likely to engage in offending than the native-born, it is possible that when different generations of immigrants (e.g. 1st vs 2nd) encounter peer-based criminogenic risks, they may be differentially susceptible to them. As Warr (2002) noted, peer influence over behavior peaks during adolescence largely because youth are making attempts to establish their own social identity and independence from parents and family. For adolescents, peer influences take on an exaggerated importance since peers become the primary way to construct identity. This may be further conditioned by immigrant status since immigrant youth often exist as outsiders who struggle to fit in (Gordon 1964; Zhou 1997).

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4 Age at migration and developmental life stage at migration are used interchangeably to refer to the time in an individual’s life when the individual migrated to the United States. Developmental stage at migration refers to a categorization of age at migration based on developmental stages of growth.
DiPietro and McGloin’s study finds that in fact foreign-born immigrant youth are more susceptible to peer-based criminogenic risks than U.S.-born immigrants and the native-born. However, it is entirely possible that this relationship varies within this population according to age at migration. The main premise of DiPietro and McGloin’s study is that immigrant youth experience less exposure to peer-based risks and more parental control and family obligations. Bui (2009), however, finds that youth who migrated when very young and have become assimilated into American ways, are differentially affected by parental controls and family obligations compared with those who arrived in later adolescence. Thus, important differences may exist in this context among immigrants who migrated when they were very young and who have had years to build identity and ‘fit in’, compared to someone who migrated as an adolescent very recently. These differences in experiences and outcomes may be obscured by neglecting the influence of age at arrival.

Research has consistently found that offending increases with subsequent immigrant generation—where U.S.-born (2nd generation) immigrants offend at higher rates than foreign-born (1st generation) immigrants (Bersani 2010). Among those that are foreign-born, research has also established that immigrants who arrived at a very young age offend at higher rates than later arrivals, and at rates that are comparable to U.S.-born immigrants. The most common explanation advanced in theoretical and empirical work examining this relationship is that, similarly to immigrants born in the U.S., immigrants who migrate at an early age\(^5\) are more likely to offend because they had more time to

\(^5\) Across these studies, it is not clear what is meant by migrating ‘at an early age’. For some studies this is conceptualized as migrating within the first few years of life, while others may define it as migrating before adolescence.
socialize, acculturate, and assimilate into the American mainstream than those who migrated later in life (Chen and Zhong 2013; Wortley 2009). Thus, only the influence of level of assimilation is considered as the causal mechanism between immigrant generation and offending. The relative age—typically conceptualized as very young vs older—is regarded only as an indicator of level of assimilation. Age at migration, however, encompasses more than level of exposure or length of stay in the country. Where assimilation aims to measure the absorption level of the American mainstream, age at migration captures the distinct socio-developmental life stages when the assimilation and socialization process began (Oropesa and Landale 1997; Rumbaut 1997, 2004). While the last two decades have produced a wealth of research unpacking the mechanisms by which assimilation influences offending among immigrants, the possible influence of age at migration remains largely unexplored. This dissertation intends to be a first exploratory step in assessing whether the influence of age at migration on offending merits further analysis. Whereas past research has considered the influence of age at migration on adaptations outcomes such as language acquisition (Stevens 1999), occupation (Myers et al. 2009), and education (Beck et al. 2012), this dissertation will add to the literature by considering its influence on self-reported criminal offending specifically, and for all age cohorts from birth to adulthood.

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6 To illustrate, consider three children who migrated at ages 3, 11, and 16. After 10 years in the country, all three have been exposed to the American mainstream, assimilated, and socialized for exactly the same number of years. However, all three began these processes during very distinct ages and socio-developmental stages.

7 The interplay between these factors may influence uniquely shaped assimilation trajectories, and ultimately influence adaptation outcomes such as offending—a larger discussion about these trajectories is presented in the literature review.
Support for The Salience of Age at Migration

Although the literature related to immigrant adaptation and offending has repeatedly suggested the inclusion of age at migration, current theoretical explanations to link age at migration and offending are limited (Beck et al. 2012; Myers et al. 2009). In terms of the relationship between offending and age at migration, the most common explanation advanced in this work is that those who migrate at an early age may be more likely to offend because they are more assimilated into the American mainstream than those who migrate later in life. However, age at migration captures not only level of assimilation and length of exposure to American life, but also the distinct ages and developmental stages and context (e.g. grade in school, labor market) at which this process begins (Oropesa and Landale 1997; Rumbaut 1997, 2004).

At a basic level, the salience of age at migration can be inferred from child development theory, segmented assimilation theory, and Rumbaut’s typology of decimal generations. However, this dissertation hypothesizes that those who migrate during different ages will significantly differ in their rates of offending. Thus, it is possible that these differences in offending are due to differences in predictors of crime exhibited by the distinct age at migration groups (e.g., those who migrate at an early age may be more attached to institutions such as the school than those who arrived later). To control for these possible differences, this dissertation uses measures of control theory and general strain theory—two of the best supported criminological theories to date (Chen and Zhong 2013).
Child development theory

Overall, the child-development framework suggests that migration and integration have the potential to affect children differently than adults. The theory asserts that successful development of children is of crucial importance for children’s overall well-being and adult outcomes (Garcia Coll and Magnuson 1997). This development proceeds through uniquely and differentially sensitive periods. These periods can be distinctively disrupted and affected by different processes such as the initial migration experience, and challenges particular to the migration and adaptation process. The literature to date suggests that age at arrival matters for adaptation outcomes in a way that is generally predicted by child development theory. For instance, the chances of being a high school dropout increase significantly for children who arrive after age eight (Beck et al. 2012); arriving at an early age increases the chances of greater English proficiency (Myers et al. 2009); and arriving before age 12 decreases the chances of reporting heavy alcohol use (Cherpitel et al. 2017).

Segmented assimilation theory

Segmented assimilation theory asserts that contemporary immigrants assimilate and integrate into different modes or segments of society. Therefore, assimilation can be ‘segmented’ and, under certain circumstances, detrimental to immigrants’ mobility and adaptation outcomes (Portes and Zhou 1993, 1996; Rumbaut 2004; Zhou 1997). In support of the theory, research to date finds that in terms of offending for instance, clear differences exist between immigrant generations—where offending is higher for second-generation immigrants than it is for first generation immigrants. Thus, the most important
issue in the last two decades in this area of research has been to determine what factors account for such differences between groups (see for instance Bui 2009; DiPietro 2010; DiPietro and Cwick 2014; Stone and Han 2004). From its inception in 1993, the authors of the theory suggested that, along with other factors, age upon arrival should be among the most important individual-level factors influencing adaptation outcomes among immigrants (Zhou 1997:984). Surprisingly, where factors such levels of education, aspiration, English language proficiency, place of birth, and length of residence in the United States have been extensively studied in research, age upon arrival stands as a notable exception.

**Rumbaut’s theoretical typology**

Aside from those perspectives, Rumbaut (2004) theorized that the context and beginning of the adaptation process for immigrants would differ among foreign-born immigrants according to their age at arrival. Warner and Srole initially referred to this group as the ‘P2’ generation—consisting of those that migrated during early childhood, mid childhood, and adolescence (Warner and Srole 1945). According to Rumbaut, those who arrived in early childhood are pre-school children who retain virtually no memory of their country of birth, were too young to go to school or learn to read and write in their native country, are almost entirely socialized in the United States, and should be close in experiences and outcome to those who are born in the United States. Those who arrived during mid childhood on the other hand, are described by Rumbaut as pre-adolescent, primary-school-age children who have learned or began to learn to read and write in their native language, but the rest of their education is largely completed here.
Those who arrived during adolescence are described as teens who may or may not come with their families, who may only attend a few years of education in the U.S., and who may enter the labor force very soon after arrival. The experiences and adaptive outcomes of this group are hypothesized to be closer to those of first-generation immigrant adults, than to those of U.S.-born immigrants. However, there is potential for high variation within this group (e.g. likely to either go into the workforce, or complete most or all high school education).

**General strain theory**

The broader theoretical framework known as general strain theory (GST), considers the role of micro-level life events as sources of strain (Agnew 2005). These strains may be conducive to antisocial behavior and negative feelings such as anger and depression, which may lead ultimately to criminality. For GST, offending among immigrant could be explained by strains that are particularly tied to the experiences of those immigrants in the United States. For example, foreign-born immigrants may experience educational stress related to their unique position as outsiders in a new school environment. The education of foreign-born children is truncated in their home countries, and they must learn a new language, and quickly adapt to the new school setting in order to succeed (Cortes 2006). Within this context, the time at which immigrant children arrived into the country and began their education in the U.S. may be influential on the level of educational stress experienced (Feliciano and Rumbaut 2005; Portes Alejandro 1996). For example, a child who arrived into the country when very young, may begin his/her education here very early on, and increase his/her chances to learn the language,
to form relationships and bonds with teachers and native-born students, to succeed academically, and therefore to experience less educational strain. Conversely, an immigrant youth who arrived at a much later age, may find it more difficult to fit in into the new school culture, to form bonds with teachers and students, to achieve academically due to language or differences in the educations systems, and to experience more negative feelings conducive to offending. Although this study is limited by the variables available in the NLSY97, several measures of strain will be included in an attempt to isolate the effect of age at migration, and to control for differences in the levels of strain experienced by different age at migration groups.

**Control theory**

Control theory proposes that the process of socialization and learning builds self-control and social bonds, which reduce the inclination to engage in behavior recognized as antisocial (Agnew 2005). For immigrants, the theory would focus on the structures that provide the context for immigrant adaptation and bond creation and maintenance (Chen and Zhong 2013). The importance of the family and the school have been recognized as paramount in creating the social bond (Hirschi 1969; Agnew 2005). Age at migration may matter in this context. For instance, immigrant children who arrive when very young, and who are socialized and acculturated into the U.S. mainstream, may experience what Portes and Rumbaut (2001) coined as dissonant acculturation—a distance in acculturation pace since immigrant children assimilate and acculturate much faster than parents (Portes et al. 2009). This creates situations where the bond to family, and influence of parents on children, becomes weaker. More acculturated children who
arrived very young may stop speaking their home language and develop very individualistic ideas, leading to an overall increase in conflict at home (Portes 1997). Dissonant acculturation may also lead to role reversals—where less acculturated parents become dependent on children. This has the potential to undercut parents’ authority to control their children (Portes 2003).

Both of those scenarios, where conflict increases at home and where parents have less authority over children may ultimately be conducive to an increase in offending among children who arrived into the country at a young age. However, for immigrant children who arrived into the country at a much later age, the processes of dissonant acculturation, increased parent-child conflict, and role reversal may not take place, or they may be largely reduced. It is likely that processes related to bond formation and maintenance operate in similar ways for other institutions such as the school. Thus, this dissertation will include measures related to school attachment, commitment, and involvement in an attempt to isolate the effect of age at migration, and to control for differences in terms of these measures among different age at migration groups.

Statement of the Problem

Foreign-born teens, elementary-age children, and pre-school children are at starkly different ages and life stages at the point of migration and begin their adaptation at very different social contexts (Rumbaut 2004). Scholars in the field have repeatedly suggested that there are theoretically important categorical differences among these age groups (Bui 2009; Portes, Fernández-Kelly, and Haller 2005; Portes and Zhou 1993; Zhou 1997). Despite these theoretical arguments, research exploring the influence of age
at arrival on the adaptation process of immigrants is limited. This is especially the case when it comes to criminal offending research (Myers et al. 2009; Rumbaut 1997, 2004).

Many scholars have pointed to the importance of accounting for age at migration in research, and often highlight it as a limitation of their own work. The salience of age at migration can be inferred from child development theory, segmented assimilation theory, and Rumbaut's decimal generational typology. The typology proposed corresponds to early childhood (0-5), middle childhood (6-12), and adolescence (13-17). Using Rumbaut's age at migration typology, and data from the National Longitudinal Survey of Youth 1997—which contains measures of self-reported offending, and immigrants in all age cohorts from birth to adulthood—this dissertation examines the influencing of age at migration on criminal offending. Although testing segmented assimilation and child development theories goes beyond the scope of this dissertation, control theory and general strain theory measures will be used to control for the effects of these variables on crime, which may vary together with age at migration.

Research Question:

1. Does age at migration (i.e. early childhood, middle childhood, or adolescence) affect the odds of criminal offending among foreign-born immigrants?

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9 The term criminal offending, as used in this dissertation, encapsulates activities which could be classified as either delinquent or criminal, given the age when a participant committed the offence. Questions related to offending used in this dissertation were asked from 2000-2003. Participants ranged in ages 15-20 in 2000, to ages 18-23 in 2003. Thus, the total approximate age range when these activities were committed ranged from ages 15-23.
Organization of Subsequent Chapters

This dissertation is organized into five chapters. Chapter 2, the literature review, describes the contemporary immigrant population and significant shifts in its demography post the 1965 Immigration and Nationality Act. The chapter summarizes the overall adaptation patterns of contemporary immigrants and takes an in-depth look at assimilation and its relationship to immigrant adaptation and criminal offending. The literature review also describes the persistent mythology linking immigration to criminal offending and summarizes the literature on offending among immigrants. Lastly, the chapter provides theoretical support for the possible influence of age at migration on criminal offending.

Chapter 3 presents and describes the data, and methodology used to answer the research question. The data used comes from the National Longitudinal Survey of Youth, 1997. The dependent variable is self-reported criminal offending, collected from 4 interview years. The primary independent variable is age at migration. Important criminological and demographic controls are also included in the analysis. The analytical model used in the primary analysis is binary logistic regression, in order to examine whether age at migration affects the odds of reporting offending, net other controls.

Chapter 4 presents the results. Chapter 5 provides a discussion and conclusion of the study’s findings.
CHAPTER 2: LITERATURE REVIEW AND THEORETICAL BACKGROUND

The Current Wave of Migration: Immigrants Post-1965

In March of 2017, the Migration Policy Institute reported that the population of immigrants in the United States surpassed 42 million—or 13.3 percent of the total population in 2014 (Zong and Batalova 2017). Just between 2013 and 2014 alone, the foreign-born population in the United States increased by 1 million. More importantly, when accounting for not only immigrants, but also their children, the total immigrant population reaches 81 million, or more than one quarter of the total population in the United States.

The dramatic increase in the immigrant population largely stemmed from the post-1965 massive wave of migration, mainly from Latin America and Asian countries. This wave of migration was largely influenced by the Immigration and Nationality Act of 1965, also known as the Hart-Celler Act. This Act sought to eliminate the restrictive and preferential immigration per-country quota system placed in 1921. Thus, the quota system was replaced with a preference system based on immigrants’ family relationships with residents or citizens in the United States (Lichter and Johnson 2009).

In a matter of a few years, the magnitude and demographic profile of the immigrant population in the United States began to transform. For example, the number of lawful permanent residents in the country rose from 297,000 in 1965 to an average of about 1 million each year since the mid-2000s (Chishti, Hispsman, and Ball 2015). Thus, the foreign-born population of the United States rose from 9.6 million in 1965 to approximately 45 million in 2015. The dramatic change was unexpected not only in terms
of numbers, but also in terms of its demographic composition. The Act prioritized entrance to foreigners who already had family members in the country—at the time this meant predominantly Anglo-Saxon European immigrants (Menchaca and Valencia 1990). Instead, demand from Europeans to immigrate to the United States plummeted, while immigration from Asian and Latin American countries rose at the same time (Barajas 2012). This led to a subsequent growth in migration from these countries in later years through family networks migration. While the immigrant stock under the national-origins quota system was almost entirely European, today the largest share comes from Mexico. Together with migration from Central and South America, India, the Philippines, China, and Vietnam, it accounts for over 60 percent of the total immigrant stock in the United States (Chishti et al. 2015).

Aside from the dramatic increases in legal migration, it is estimated that today there are over 11 million unauthorized immigrants living in the United States. In a parallel policy change, the Hart-Cellar Act also laid the foundation for the unprecedented rise in illegal immigration since the 1970s by eliminating the Bracero Program in 1964. The worker guest program brought an estimated 4.6 million temporary agricultural workers from Mexico from 1942 to 1964. When the program was eliminated in 1964, workers and their families continued to immigrate to the U.S. to fill the same jobs, but now illegally. Thus, the 1965 Act combined with the end of the Bracero program fueled the unprecedented numbers of undocumented immigrants.
**Shifts in Immigrant youth population**

The post-1965 massive wave of immigrants has without doubt transformed the country’s overall population, this is most pronounced in the youth population (Sampson 2008). Passel (2011) surveyed demographic trends and projections in the United States youth population by examining data from the Current Population Survey, The Census Bureau, and the Integrated Public Use Microdata Series. By examining shifts in the youth population over the last 100 years and making projections through 2050, his research arrives at two main conclusions. First, it is estimated that the children of immigrants—who are either foreign-born or born in the United States to immigrant parents, now account for one-fourth of the nation’s 75 million children and are projected to account for one-third of this population by 2050 (Passel 2011). Second, the wave of immigration underway since the mid-1960s has made children and youth the most ethnically diverse population in the United States. Where Hispanic, Asian, and mixed-race youth made up approximately 6 percent of all children in the country in 1960, that share is almost 30 percent today.

**Integration among the current immigrant wave**

Given the highlighted demographic trends, understanding immigrant adaptation and integration has become a central focus among scholars (Portes 2003; Portes et al. 2005, 2009; Portes and Rumbaut 2005; Rumbaut 2005). A large body of literature has developed over recent decades to assess the adaptation process of immigrants and their children—termed ‘the new second generation’. Contrary to public opinion, this body of research finds that immigrants overall are successfully adapting and integrating to the
American mainstream, although significant differences exist among ethnic/nationality groups and a minority is being left behind (Portes et al. 2005, 2009; Rumbaut 2005). This trend is perhaps best exemplified when examining educational attainment among immigrants—often highlighted as one of the most significant predictors of economic and social mobility in adulthood (Feliciano and Rumbaut 2005; Rumbaut 2005).

A significant proportion of current research related to the children of immigrants comes from The Children of Immigrants Longitudinal Study (CILS), one of the most robust studies and sources of data analyzing the adaptation of immigrants and their children to date. The study followed the progress of two large samples of foreign and U.S.-born teenage immigrants in San Diego and Florida. The initial survey interviewed 5,262 students enrolled in the eighth and ninth grades. More than 3 years later a second survey of the same group was conducted when youth were in their final years of high school. The final follow-up was conducted when the research subjects averaged 24 years of age. Portes et al. (2005) analyze data from the third CILS Florida Sample to explore the role of several individual and contextual factors on the adaptation of immigrant youth. In terms of educational achievement, their main conclusion is that the children of immigrants are moving ahead educationally, although a significant minority is being left behind.

In short, the last wave of data reveals that on average participants reported having a two-year college education by this age, and that over half of the sample were still in school and likely to achieve even higher education (Portes et al. 2005). Also, the dropout rates were slightly below the average compared to the other corresponding school districts in the area. Moreover, about 1/3 of the participants reported already having
completed a 4-year college education, and about 8.5 percent reported pursuing advance
college degrees (P. 1016). About 16 percent of the participants however reported only
having completed high school. In term of racial/ethnic differences, high school drop outs
ranged from a low of about 3 percent (Colombians and middle-class Cubans) to a high of
about 6 percent (West Indians), indicating that, at least, the children of immigrants are no
more likely than natives to quit school. There is however more variation in terms of those
who have only completed a high school education. Cubans are found to do very well in
this category (8%), while almost a quarter of Nicaraguans are found to only have
completed a high school education (P. 1020). Cubans are also found to have almost a full
year overall advantage in terms of total years of education over everyone else (who
typically center around the mean of 14 years of education).

Aside from findings from CILS, another major source of knowledge on the
adaptation of contemporary immigrants comes from a comprehensive 443-page report
titled ‘The integration of Immigrants into American Society’. The report was published
by The National Academies of Sciences, in commemoration of the 50\textsuperscript{th} anniversary of the
passage of the Immigration Act of 1965. It was prepared over a 15-month period by a
panel of 21 leading scholars in immigration research. The overwhelming conclusion of
the report is that immigrants and their descendants are integrating into U.S. society across
all 18 measurable outcomes used in the study (Waters et al. 2015).

The report finds that as immigrants become integrated and assimilated in terms of
educational attainment, occupational distribution, income, residential integration,
language ability, and living above the poverty line, immigrants also increase their well-
being. Integration however may not always equal well-being. Immigrants for instance
generally come to the United States with better health compared to Americans, but their health declines overtime as they integrate into American society (Pottie et al. 2015). Consistent with Segmental Assimilation theory—the most influential theoretical orientation on the literature related to the adaptation of immigrant children over the last couple of decades—the report also concludes that the well-being of immigrants and their children is highly dependent on immigrant starting points and on the segment of American society into which they integrate (Waters et al. 2015). Within this context, the report highlights criminality as an important outcome where well-being declines as assimilation increases and immigrants converge with native-born Americans. The significance of assimilation, and its salience for immigrant adaptation is discussed below.

**Immigrant Assimilation and Criminal Offending**

Despite the tremendous changes in the composition of the immigrant population over the last century, theoretical explanations of immigrant adaptation, and of criminality more specifically, have traditionally hinged on the concepts of assimilation and acculturation (Bersani et al. 2014; Gans 1992). The direction of influence of the concepts however has changed over time. Where early scholars such as Gordon (1964) advocated for the benefits of assimilation, contemporary scholars such as Portes and Zhou (1996) and Rumbaut (2001) have recast the classic view of assimilation and suggested that assimilation can serve as a catalyst for deleterious behaviors.
**The concept of assimilation**

The meaning and consequences of assimilation have been debated almost since the inception of the term (von Hentig 1945; Portes 1997; Thomas and Znaniecki 1920). Assimilation has been interpreted as an individual process in which an immigrant replaces American cultural values for the values of his/her country (Gordon 1964). Others however have suggested that it is instead a group phenomenon in which immigrants adapt to their new environment (Portes and Zhou 1993; Zhou 1997). The precise meaning of assimilation, however, is still a matter of debate (Morenoff and Astor 2006). Assimilation refers broadly to the process through which ethnic minorities become incorporated into the mainstream culture. The term however has been used interchangeably with acculturation—which is defined as the process of change that occurs when culturally distinct groups and individuals come in contact with another culture (Samaniego and Gonzales 1999).

In the research literature, assimilation has been measured in many different ways, including generational status (Berry et al. 2006; Morenoff and Astor 2006), ethnic group identification and cultural attitudes (Berry et al. 2006; Le and Stockdale 2008), and language use (Schmid 2001). Language use and generational status however have been regarded as the most important indicators of assimilation (Portes 1997; Portes et al. 2009). Aside from how the construct is measured, assimilation has been traditionally assumed to be a linear process, which increases with the degree of immersion to the new society.

The conceptualization of the term can be traced to the work of the Chicago School and Park and colleagues. For the these theorists, assimilation was an inevitable and
desirable outcomes (Bursik 1988). Warner and Srole (1945) however advanced the notion that assimilation was a ‘straight line process’. According to the authors, immigrants willingness to acculturate and seek acceptance of the native-born was directly related to their social and economic advancement (Warner and Srole 1945). Following this notion, Gordon (1964) suggested that assimilation was a multidimensional process, but like Warner and Srole, Gordon assumed that assimilation was a necessary requirement for any advancement, and that generational change was key to the overall assimilation process.

The basic traditional model of intergenerational assimilation used to explain orientations and outcomes of immigrant groups, suggest that first-generation immigrants should face substantial barriers for success (e.g. discrimination, language barriers, low labor market skills) which lowers their chances for economic and social success. The model suggests that these gaps are expected to narrow or disappear for second and third generation immigrants (Alba and Nee 1997; 2003).

**Early theorizing on immigrant criminality**

An explicit theoretical explanation to understand the relationship between crime and immigration is notably absent from the classic perspectives offered by early immigration scholars (Morenoff and Astor 2006). However, the process of migrating to a new country has been viewed traditionally as an overall life-changing and traumatic experience that could impede social and economic advancement (Harker 2001). For early theorists, in order for immigrants to overcome their and marginal position, it was necessary to shed their ethnic characteristics and values. It was presumed that the more ingrained and indistinguishable immigrants became from native-born individuals, the
more likely they were to ascend the American socioeconomic ladder. In other words, it was assumed that crime would be a problem among non-assimilated immigrants. Thus, the earliest explanations of immigrant criminality regard immigrant’s failure to adapt to the structural and economic cultural conditions of their new environment as a primary factor for offending (Miller 1958; Sellin 1938). Conflict theorists, for instance, argued that immigrants’ unique cultural traits could be seen as taboo or even criminal in the United States—conflict resulting from this fact would eventually dissolve as immigrants shed those traits. Likewise, opportunity theorists pointed to limited opportunities for upward mobility and goal blockage experienced by new immigrants as possible determinants of criminality (Cohen 1955; Cullen and Agnew 1998).

Although early theoretical views generally assumed that immigrants (especially those less assimilated) could have a higher propensity for criminal offending, empirical results have generally failed to support those claims (Bianca E Bersani 2014; Ousey and Kubrin 2014; Piquero et al. 2016a; Reid et al. 2005). Those assumptions however, regardless of the lack of empirical backing, have permeated popular, theoretical, and political views on the link between contemporary immigrants and their propensity to engage in criminal offending.

Contemporary Immigration-Crime Link Mythology

Claims regarding a causal relationship between crime and immigration have remained resilient. Scholars have offered several factors that have contributed to the mythology. Aside from pervasive stereotypical images of immigrants as criminals, the
recent wave of migration has coincided with a wave of massive incarceration, and classical criminology and political rhetoric overall continue to support the mythology.

The era of mass migration over recent decades has unfolded alongside an era of mass imprisonment (Ousey and Kubrin 2014; Sampson 2008). The U.S. incarceration rate has become the highest of any industrialized nation in the world over the last few decades (Travis, Western, and Redburn 2014). As previously mentioned, the post-1965 period gave way to massive increase in the number of immigrants coming into the country; and, at approximately the same time, the number of adults incarcerated in federal and state prisons or local jails in the U.S. quadrupled from about 500,000 to 2.2 million in 2005 (Travis et al. 2014). The vast majority of those incarcerated are males between 18 and 39 years of age—a population that resembles the majority of labor immigrants today. The total population of those under correction supervision adds up to approximately 7 million when adding those on parole or probation (Glaze, Kaeble, and Statisticians 2014). In the absence of sufficient rigorous and conclusive empirical research, stereotypes and myths about immigrants and crime often fill in the gap to shape public opinion and political discourse. Not surprisingly then, the public generally believes that immigrants are problematic for the country, and that they are at least partially to blame for social ills such as crime (Rumbaut et al. 2006). Results from the General Social Survey (2010) for instance finds that the majority of the population in the United States believes that immigration is not only causally related to crime, but that immigrants also make it harder to keep jobs, and to keep the country united.

In terms of political behavior, the usefulness of linking crime to immigration—albeit absent empirical support, has perhaps never been so apparent as in the recent
presidential race in 2016. Donald Trump, the official republican presidential candidate at the time, gained notoriety for his now famous remarks suggesting that immigrants were people who have lots of problems with them, and who are rapists and criminals (Presidential announcement speech 2015). The presidential nominee also contended that because of people who had never been allowed to come over the border, crime is going ‘through the roof’ (Campaign rally in California 2016).

The use of immigration and its alleged link to crime are not novel in politics. California’s famous proposition 187 in 1994—which passed with a majority of state wide vote but was later challenged and overturned by a federal court, asserted that California residents suffered economic hardship and personal injury and damage caused by the criminal conduct of illegal aliens (Y. T. Lee, Ottati, and Hussain 2001). Among other things, the measure—targeted mainly at Mexican immigrants—aimed to deprive immigrants of welfare benefits, education, and all but emergency medical care. A study by Lee et al (2001) revealed that prejudice against Mexicans and concern about their threat to American society served as unique predictors of support for proposition 187.

Trump has not been the only presidential candidate to use unfounded claims regarding the immigration-crime link. Newt Gingrich, a former U.S. representative and Republican leader, declared that the ‘war at home’ against illegal immigrants was more deadly than the battlefields of Iraq (Sampson 2008). In 2007 Fred Thompson, former United States presidential candidate and Tennessee senator, asserted that ‘twelve million illegal immigrants later, we are now living in a nation that is beset by people who are suicidal maniacs and want to kill countless innocent men, women, and children’ (The Associated Press 2007). Such views are not limited to congressmen or presidential
candidates and have in fact made their way to the highest political rank. President Bush’s address to the nation on May 2006 asserted that “Illegal immigration puts pressure on public schools and hospitals, strains local budgets, and brings crime to our communities” (Chavez and Provine 2009).

The tendency to link immigrants with disproportionate criminal involvement has been a common tendency, not only in political debate and public discourse, but also in criminological theory. In an integrative review of theoretical explanations Chen and Zhong (2013) assert that because some immigrant groups may exhibit higher levels of disadvantage, classical criminological theories suggest a higher propensity for criminal offending among immigrants. Such explanations include assumptions that link immigrants to: low socioeconomic status; living in highly disorganized communities; experiencing conflicting ‘cultural codes’ between the old and the new; facing insufficient and unequally-distributed legitimate opportunities for success; experiencing different stressors related to the immigrant experience that may lead to crime; and structural barriers that may hinder their collective social integration, as well as their physical and social mobility (Chen and Zhong 2013). Theoretical notions, however, are not necessarily supported by empirical facts. The following section summarizes early and contemporary findings of studies that have focused on the immigration-crime nexus.

Offending Among Immigrants and Immigrant Children: Early Empirical Findings

As described earlier, early theorizing on the connection between migration and crime suggested that the process of assimilation was beneficial to insulate immigrants from criminal offending. However, early empirical work studying the immigrant wave of
the 20th century suggested that assimilation had a negative rather than positive effect on immigrants’ overall well-being, and that locations with high concentrations of immigrants potentially increased levels of social control (Taft 1933). For example, a study by the Industrial Commission in 1901 found that a larger proportion of prisoners were the children of foreign-born white immigrants, who themselves exhibited relatively low levels of crime (Industrial Commision 1901). These reports were further supported by a subsequent study in 1907 which concluded that there was no evidence that foreign immigrants offended at higher rates than the native-born, and that the children of these immigrants appeared to have higher crime rates than their parents (Commission 1907). A couple of decades after this report, the National Commission on Law Enforcement published a full volume examining the perceived immigration-crime connection, expanding seven decades of immigration research. The conclusion of the report supported previous findings, suggesting that immigrants born abroad committed far fewer crimes than the native-born, or their native-born children (Enforcement 1931).

Recent empirical findings on the immigration-crime link

Contrary to public opinion, political rhetoric, and theoretical expectations, but similar to earlier findings, empirical evidence over recent decades examining the relationship between immigration and crime suggests that immigration is not positively related to crime (Polczynski Olson et al. 2009; Rumbaut et al. 2006; Sampson 2008). The majority of this body of research examines macro level patterns assessing the relationship between immigrant concentration and crime rates in cities and neighborhoods (Bianca E Bersani 2014; M. T. Lee et al. 2001; Lee and Martinez 2002; Reid et al. 2005). Instead of
affecting these places by increasing crime, these studies find either a negative or a null relationship between crime rates and the immigrant populations in those areas (Burrington 2015; Feldmeyer 2009; Ousey and Kubrin 2014; Stowell and Martinez Jr 2007). Furthermore, a different body of research focuses on whether or not immigrants themselves are disproportionally involved in crime compared to their native-born counterparts. The conclusions stemming from these studies are very similar to studies at the macro level, suggesting that foreign-born immigrants are generally less involved in crime than their native-born counterparts (Bersani 2010; Bianca E Bersani 2014; Butcher and Piehl 1998; Samaniego and Gonzales 1999).

The general conclusion from this literature also mirrors early findings on criminal offending, suggesting that there are marked differences in offending outcomes among immigrant groups. The most discernable pattern that emerges is that criminal offending increases with increased assimilation—typically measured in terms of subsequent generations and longer time in the country for foreign-born immigrants (Bersani 2013; 2014; Sampson et al. 2005; Rumbaut 2005). Thus, the focus in terms of this body of research has shifted instead to investigate what accounts for these generational differences. Scholars, for instance, have explored the way immigrant children perceive relationships with their parents, school experiences, sense of self-worth, and hopes for the future (Feliciano and Rumbaut 2005; Rumbaut 2005). The role of the family and family level variables have also been heavily studied in this context (Bronte-Tinkew et al. 2006; Bui 2009; DiPietro 2010), as well as the role of perceived discrimination (Medvedeva 2010), the role of peers (Burrington 2015; DiPietro and McGloin 2012), and of the context where immigrants and their children settle (Sampson 2008). However, given that
immigrant children arrive during very distinct and influential ages and developmental stages, it is of crucial importance to evaluate the possible influence of this variable on criminal offending.

Generational Classification in Research, Current Issues, and The Importance of Age at Migration

Although a considerable literature has been accumulated over the last couple of decades to assess the overall adaptation process of immigrants and their offending patterns, little attention has been given to an important issue that remains within this body of literature: the lack of consistency in how studies operationalize and define generational groupings (Myers et al. 2009; Oropesa and Landale 1997; Rumbaut 2004). This is problematic as the lack of consistency in definition may affect even basic population estimates\textsuperscript{10}, since these estimates will vary depending on how generational groupings are defined and operationalized (e.g. immigrants born abroad could be placed under the first, second, or decimal labels, thus affecting estimates). Perhaps more importantly, the lack of consistency makes it difficult to accumulate knowledge and compare findings across studies. In terms of policy, and popular ideology, the issue of immigrant categorization is important because it adds further confusion to the already divided popular and political opinion on the state of immigrant successful or unsuccessful adaptation (Rumbaut 1997; Rumbaut 2004; Bersani 2014; Oropesa and Landale 1997). As Rumbaut (2004) and others assert, although questions regarding immigrants, their assimilation, adaptation,

\textsuperscript{10} See Oropesa and Landale (1997) for example. They find that population estimates vary significantly depending the definition used for generation subpopulations.
criminal offending patterns are among the most pressing in social research today, they all presuppose a valid, reliable, and clear operational definition of generations. As it will be discussed later in this section, using age at migration to construct generational groupings—a typology suggested by Rumbaut—may increase consistency in definition, thus allowing for results that are more comparable across studies.

Studies on immigrant adaptation broadly define first-generation immigrants as persons born and socialized in another country who immigrated into the United States\textsuperscript{11}. The second-generation on the other hand, is broadly defined as individuals socialized and born in the United States to at least one foreign-born parent. Thus, foreign-born immigrants are typically grouped en mass under the first-generation label regardless of when they migrated into the country, but may also be categorized under decimal categories, or the second-generation label if they migrated sometime when they were young (Rumbaut 2004).

Thus, there are two main issues that need to be considered in terms of generational categorization. First, the majority of studies group immigrants in a simply first vs. second-generation dichotomy based on their place of birth (see Burrington 2014; Lara-Cinisimo et al. 2008; Tinkew et al. 2006; DiPietro and McGloin 2012; Medvedeva 2010, Bui 2009). The problem with studies that utilize this simple categorization is mainly that they ignore the diversity in ages at migration within the first-generation (Rumbaut 1997; 2004). Immigrants who migrated at preschool age for example, may be grouped together with those who arrived during teenage years—regardless of the

\textsuperscript{11} Immigrants, especially from Mexico and Latin America, have predominantly been young males characterized as labor migrants—although this has changed over the last couple of decades. See Barajas 2012 and Lichter and Johnson 2009.
theoretical and empirical work that suggests that important categorical differences exist among the groups (Portes and Zhou 1993; Zhou 1997; Portes et al. 2005; Bui 2009). Moreover, there are also inconsistencies in terms of who is considered a first or second-generation immigrant across studies. Perhaps the clearest example comes from the Children of Immigrants Longitudinal Study. CILS is one of the most robust data sources designed specifically to assess the integration process of the immigrant second-generation and their adaptation outcomes later in life (DiPietro and Cwick 2014; Portes et al. 2005; Sampson 2008). A significant proportion of current research related to the adaptation of immigrants and their children comes from this source. The sample of over 5000 participants was evenly balanced between children born in the United States with at least one immigrant parent, and children born abroad but who migrated into the country approximately before age 10. While children born in the United States are typically defined as second-generation, children who are born abroad but migrated when young can be defined as either first-generation, or 1.5-generation (Rumbaut 2005). The population of CILS, however, is generally and categorically described as the ‘new second-generation’. Empirical reports and findings from studies using CILS data are assumed to pertain to the second-generation, despite the fact that about half of the sample is in fact foreign-born (Portes and Rumbaut 2006). Other studies that use CILS data however, employ their own methods of categorizing those who are born abroad as first-generation, second-generation, or 1.5-generation. While some of these studies control for length of stay in the country as a measure of assimilation (see Medvedeva 2009 for example), measuring the length of stay in the country is not a measure of the age at which an immigrant child came into the country (Rumbaut 2004).
Inconsistencies are also found in other research not using CILS data. Leventhal and Shuey (2014) for example, group together immigrants who are foreign-born, and those that are born in the United States to an immigrant parent as one group—typically defined separately as the first and second-generation, and those who are considered third-generation immigrants as another. Feliciano (2006) suggests that second-generation immigrants are those who are born in the United States, or those who came when they were very young—referred in other studies as either first-generation or the 1.5 generation (Rumbaut 1997). DiPietro and Cwick (2014) categorize the first-generation as those who are foreign-born but migrated into the country at age 6 or later. Those who are born abroad but migrated before age 6, are defined here as the 1.5 generation—initially defined by Rumbaut in 1997 as those who migrated into the country before 12 years of age and later defined by Rumbaut in 2004 as those who migrated between the ages of 6 and 12.

Instead of categorizing immigrants into a simple dichotomy, there has been a partial attempt to account for the diversity in ages at migration among the first generation. It is in this attempt, however, that we find the second issue with generational categorization. This approach generally only accounts for those who migrated sometime during childhood or early adolescence and ignores those who migrated during adolescence (Rumbaut 2004). Despite the theoretical recommendations and empirical work that suggest that important differences do exist within the first-generation, scholars have been slow to catch on, and research in which decomposed categories have been implemented is very limited. Among the handful of studies that have attempted to account for age at migration, most account for only those who migrated when very
young. The choice of how to classify immigrants in a particular study is inconsistent, and likely based on a combination of data availability and the researchers’ analytical strategy, but with little theoretical or empirical justification (Rumbaut 1997; 2004; Myers 2009). DiPietro and Bersani (2013) and DiPietro and Cwick (2014) for instance, define the 1.5-generation as those who migrated into the country between the ages of 0-5, as opposed to ages 6-12 as defined by Rumbaut (1993). Ellis and Goodwin-White (2006) define the 1.5-generation as being formed by those who arrived in the country prior to age 10. Little theoretical or empirical justification is provided for using those age cut-offs.

Rumbaut’s typology based on age and developmental stage at migration

Rumbaut, one of the most published leading experts of immigration and adaptation in the United States in the last two decades, argues that contemporary immigrants vary significantly not only between generations, but also within them (Rumbaut 1991; 1997; 2004). He theorized that because immigrant children arrive during distinctly vulnerable and influential ages and developmental stages, age at arrival would ultimately have an effect in terms of outcomes later in life (Rumbaut 1997). His work is significant not only because it provides a preliminary theoretical basis for decomposing the first-generation, but also because he proposes a typology to decompose the foreign-born population based on age and developmental stage at migration, and an empirical test of this typology in 2008 (into the 1.25, 1.5, and 1.75 decimal categories). This section first briefly describes Rumbaut’s theoretical rationale for using age at migration to categorize and study the foreign-born population, and then it provides a summary of Rumbaut’s 2008 empirical test of his proposed typology.
An earlier analysis by Rumbaut (1992) from the Children of Immigrants Longitudinal Study revealed that immigrants as a group were very diverse in terms of their migration experiences. Half of the sample in the CILS data was foreign-born youth who had immigrated into the country before age 12, and half were children born in the U.S. of at least one immigrant parent—suggesting that foreign-born children were indeed a numerous group. Among the foreign-born children, the sample was also evenly split by age at arrival—half were preschool-age at arrival and lived in the U.S. for at least ten years, and half had reached elementary school age in their home countries and had been in the U.S. for less than ten years—pointing to the variance and size of age categories within this population. Rumbaut recognized and suggested early on that generation and time in country for these immigrant children was not solely a measure of length of exposure to American life, but also of qualitatively different life stages and sociodevelopmental contexts at the time of migration.

Rumbaut proposes that the population of foreign-born immigrant children can be refined depending on whether their migration occurred in early childhood (0-5), middle childhood (6-12), or adolescence (13-17). According to Rumbaut, foreign-born teens, elementary-age children, and pre-school children, are at starkly different life stages at the point of migration, begin their adaptation at very different social contexts, and should be classified accordingly (Rumbaut 2004).

He described those who arrive in early childhood—whom he labels the 1.75 generation as a group whose experiences and adaptive outcomes are closer to that of the U.S. born second-generation. These children retain virtually no memory of their home country, were too young to go to school and read and write in their parental language and
are almost entirely socialized in the United States. Although the literature on immigrant adaptation has consistently found that this group is doing well in terms of important outcomes such as English language acquisition (Medvedeva 2010; Stevens 1999), education (Gonzalez 2002; Portes et al. 2009; Rumbaut 2005), and employment outcomes (Myers et al. 2009; Portes and Zhou 1996), this group is also paradoxically the most likely to offend at a higher rate compared to other immigrants (Alvarez-Rivera, Nobles, and Lersch 2014; Bianca E Bersani 2014; Bersani et al. 2014; Sampson 2008). The literature to date suggests that higher offending among this group may be attributed to factors such as increased conflict at home, resulting from a much more rapid cultural assimilation process than their immigrant parents (see Portes, Fernández-Kelly, and Haller 2005), and to higher perceptions of discrimination (Dotterer and Lowe 2015; Medvedeva 2010; Stone and Han 2004).

Those who arrive in middle childhood—whom Rumbaut labels the 1.5 generation—are described as pre-adolescent, primary-school children who may have begun to read and write abroad, but whose education is largely completed in the United States. As stated repeatedly in this dissertation, the literature to date has traditionally classified all immigrants who migrated around age 12 or younger into one group, and obscured differences among those who migrated in middle rather than early childhood. Therefore, there is very little known about this group in particular, and it is difficult to predict this group’s outcomes. According to Rumbaut, children in this group migrated after they begun to acculturate and learn to speak a language in their native countries but did not stay in their home country long enough to become highly proficient or deeply acculturated. Depending on the exact age at migration, children will undergo a range of 0
to 6 years of education and socializing in a formal school setting before these processes are truncated at migration. Given those facts, there is potential for a high level of variance in experiences and outcomes (compared to preschool children who migrate between birth and 5 years of age for example). Thus, adaptation generally, and involvement in criminal offending more specifically, may be complex and difficult to predict.

Those who arrive in their adolescent years—whom Rumbaut labels the 1.25 generation, are described as teens who may or may not come with their families of origin. These immigrants either attend secondary school after arrival or go directly to the labor force, and thus have experiences that may be closer to those of first-generation immigrant adults than to the native-born second generation (Rumbaut 1997; 2004). As Rumbaut asserts, based on the age when they migrate, 1.25-generation teens may undergo a comparatively more complex process of assimilation and integration. Given the high likelihood for heterogeneity among this group (e.g. may either come with families or alone, may either enlist in school or join the labor force at arrival) and the lack of prior research on this group, it is also difficult to predict offending patterns among this group.

After proposing the decomposed generational typology, Rumbaut used data from CPS annual demographic files, PUMS Census data, and data from the Children of Immigrants Longitudinal study to test the proposed typology. The first pattern noted by this research is that the Mexican-origin population dwarfs all others in both the first, and second generations. The first generation of Mexican immigrants was approximately 7 times larger than the next sizable immigrant group, and the second generation was approximately 3 times larger than the next largest second-generation group (1172). When breaking down the total number of children who migrated to the U.S. (12 million), the
1.75-generation accounts for approximately 40%, the 1.5 and 1.25 generations accounts for 30% each. These statistics reveal that children who immigrate into the country are fairly evenly divided in ages and socio-developmental stages.

Rumbaut (2004) sets to find out empirically whether significant group differences exist among the age groups. He and finds that there are in fact significant differences in terms educational, occupational, and linguistic assimilation outcomes across the disaggregated immigrant generations—and not surprisingly, significant differences are observed across immigrant nationality groups as well. Among the most notable findings of intergenerational variance, Mexicans—one of the most disadvantaged groups, start out in the 1.0 generation with only 5 percent college graduation rates and 65 percent having less than a high school diploma. Those figures worsen for those who came in as teenagers (1.25-generation) to 3 and 67 percent respectively. By the 1.5-generation however, the figures improve to 6 percent college graduation rate, and 47 having less than a high school diploma. By the 1.75-generation, the figures improve again to 9 and 33 percent respectively, and to 13.5 and 20 among the second-generation.

Another pattern that exemplifies the differences that can exist among these more disaggregated groupings is that overall, those who arrived in the United States in their teen years (1.25-generation) tend to do worse or no better than the 1.0 generation educationally and occupationally. This pattern holds even when compared cross nationally among all groups, and especially when compared to 1.5 and 1.75 generations. As Rumbaut (2004) asserts, this evidence suggest that 1.25-generation teens may undergo a comparatively more problematic process of assimilation and integration. This finding is reiterated when analyzing language assimilation. Among persons that use a language
other than English at home, on average only about 12.5 percent of those who came either in early or middle childhood (1.5 and 1.75 generation) reported speaking English ‘not well at all’, this figure jumps to 33.6 percent for the 1.25-generation.

**Assessing the merit of Rumbaut’s typology and building on his approach**

Although Rumbaut partially explores criminal justice experiences to evaluate his proposed typology among the disaggregated cohorts, he is not able to analyze outcomes for the 1.25 generation in this context since CILS data only contains respondents younger than 12. Looking at data for the 1.5 and 1.75 generations reveals that there are differences in outcomes among the groups. 10.6% of the 1.5-generation reports having been arrested in the past 6 years, compared to 15.6% of the 1.75-generation. The percentages of those incarcerated over the same time period are 8.2% and 11.8% for the 1.5 and 1.75-generation respectively. Although Rumbaut’s work is fundamental in providing theoretical and empirical support to decompose the first-generation based on age at migration, little work has been done to assess the merit of this approach. Given today’s harsh sociopolitical climate against immigrants, the assessment of no other outcome is perhaps as important as criminal offending.

The current dissertation aims to build on the following limitations on Rumbaut’s work. First, Rumbaut uses CILS data to test his typology. While CILS was designed specifically to assess adaptation outcomes for the ‘new second generation’, CILS does not contain any participants who migrated after middle adolescence—since all respondents interviewed were younger than age 12 at arrival or born in the United States. Rumbaut then is not able to assess how adaptation outcomes are influenced by age at
migration among the 1.25-generation (ages 12-17). His work, and that of most other research in the immigrant adaptation literature, is limited in that regard. However, Rumbaut and many others have suggested that these immigrant youth are specifically vulnerable and may undergo a comparatively and distinctively more problematic adaptation (e.g. not being socialized or educated fully in their home country or here in the U.S., stronger identity issues). Initially using census data, his work finds that in fact the 1.25-generation does worse or no better than all other cohorts overall, and that this finding extended across all nationality groups (Rumbaut 2004). Thus, the influence of age at migration on the adaptation process and outcomes is left unanswered for this group since he is not able to assess this group in the second part of his analysis. This dissertation uses data from the National Longitudinal Survey of youth 1997. NLSY97 is unique because it is massive in terms of number of participants and variables, but also because it includes a question directly asking respondents about their exact age at migration. This gives us a rare opportunity to calculate age at migration not only for the 1.25-generation, but also for all other decimal categories.

Second, Rumbaut uses CILS data to conduct an empirical test of his proposed typology on educational outcomes. However, CILS provides very limited and indirect measures of criminal offending—limited to a couple of questions asking about participants previous arrest and incarceration, or that of family members. As it has been repeatedly suggested by scholars in criminological research, arrest and incarceration rates are better indicators of police enforcement than they are of criminal offending (Levitt 1998; Rosenfeld and Decker 1999). NLSY97 on the other hand has extensive and more direct measures of self-reported offending, which allow us to overcome this limitation.
To date, I am not aware of any other study that has specifically analyzed offending outcomes for those who have migrated after middle adolescence. Thus, this dissertation will contribute to the existing literature by examining the effect of age at migration on self-reported offending among all age at migration groups from birth to adulthood. Although the research literature has well established that second-generation immigrants offend at a higher rate than foreign-born immigrants, little is known about the ‘distribution’ of criminality among distinct age groups within the foreign-born population.

Additional Support for the Salience of Age at Migration

Aside from Rumbaut’s work, there is a limited number of empirical studies that have made clear the importance of age at migration when studying the foreign-born population. As a group, these studies suggest that migration age is a significant predictor of adaptation outcomes such as language acquisition, educational, and employment outcomes. The studies are briefly summarized below. Additionally, general support for the salience of age at migration can be inferred from child development theory and segmented assimilation theory.

Empirical support

When it comes to English language acquisition, Oropesa and Landale (1997) finds that foreign-born children are much less likely to be bilingual or English monolingual, and that odds decline substantially with age at migration into the United States. More specifically, the 1.75 –generation is much less likely than the native-born children of immigrants to be bilingual or English monolingual, even though they are more likely to
speak English than the 1.5 and the 1.25 generations. Stevens (1999) also investigates the influence of age at migration on second language proficiency for foreign-born immigrants. The overarching conclusion of the study is that an earlier age of migration allows for higher proficiency in the second language over the life course. Likewise, Newport (1990) finds that immigrants who learn a second language later in life are recognizably less fluent than those who learn it during early childhood. And that in general, people who are denied the opportunity to learn during childhood are unable to become fully fluent in various aspects of a language, even if given the opportunity to do so later in life. Moreover, Asher and Garcia (1969) showed, that the accents of 71 Cuban children were strongly related to the children’s age at entry into the United States. The highest probability of a child having the best pronunciation occurred for those who entered the U.S. between the ages of one and six (Asher and García 1969). To conclude, the primary explanation offered by these studies, as a group, is that age at immigration is related to level of proficiency in English for immigrants in large part because the timing of migration within the life-course sets immigrants onto certain life-course trajectories (Stevens 1999; 2004). For example, immigrants who enter the country earlier in life are more likely to go school in the U.S. and are more likely to marry a native born American, than those who enter the country at older ages.

More recently, a study by Myers et al. (2009) investigates the effect of age at arrival on socioeconomic outcomes for foreign-born immigrants. In term of education, their work finds that educational attainment declines progressively with later age at arrival—especially for graduation rates in both high school and college (214). In term of occupation, the likelihood of holding a higher status occupation declines with older age at
arrival as well. Moreover, the proportion of adults who are living above the poverty level declines modestly between ages 3 and 13. The decline is however much more substantial (60% to 43%) in terms of those who have a standard of living more than twice the poverty line within that same age range.

The effect of age at migration and child development theory

Child development theory asserts that the development of children proceeds through a series of uniquely sensitive periods, each creating the preconditions for success in subsequent periods, and ultimately affecting outcomes later in life (Garcia Coll and Magnuson 1997; Nagin and Tremblay 2005). Moreover, it is also commonly highlighted that each period can be distinctively disrupted and affected by significant negative experiences and life events. Migrant children are no different from other children in this regard, but immigrant children experience unique processes pertaining to the immigrant experience (Cavanagh and Cauffman 2015; Dipietro and McGloin 2012; Peguero et al. 2015). For instance, they may be differentially affected by the initial shock of migration and challenges particular to the migration and adaptation process at different ages (Rumbaut 1997, 2004). The literature has long recognized that the process of international migration can affect individuals and groups in profound ways (Arango 2017; Massey et al. 1993). The initial stress or ‘shock’ of migration for instance has the potential to affect immigrants in a variety of psychological and emotional ways (Aronowitz 1984; Ward et al. 2005). This stress may include feelings of marginality, alienation, loss of homeland and loss of loved ones. For children, it may also make it difficult to fit in with peers and achieve academically in the new environment (Beck et al.
Yet, little is known empirically about how the initial shock of migration may differentially affect immigrant children who migrate at different ages. For instance, young children may be especially affected as they heavily mourn the loss of objects and loved ones. However, very young children may experience these feelings but may lack the ability to fully comprehend how the loss could affect them in the future (Garcia Coll and Magnuson 1997). Older children possess that ability but they are less affected by the separation from individuals or objects of significance in their lives than younger children (Garcia Coll and Magnuson 1997).

In sum, child development theory asserts that successful development of children is of paramount importance for children’s overall well-being and adult outcomes. This development proceeds through sensitive and unique periods. These periods can be distinctively disrupted and affected by the initial migration experience, and challenges particular to the migration and adaptation process. Research to date suggests that migrating at a younger age may be more beneficial in terms of achievement generally. Research on criminal offending among others, suggests that this relationship is more complex and that migrating at a younger age is not always beneficial for immigrant children. What is less clear however is whether migrating during specific ages developmental stages (early childhood, mid childhood, and adolescence) has a distinct and significant effect on criminal offending. Because age at migration is typically only considered in the context of assimilation, and as a dichotomy between ‘very young’ and ‘older’, it has been difficult to evaluate this possibility.
Segmented assimilation theory, offending, and the influence of age at migration

Recent theorizing has recast the classical view of assimilation as a straight-line process that leads to inevitable upward mobility. Segmented Assimilation Theory asserts that immigrants assimilate and integrate into different modes or segments of society. Therefore, assimilation can be ‘segmented’ and, under certain circumstances, be detrimental to immigrants’ adaptation, mobility, and important outcomes such as involvement in criminal offending (Portes and Zhou 1993, 1996; Rumbaut 2004; Zhou 1997). Overall, research finds that immigrants and their children are assimilating and moving upwardly. However, the literature on immigrant adaptation has also provided wide support for the theory’s notion that assimilation among immigrant groups is segmented (Portes et al. 2005; Stepick and Stepick 2010; Zhou 2014). Starting with that notion, the most important issue for segmented assimilation theory in the last two decades has been to determine factors account for the differences in assimilation and adaptation outcomes among immigrants. From its inception in 1993, the authors of the theory suggest that, along with levels of education, aspiration, English language ability, place of birth, and length of residence in the United States, age upon arrival should be among the most important individual-level factors influencing modes of assimilation and adaptation outcomes such as offending (Zhou 1997:984). Surprisingly, these factors have been extensively studied in the context of offending, with the exception of age upon arrival. The development of segmented assimilation theory is briefly discussed below.

Segmented assimilation has emerged as the most influential theoretical orientation on the literature related to the adaptation of immigrant children over the last couple of decades (Myers et al. 2009; Stepick and Stepick 2010). More importantly, it has been
fundamental in informing research that explains the adaptation process of immigrants and their outcomes later in life. The main tenet of segmented assimilation is that immigrants integrate or assimilate into distinct sections of society (e.g. downwardly into the underclass or upwardly into middle class), and offending is regarded as primary indicator of unsuccessful adaptation or downward mobility. The theory is mainly concerned with explaining what determines distinct modes of incorporation for immigrants, and several possible contextual and individual-level determinants are suggested. Portes and Zhou, who are credited as the initial proponents of the theory in 1993, assert that the most important individual level factors include education, aspiration, English language ability, place of birth, age upon arrival, and length of residence in the United States (Zhou 1997:984). Surprising, these factors have been extensively studied in research, with the exception of age upon arrival.

Theoretical Background

*Limitations of previous theoretical work on the relationship between age at migration and offending*

Although the literature related to immigrant adaptation has repeatedly highlighted the inclusion of age at migration as either a limitation or a suggestion for future research, theoretical explanations to elucidate the possible causal links between distinct ages at migration and adaptation outcomes have been simplistic and limited (Beck et al. 2012; Myers et al. 2009). In terms of the relationship between offending and age at migration, the most common explanation advanced in this work is that those who migrate at an early
age may be more likely to offend because they have more time to socialize, acculturate, and assimilate into the American mainstream than those who migrate later in life. Thus, only the influence of increased assimilation is considered as the causal mechanism influencing offending. However, age at arrival captures not only level of assimilation and length of exposure to American life, but also the distinct developmental stages and context (e.g. grade in school, entry into the labor market) at which this process begins to occur (Oropesa and Landale 1997; Rumbaut 1997, 2004).

As Piore (1979) asserted, age at arrival identifies the life cycle or developmental period at which an immigrant begins life in a new country. The lack of theorizing in this area can be partially attributed to the fact that prior research has focused almost exclusively on adults, and children have been presented as appendages to their parents rather than as distinct research subjects (Garcia Coll and Magnuson 1997; Rumbaut 2004). While the typical immigrant is characterized as someone who was fully socialized in their home country, immigrant children are typically considered to be the first in their families to fully socialize in the United States. However, little formal theorizing exists to unpack how migrating at distinct ages within childhood may impact specific adaptation outcomes such as criminal offending.

This dissertation hypothesizes that those who migrate during different ages will significantly differ in their rates of offending. Thus, it is also likely that age at migration groups may also exhibit differences in terms of the criminological predictors of offending (e.g., those who migrate at an early age may be more attached to institutions such as the school). To control for this possibility, this dissertation includes measures of control theory and general strain theory—two of the best supported criminological theories to
date (Chen and Zhong 2013). A discussion of how these theoretical frameworks may specifically operate among immigrants is offered below.

**General strain theory**

At its most basic level, strain theory suggests that disparity between culturally valued goals and the legitimate means to achieve these goals may generate strain or pressure for immigrants towards crime (Agnew 1992). As a process, strain may differentially affect immigrants. For instance, first-generation immigrants—especially labor migrants from impoverished countries—arrive with very high expectations and with a vivid image of the difficult life back home (Portes and Rumbaut 2005). Therefore, they are eager to work, in what they perceive to be the land of opportunity, to achieve their goals rather than to engage in crime (Portes et al. 2009). This view may be largely reduced in the second generation since children are born in the United States and do not possess the same frame of reference as immigrants born abroad—and therefore may be more likely to resort to illegitimate means to achieve success (Rumbaut et al. 2006). Additionally, it is possible that this process can vary within the foreign-born, depending on the age at which immigrants arrived. For example, those who arrived at an older age within childhood (e.g., late adolescence) may have been much more exposed to the difficult conditions in their homeland, where this exposure may be reduced as the age at arrival decreases. Those who arrived very early in childhood may not have experienced these conditions or may have been too young to remember it (Bianca E. Bersani 2014; Lara-Cinisomo, Xue, and Brooks-gunn 2008).
The broader theoretical framework known as general strain theory (GST), also considers the role of other micro-level life events as sources of strain (Agnew 2005). These strains may be conducive to antisocial behavior and negative feelings such as anger and depression, which may lead ultimately to criminality. For GST, higher levels of offending among second-generation immigrants could be explained by strains that are particularly tied to the experiences of children of immigrants in the United States. For example, children of immigrants may experience difficulty to achieve educationally—resulting from factors such as the limited ability of immigrant parents to support their children to successfully navigate the education system in the United States (e.g., help with homework, communicate with teachers and other school actors).

Foreign-born immigrants also experience educational stress related to their unique position as outsiders in a new school setting. For instance, the education of foreign-born children is truncated in their home countries, and they must learn a new language, and quickly adapt to the new school setting in order to succeed (Cortes 2006). Similarly, the time at which immigrant children arrived into the country and began their education in the U.S. may be influential on the type and level of educational stress experienced, on the negative feelings that result from the level of strain, and on offending ultimately (Feliciano and Rumbaut 2005; Portes Alejandro 1996). For example, a child who arrived into the country when very young, may have the opportunity to begin his education very early on, and increase his/her chances to learn the language, to form relationships and bonds with teachers and native-born students, to succeed academically, and therefore to experience less educational strain. Conversely, an immigrant youth who arrived at a much later age, may find it more difficult to fit in into the new culture, to form bonds
with teachers and students, to achieve academically due to language or differences in the education systems, and to experience more negative feelings conducive to offending.

Although this study is limited by the variables available in the NLSY97, several measures of strain will be included in an attempt to isolate the effect of age at migration. Additionally, this approach will probe for differences in the impact of strain and social control experienced by foreign born and U.S. born immigrant and nonimmigrant populations.

Control theory

Control theory proposes that the process of socialization and learning builds self-control and social bonds, which reduces the inclination to engage in behavior recognized as antisocial (Agnew 2005). For immigrants, the theory would focus on the structures that provide the context for immigrant adaptation and bond creation and maintenance—which may prevent immigrants from engaging in criminal offending (Chen and Zhong 2013). The importance of the family has been recognized as paramount in creating the social bond (Hirschi 1969). Attempting to explain offending among immigrants, social control theorists in recent years have suggested that compared with the native-born, children growing up in immigrant families are more likely to abide by traditional family values, to receive more supervision, to obey their parents, and to be motivated to do well and behave in school (Miller and Gibson 2011; Portes and Zhou 1993; Zhou 1997).

Immigrant children who arrive when very young, and who are socialized and acculturated into the U.S. mainstream, may experience what Portes and Rumbaut (2001) coined as dissonant acculturation—a distance in acculturation pace since immigrant
children assimilate and acculturate much faster than parents (Portes et al. 2009). This creates situations where the bond to family, and influence of parents on children, becomes weaker. More acculturated children who arrived very young may stop speaking their home language and develop very individualistic ideas, leading to an overall increase in conflict at home (Portes 1997). Dissonant acculturation may also lead to role reversals—where less acculturated parents become dependent on children. This has the potential to undercut parents’ authority to control their children (Portes 2003).

Both of those scenarios, where conflict increases at home and where parents have less authority over children may ultimately be conducive to an increase in offending among children who arrived into the country at a young age. Again, there is potential for this process to vary according to the age at which children migrated into the country. For example, for immigrant children who arrived into the country at a later age, and who had the opportunity to bond and live longer with their families in their home countries, the processes of dissonant acculturation, increased parent-child conflict, and role reversal may not take place, or they may be largely reduced. Conversely, children who arrived at younger ages may undergo this process partially, and increasingly as age at arrival decreases. In either case, the bonds that tie immigrant children and youth to their families, and which are thought to prevent offending, may vary based on the age at which they arrived into the country. It is likely that processes related to bond formation and maintenance operate in similar ways for other institutions such as the school. Thus, this dissertation will control for measures related to school attachment, commitment and involvement in an attempt to isolate the effect of age at migration, control for any differences in terms of these measures that may be differently important for age at
Hypotheses:

Based on the general support for the salience of age at migration inferred from child development theory and segmented assimilation theory, and guided by general strain and control theories, the primary hypothesis of this dissertation is that criminal offending will vary depending on the age at which a respondent migrated into the United States. Age at migration groups correspond to Rumbaut's decimal generational typology, and the three major stages of development under child development theory.

**Early childhood (0-5)**

Based on the theoretical and empirical literature discussed earlier in this dissertation (i.e. those who migrate at a very young age offend at comparable rates than the U.S.-born second generation), it is expected that that those who migrated during early childhood (0-5) will be more likely to offend than those who migrated later on.

**Middle childhood (6-11)**

The literature to date has traditionally lumped immigrants who migrated around age 12 or younger into one generational category, and obscured differences among those who migrated in middle rather than early childhood. Therefore, there is very little known about this group in particular, and it is difficult to theorize about this group’s outcomes. Children in this group migrated after they begun to acculturate and learn to speak a language in their native countries but did not stay in their home country long enough to become highly proficient or deeply acculturated. The hypothesis is that this group will
offend at a lower rate compared to those who migrated in early childhood, but there is no
directional hypothesis in relation to those who migrated in adolescence. In other words,
given the differences between those who migrated during this age group and those who
migrated during adolescence (e.g. they may either enter the school system or join the
labor force, they are more fully educated and acculturated in their home country), it is
possible that those who migrated during middle childhood may offend at a lower or
higher rate than those who migrated during adolescence.

Adolescence (12-17)

As is the case with children who migrate in middle-childhood and whose
outcomes are obscured by their classification into a larger generational category, children
who migrate during adolescence are generally classified simply as first-generation
immigrants. Given the high likelihood for heterogeneity among this group (e.g. may
either come with families or alone, may either enlist in school or join the labor force at
arrival) and the lack of prior research on this group—and given the differences
highlighted between this group and those who migrated during middle childhood—it is
also difficult to theorize a direction in terms of offending pattern. It is expected that this
group will offend at a lower rate than those who migrated in early childhood, but there is
no directional hypothesis compared to those who migrated in middle childhood, since it
is possible that they may offend at a higher or lower rate.
CHAPTER 3: DATA AND METHODOLOGY

Data

The data used for this dissertation comes from the National Longitudinal Survey of Youth 1997 (NLSY97), sponsored by the Bureau of Labor Statistics of the U.S. Department of Labor. The NLSY97 is a nationally representative sample comprised of respondents who are born between 1980-1984 at the first interview in 1997; a total of 8,984 respondents ages 12-18 are surveyed in Wave One. Respondents are now surveyed on a biannual basis. Although this cohort has been surveyed 16 times, this dissertation will use waves 1-7 (1997-2003) since the NLSY97 stopped asking about offending for all respondents beginning with wave 8. In addition, these waves of data capture the typical ages\(^\text{12}\) when most youth offend (Moffitt 1993). The NLSY97 gathers information on eight major topic areas: (1) employment and unemployment, (2) schooling and education, (3) job training, (4) income, assets and social welfare program participation, (5) family background, (6) marital status and family, (7) health, and (8) antisocial and problem behaviors, which includes self-reported delinquency and offending, and criminal justice system interventions in later waves of data.

For more than two decades, the NLSY97 data has served as an important tool for economists, sociologists, and other researchers since it is especially designed to document the transition from school and being juvenile, to college, work, and becoming an adult. Although the NLSY97 is not specifically designed to study only immigrants and

\(^{12}\) Respondents were interviewed from ages 12-17 in wave 1 to ages 18-23 in wave 7. This corresponds with the age-crime curve, which suggests that criminal offending starts in pre-adolescence, increases rapidly during adolescence, peaks around age 17 (for most offenses), and then rapidly declines during the transition to young adulthood. See Wilcox and Cullen, 2010.
their children, several studies regarding this population have emerged from this source because of the large number of variables recorded in these surveys. More importantly, the number of immigrants interviewed allows for sufficient statistical power to study this group. The NLSY97 is best suited for this dissertation because it includes a question directly asking respondents about their age at migration. This gives us a rare opportunity to calculate age at migration for all foreign-born immigrant participants. This, coupled with the fact that the NLSY97 also has rich measures of delinquency and is nationally representative, makes NLSY97 especially well-suited to answer the research question.

Sample

The sample population for this study is comprised of participants identified as foreign-born immigrants in the NLSY97 (N=559). This sample is composed mainly of Hispanic immigrants (N=350; or 62% of sample), which resembles the broader foreign-born immigrant population in the United States in terms of ethnicity. Due to the sample size and data restrictions, it is not feasible to break down the sample by country of origin. This is a limitation of the current research. However, the primary focus of this dissertation is to begin the exploration of the possible influence of age at migration on offending. Additionally, t-tests were performed to test for significant differences between Hispanic foreign-born and the rest of the foreign-born population in the sample. The tests revealed that there are no statistically significant differences among the groups in terms

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13 The number of immigrants however is much smaller once it is disaggregated by nationality, ethnicity, age at migration, etc.
14 According a report by the Pew Research in 2015, Hispanic immigrants from Mexico and Latin America make up a slight majority of all foreign-born immigrants
15 The NLS restricts variables identifying country of origin.
of the variables used in this study, with the exception of place of residence and years in the country (Hispanics are more likely to settle in urban areas and to migrate a bit later in life).

Measures:

Dependent Variable: See Table 1 for a full list of dependent and independent variables used in this analysis, and the questions used to construct those measures. Also, Figure 1 presents a visual timeline of the temporal order of when the variables were collected, and the ages of participants during that time. The NLSY97 gathers information in each wave on self-reported delinquent and criminal involvement. Respondents are asked if they were involved in a series of delinquent/criminal acts in the previous 12 months, including (a) four property offenses: purposely damaged or destroyed property; stolen something that did not belong to them that was worth less than 50 dollars; stolen something that did not belong to them that was worth 50 dollars or more, including stealing a car; committed other property crimes; (b) one violent offense: attacked someone with the idea of seriously hurting them or had a situation end up in a serious fight or assault of some kind; and (c) one drug offense: sold or helped to sell illegal drugs (1 = yes, 0 = no). Although these questions are asked of all respondents from waves 1-7, only waves 4-7 (interview years 2000-2003) will be used. The primary reason for this is to allow for temporal ordering of variables collected prior to 2000 (e.g. education, strain and control measures) to precede the dependent variable.

The offenses detailed above were utilized to construct the dependent variables. *Criminal offending count* ranges in scores from 0 to 24 (6 responses per each of 4 waves);
a higher score indicates higher criminal offending. *Criminal offending* is constructed using all 6 questions for each wave (1 = at least one offense, 0 = no offenses reported). Subsequent analysis will examine offending by crime type (property, violent, and drug related). In the years between 2000 and 2003, participants ranged in ages 15-20 to 18-23 years of age. This age range is in line with the time when offending is most prevalent as suggested by data on the age-crime curve (Farrington 1986; Moffitt 1993; Nagin and Tremblay 2005).

Independent Variable. The primary independent measure for this study is the age at which a participant migrated into the country. Age at migration ranges from 0-17 years. It will be coded according to the decimal categories (each category is mutually exclusive)—1.75-generation (ages 0-5), 1.5-generation (ages 6-11), and 1.25-generation (ages 12-17)—proposed by Ruben Rumbaut in 1991. These correspond to the three primary developmental stages: early childhood (N=238), mid-childhood (N=215), and adolescence (N=106). The 3 age at migration variables will be coded using dummy variables (1 = yes, 0 = no). The NLSY97 asked about age at migration in 2001, 2002, and 2003—information from these three waves of data were collapsed to compose the final measure (N=559). There were no participants who migrated after age 17 in the sample when the data was collected. These age categories are also mutually exclusive. A screening question first asks if respondents were born in the United States, its territories, or Puerto Rico. Those that respond ‘No,’ were then presented questions regarding place of birth questions asked respondents whether they were born in the United States or its surrounding territories including Guam, Puerto Rico, Virgin Islands, other U.S. Pacific Islands. Only those born in the 50 U.S. states were classified as born in the United States. Although Puerto Ricans are U.S. citizens by birth, previous research excludes Puerto Ricans from the native-born U.S. sample as they often experience many of the obstacles to incorporation that other immigrant groups face (see e.g., Hirschman 2001).
of birth and migration history. Age at migration was recorded using the follow up question, ‘how old were you when you first came to the USA and stayed for over 6 months?’ The reference category for analysis will be those who migrated during adolescence\(^{17}\). The bivariate analysis revealed that this age group exhibits the lowest rates of offending (.48 compared to .85 for the youngest age at migration group).

Controls. Because offending occurred between 2000-2003, and in order to ensure correct temporal order, control variables in this study are limited to those collected prior to this time period. In order to isolate the effect of age at migration, several demographic controls are included. Given the salience of criminological theories in explaining offending generally, and the possibility that age at migration groups vary in terms of these theoretical predictors, this study also includes several measures from social control theory and general strain theory.

Participant demographic controls: Gender (male = 1, female = 0) is collected from wave 1 in 1997. Age is calculated as the participant’s numerical age in the year 2000. Intact family differentiates intact households from other living situations—children living with both their biological mother and father were categorized as living in an intact household (yes = 1, no = 0). Residence location indicates whether the participant reported living in an urban or rural area (urban = 1, rural = 0).

General Strain Theory measures: The NLSY97 asked questions regarding 5 types of traumatic events experienced over the last 5 years—personal criminal victimization, close relative died, was in the hospital, was in jail, or was unemployed. Traumatic life

\(^{17}\) This was chosen as the reference category since they report the lowest rate of offending.
events have been recognized as important stressor and which may influence offending (Agnew 2001, 2005; Glassner 2015). For instance, criminal victimization has been recognized as one of the strains that is most conducive to crime (Agnew 2001). Victimization has also been linked to higher substance use and criminal activity in adolescents and young adults (Ford et al. 2006; Kaufman and WIdom 1999; Lauritzen, Sampson, and Laub 1991). Questions regarding these strains were collected in 2002. Given that these 5 questions were asked and coded similarly, my intent was to combine all 5 measures into a composite measure. However, over half of the sample reported a relative’s death, while less than 10 percent reported any of the other four strains. A factor analysis revealed that death of a relative was not correlated to the other measures, which themselves shared one factor. Thus, death of a relative is a dichotomous measure (1/0), while strain index ($\alpha=.68$) includes the remaining four strain variables (1/0).

Control theory measures. As Hirschi put it in 1972, and empirical research has widely supported in innumerable studies since, the bonds that tie us to social institutions are key in explaining criminal offending patterns (Patterson 1982; Pratt and Cullen 2000). Among these institutions, research has established that the bond to the school is especially important in this context (Ford 2005; Pratt and Cullen 2000). It is worth mentioning that, although not ideal, the measures below are the best approximations of the elements of the social bond as described by control theory, given data and study limitations described earlier.
Attachment: *School attachment*\(^{18}\) is constructed from the question ‘discipline is fair at school\(^{19}\) in wave 1, in which respondents indicate whether they strongly agree (1), agree (2), disagree (3), and strongly disagree (4) with the statement. The responses to these questions were reversed for ease of interpretation (1= strongly disagree 4= strongly disagree).

Commitment. *School commitment* is constructed from the question ‘what is the percent chance that you will be in a regular school in 5 years?’, during wave 1. The answers were originally coded in 10 percent increments. These responses were recoded to represent no chance, less than 50 percent chance, or more than 50 percent chance (0 = 0; 1 = 1 to 50; and 2 = 51 percent or more).

Involvement. *School absence*\(^{20}\) is constructed from the question ‘how many days were you absent from school during last term?’ during wave 1. The answer indicates the number of days a participant missed school the previous term, with a higher score indicating less involvement (0 = none, 1 = 1 to 9, 2 = 10 or more).

Assimilation Measure. The detrimental role of increased assimilation on offending has been well established in the literature (Garcia Coll and Magnuson 1997; Portes et al. 2009; Portes and Zhou 1993; Rumbaut 1991, 1997). The number of years a

\(^{18}\) Attitudes towards school are a common measure of attachment among juveniles (Winfree & Abadinsky, 2003). Attachment to parents or to family is also a commonly used measure. However, research has found that the influential role of family tends to shift to attachment to peers and the school during adolescence (Jang, 1999).

\(^{19}\) Hirschi (1969) conceptualized attachment, among other things, as ‘acceptance to school’s authority for set rules of behavior’.

\(^{20}\) Hirschi (1969) first theorized that involvement, described as time spent in conventional activities, would reduce the likelihood for offending. Among research that has since supported this hypothesis, involvement in school and school-based activities has received wide support (Hart and Mueller 2013; Krohn and Massey 1980). Within this context, school attendance has received support in the literature (Jenkinks 1997; Veenstra et al. 2010).
participant had lived in the country, as a measure of assimilation, was calculated by using the respondents’ actual age and age at migration.

Analytic Strategy

In the data analysis chapter, I use binary logistic regression to examine whether age at migration predicts the odds of reporting any type of criminal offending (yes/no), after controlling for theoretically important covariates and the demographic variables. For comparison purposes, similar analyses are presented for U.S.-born nonimmigrants. A supplemental analysis using ordinal regression, and an ordinal measure of offending, is also briefly discussed. Then, I examine whether age at migration differently predicts the odds of the type of offense reported. I retain the same independent variables, including the age at migration categories, and switch to three separate dependent variables: (1) any property crime; (2) violent crime; and (3) drug crime. This crime-specific analysis will allow me to speak to questions about age-at-migration and whether it has an impact on the type of criminal activity one engages in. Moreover, political rhetoric has previously suggested that immigrants from Hispanic descent may be especially prone to engage in criminal offending (Stewart et al. 2015). In a supplemental analysis, I explore this possibility by examining the relationship between age at migration and offending among immigrants of Hispanic descent.

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21 Time lived in the country is recognized as a valid measure of assimilation (Gordon 1964; Portes 1997; Portes and Zhou 1993; Zhou 1997).
22 Binary logistic regression is used as an analytical approach given that the variable of interest that I am trying to predict is dichotomous (i.e. the odds of reporting offending: 0 = no offenses; 1 = 1+ offenses).
<table>
<thead>
<tr>
<th>Table 1: Variable List</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>Description</strong></td>
<td><strong>Value</strong></td>
</tr>
<tr>
<td>IV</td>
<td>Age at migration: Approximately how old were you when you first came to the United States and stayed for 6 months or more?</td>
<td>Numerical age at migration</td>
</tr>
<tr>
<td></td>
<td>Since the last interview on [date of last interview], have you purposely damaged or destroyed property that did not belong to you?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Since the last interview on [date of last interview], have you stolen something from a store or something that did not belong to you worth less than 50 dollars?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td>Dependent Variables</td>
<td>Property: Since the last interview on [date of last interview], have you stolen something from a store, person or house, or something that did not belong to you worth 50 dollars or more including stealing a car?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Since the last interview on [date of last interview], have you committed other property crimes such as fencing, receiving, possessing or selling stolen property, or cheated someone by selling them something that was worthless or worth much less than what you said it was?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Violent: Since the last interview on [date of last interview], have you attacked someone with the idea of seriously hurting them or have had a situation end up in a serious fight or assault of some kind?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Drug: Since the last interview on [date of last interview], have you sold or helped to sell marijuana (pot, grass), hashish (hash) or other hard drugs such as heroin, cocaine or LSD?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td>GST</td>
<td>Death of relative: In the last five years, that is since you were [R’s age 5 yrs ago] years old, has a close relative of yours died?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>In the last five years, have you been the victim of a violent crime, for example, physical or sexual assault, robbery, or arson?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>In the last five years, has a member of your household stayed in a hospital for at least one week for treatment of illness or injury?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Strain index ($\alpha=0.68$): In the last five years, has an adult member of your household (other than yourself) been sent to jail or prison?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>In the last five years, has an adult member of your household (other than yourself) experienced one or more periods of unemployment lasting at least six months?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td>Social Control</td>
<td>Attachment: ...discipline is fair.</td>
<td>1=strongly agree; 2=agree; 3=disagree; 4=strongly disagree</td>
</tr>
<tr>
<td></td>
<td>Commitment: Now think about five years from now, you will be [R’s calculated age in 5 years] years old. We will start again with questions about what you expect to be doing in terms of school and work. What is the percent chance that you will be a student in a regular school five years from now?</td>
<td>0=0; 1=1-50; 2=51+</td>
</tr>
<tr>
<td></td>
<td>Involvement: How many days were you absent from school during the last term?</td>
<td>0=0; 1=1-9; 2=10 or more</td>
</tr>
<tr>
<td>Demographic</td>
<td>Intact family: Does Youth live with both biological parents?</td>
<td>1=yes; 0=no</td>
</tr>
<tr>
<td></td>
<td>Age: Age as of interview date</td>
<td>Numerical age</td>
</tr>
<tr>
<td></td>
<td>Gender: Gender of youth</td>
<td>1=male 0=female</td>
</tr>
<tr>
<td></td>
<td>Location: Area of residence</td>
<td>1=urban 0=rural</td>
</tr>
<tr>
<td>Assimilation</td>
<td>Years in the country: Original question: Approximately how old were you when you first came to the United States and stayed for 6 months or more?</td>
<td>Numerical number of years living in the country</td>
</tr>
</tbody>
</table>
Figure 1: Timeline of Variables and Temporal Order of Study

Participant age
12-17 years

Control variables

15-20 years

DV: offending

18-23 years

IV: age at migration
(retrospective)

CHAPTER 4: RESULTS

Organization of results chapter. The chapter is organized into three sections. The first section presents descriptive statistics. The second section presents bivariate results and correlations. The third section presents results from the multivariate logistic analysis.

The primary focus of this chapter is answering the research question: whether age at migration (i.e. early childhood, middle childhood, or adolescence) affects the odds of criminal offending among first generation, foreign-born immigrants. However, most of the previous work on the immigration and crime literature has compared first generation immigrants to the U.S.-born immigrant and nonimmigrant populations. I follow this approach by incorporating analyses on the U.S.-born populations for comparison purposes, and to in order to confirm previous findings, and connect to previous work in this area.

Descriptive Statistics

Descriptive statistics are discussed below and presented in Table 2. The table presents data for foreign-born immigrants and—for comparison purposes—statistics are also presented for U.S.-born nonimmigrants and U.S.-born immigrants in this table.

The NLSY97 asked respondents whether they were born in the U.S., and their age at migration beginning in 2001. There was a total of 559 foreign-born immigrants: 42.6 percent (N = 238) arrived during early childhood; 38.5 percent (N = 215) arrived during middle childhood; and 19.0 percent (N = 106) arrived during adolescence (Table 2). It is worth mentioning that these proportions do not very closely approximate the broader
foreign-born population. For instance, according to the Current Population Survey (2012), the population of approximately 12 million foreign-born immigrant children living in the United States is mostly evenly split in terms of their age and developmental stage at arrival (40% arrived during early childhood; 30% during middle childhood; 30% during adolescence). This may be especially important for those who migrated during adolescence—given that we know the least about this group. Because there are comparably fewer participants in the sample who migrated during adolescence, we may not be able to accurately capture information from this group. The implications of the comparatively small number of participants in this category will be further discussed after the results are presented.

The mean age at which respondents arrived was 6.92 years, suggesting that participants in the sample migrated at a relatively young age—partially explaining the smaller number of participants who migrated during adolescence in the sample (Table 2). This is also expected given that participants were relatively young when first interviewed (12-17 years old). The mean age at arrival for those who migrated during early childhood, middle childhood, and adolescence were 2.68, 8.38, and 13.48 years respectively (Table 3).

Participant age was calculated in the year when offending variables are first used for this analysis, which is the year 2000. The mean age for the foreign-born sample was

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23 The relatively young mean age at migration in the sample suggests that the smaller number of participants who migrated during adolescence is not due to sample bias, by underrepresenting those who migrated during adolescence (the age range when participants were first interviewed was 12-17; with a mean age of 14.3 years). Instead, there were simply a smaller number of respondents who migrated in adolescence in the sample.
17.38 years in 2000, with a range from 15 to 21 years. In terms of gender, males accounted for 48 percent (N = 267) of the sample of foreign-born immigrants. As a measure of assimilation, the total number of years a participant had lived in the country was also calculated by using the respondents’ actual age and age at migration. The mean number of years in the country was 10.46 among the sample (Table 2).

Foreign-born immigrants report similar levels of control measures and strain than U.S.-born immigrants and nonimmigrants in Table 2. There are a couple of exceptions worth mentioning. In terms of residence location, 91.3 percent (N = 505) of foreign-born immigrants reported living in an urban rather than a rural setting at the time of the 1997 interview, compared to 74.7 (N = 5255) for the nonimmigrant population (Table 2). The literature has long established that immigrants are more likely to settle in these urban locations (Adelman et al. 2017; Vaughn et al. 2014). Moreover, foreign-born immigrants also reported a higher likelihood to live in an intact family with both biological parents—58 percent compared to 48 percent for the non-immigrant sample.

Bivariate Analyses

_Self-reported offending._ Basic statistics on offending by group were also presented in Table 2. NLSY97 asked respondents about participation in property (e.g. damaged or destroyed property, stole something, other property crimes), violent (e.g. attacked or assaulted someone), or drug-related (e.g. sold marijuana or other drugs) illegal activities. Descriptive statistics on offending by age-at-migration group and by offense type are presented later in Tables 4, 5, 6, and 7. There was a total of six crime-related questions in each of the four interview years, for a total of 24 possible criminal activities. As stated earlier, given that participants ranged in ages from 15 to 23 during
this time period, which encompasses both the ages of juvenile delinquency and adult criminality, the term ‘offending’, rather than ‘criminality’ or ‘delinquency’, is being used to represent these self-reported events.

The data allows us to examine whether any offense was reported at all (yes/no) during the time period of interest (2000-2003), the total number of offenses reported (from 0-24), and the type of offending—those that are property (4 offenses), violent (1 offense), and drug (1 offense) related. As stated earlier in this dissertation, certain political rhetoric has consistently held that that immigrants are not only disproportionately committing more crime, but are additionally more likely to engage in violent or drug related criminal behavior (Johnston 2019; Qiu 2019). Separating the results in terms of type of offenses will allow us to speak to whether there is any truth to these arguments in terms of a connection between age-at-migration, and type of crime committed.

In terms of offending, only 37 percent of the U.S.-born, nonimmigrant population reported at least one offense between 2000 to 2003, with an average of 1.07 offenses (Table 2). The numbers are comparable to those reported by the second-generation, U.S.-born children of immigrants—34 percent reported at least one offense, with a mean of 1.08 offenses. However, only 24 percent of the foreign-born population reported at least one offence, with a mean of .70 offenses during 2000-2003.

Mean group differences were also compared in an independent samples t-test for the foreign-born immigrant and U.S.-born, non-immigrant groups (mean percentages

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24 The number of self-reported offenses among all populations is very low. This motivated using binary logistic regression later in the multivariate analysis.
presented in Table 2). The difference for self-reporting any offense, and for the total number of offenses, were both statistically significant at the .001 level (t = 5.274 and t = 3.593 respectively), with immigrants as a whole self-reporting less crime than non-immigrants. This finding confirms what numerous other studies have found regarding the lower likelihood of foreign-born immigrants to engage in illegal activity.

*Self-reported offending by age at migration groups.* After comparing non-immigrants to all immigrants, in terms of self-reported offenses, the next step was to separate out the immigrant population into various age-at-migration groups to determine whether there were any differences in self-reported offending between the three groups of immigrants. The bivariate examinations of these differences are first presented in Figure 2. Descriptive Statistics are presented in Table 3. Among the foreign-born sample, 28 percent of those who arrived in early childhood, 22 percent of those who arrived in mid childhood, and 21 percent of those who arrived in adolescence reported at least one offence. Although these differences may seem relatively small in magnitude, the results do suggest that as age at migration increases, offending decreases. This is also supported when looking at the mean number of offenses reported by these groups, which ranged from .48 for those who migrated in adolescence to .63 for those who migrated in mid childhood, and almost doubles to .85 among those who migrated in early childhood (Table 3). This seems to provide preliminary evidence for my hypothesis that criminal offending will vary depending on age at migration into the U.S. However, chi-square and ANOVA tests were conducted, and the results showed no statistical significance in these group differences.
Self-reported offending by offense type. Among the U.S.-born, non-immigrant population, 14 percent reported at least one drug offense, 17 percent at least one violent offense, and 26 percent at least one property offense during the 2000-2003 period (Table 4). The mean number of offenses reported by the U.S.-born population was .24 drug, .26 violent, and .58 property offenses (Table 5). These are comparable to the numbers reported by the second-generation (14, 16, and 25 percent reported at least one drug, violent, and property offense respectively; with a mean of .24, .23 and .60 drug, violent, and property offenses).

These numbers, however, are notably lower among the foreign-born population, with 7.5 percent reporting at least one drug offense, 10 percent at least one violent offense, and 18 percent at least one property offense during the same period. The mean number of offenses reported were .11 drug offenses, .14 violent offenses and .44 property offenses.

Table 6 and 7 present differences in self-reported offending rates among the three age-at-migration cohorts, by offense type. The three groups report similar amounts of offending. It is worth noting, however, that while the proportions are almost identical for violent offenses among the three groups, with approximately 10-11% of all three age-at-migration groups reporting at least one violent offense, the mean number of violent offenses is considerably lower for those who migrated during adolescence (mean of .11), and in mid-childhood (mean of .13), compared to those who migrated at the youngest age category (mean of .17). Additionally, chi square tests were performed to assess whether statistically significant group differences existed between the three age at migration groups in terms of the predictor variables used in the study (not shown in table). The only
significant difference found was in terms of living in an intact family—45 percent of those who migrated during adolescence reported living in an intact family, compared to 60 percent of those who migrated in early childhood (<.01). The three age at migration groups report similar levels of control in Table 3. However, those who migrated during adolescence report less of 'other strain' on average (.22), than those who migrated in middle childhood (.29) or in early childhood (.39).

Table 8 shows the bivariate associations among the demographic characteristics, age at migration, offense variables, and theoretical controls for the foreign-born population (bivariate associations for the U.S.-born immigrant and nonimmigrant populations is presented in supplemental Appendix A at the end of the chapter). First, age at migration is negatively associated with offending (r=.12, p<.05), suggesting that as age at migration increases, offending decreases. This effect is separate from the effect of assimilation level, measured by increased years in the country—which is also associated with decreased number of offenses reported as expected (r=.10, p<.10). This lends preliminary support for my hypothesis regarding the unique influence of age at migration.

However, the theoretical variables are generally not associated with offending among this population—suggesting that the factors that explain offending among foreign-born immigrants may be qualitatively different. There are two exceptions here. Reporting strain (r=.11, p<.10) and less attachment are associated with self-reported offending (r=.11, p<.10; r=.09, p<.10).
Multivariate Analyses

The primary purpose of this dissertation is to assess how age at migration influences offending. Because the primary outcome of interest—whether an individual self-reported any offending—is dichotomous, binary logistic regression is primarily used for the statistical analysis. The results are presented in tables 9, 10, 11, 12, and 13, where the dependent variable is the dichotomous indicator of whether the respondent self-reported any offense between 2000-2003—0 represents no offense reported and 1 represents one or more offenses. The tables present unstandardized logistic coefficients and odds ratios (in parenthesis). Thus, the unstandardized coefficients and odds ratios represent the likelihood of reporting one or more offenses during that period.

Foreign-born immigrant population. The results of the binary logistic analysis are presented in Table 9, where 4 different models are presented. Model 1 contains the variables motivated by general strain and social control theories. These theoretical variables are introduced before other measures in the analysis to first measure and control for theoretically important factors, and to determine whether they are differently important for foreign born compared to U.S. immigrants (comparisons are presented in discussions of other populations below). Consistent with previous research, reporting a higher level of control is significantly associated with decreased odds of offending, and reporting strain is significantly associated with decreased odds of offending²⁵. However, only one measure of control and one measure of strain are statistically significant in predicting offending among the foreign-born. In this model, a one unit increase in

²⁵ Although the unstandardized coefficient for commitment (perceived chance of being in school in 5 years) is not in the expected direction, it is also not statistically significant.
attachment is associated with a .385-unit decrease, or a 32% reduction \((1.0 - .680 = .32)\) in the odds of offending \((p.<.05)\). Reporting any strain is associated with a 63.7 percent increase in the likelihood to report offending, all else constant \((p.<.05)\). It is important to highlight that the results suggest that attachment is especially important in predicting offending among immigrants. First, other than gender, attachment is the only measure that is consistently associated \((p < .05)\) with offending in all four model in Table 9. Second, attachment is the only measure of control that is associated with the odds of offending among the U.S.-born immigrant population (see Appendix B).

Model 2 adds the demographic control variables of age, gender residence location, and living in an intact family. After these controls are added, the measures of Control and Strain Theories remain similar in direction and magnitude. Additionally, days absent from school (measure of less involvement), becomes marginally significant in this Model—where a one unit increase in days absent from school is associated with a 43.5% increase \((1.435 - 1.0 = .435)\) in the likelihood of offending \((p.<.10)\)—holding all other predictors constant. Among the demographic controls, only age and gender are statistically significant. Being a male is associated with 134 percent higher odds of an offense, compared to females \((p.<.001)\). In terms of age, a one unit increase in age is associated with a 13.2 percent decrease in offending \((p.<.10)\), all else equal. This makes sense given the age distribution of participants when this variable was collected (ages 15-21). As participants age increases, the likelihood for offending decreases.

Model 3 of Table 9 adds the two dichotomous measures for age at migration. The variables indicate whether a respondent migrated during ages 0-5 (early childhood), or ages 6-11 (mid childhood). The reference group, not included in the model, are those who
migrated during years 12-17 (adolescence). This model is intended to test the main hypothesis of this dissertation regarding the impact of age at migration on offending. The coefficients for age at migration are not statistically significant—suggesting that migration during early childhood or mid-childhood does not differentially affect the odds of offending, relative to migrating in adolescence\textsuperscript{26}. The measures for attachment, involvement, strain, and gender remain significant and in the expected direction.

An important argument presented earlier in this dissertation is that age at migration may have a unique effect on offending, separate from the effect of assimilation. Thus, Model 4 in Table 9 adds a variable that measures the number of years an individual has lived in the United States, to control for assimilation. Consistent with prior research, years in the country is marginally significant in predicting the odds of reporting offending (p.<.10). More specifically, each additional year of living in the U.S. is associated with a 13 percent increase in the odds of offending, all else equal. The measures for attachment, involvement, strain, and gender remain significant and in the expected direction. It is important to mention that although the age at migration variables remain nonsignificant, the coefficient for 'migrating in middle childhood' is the largest in the model (b=-7.800). This suggests that migrating in middle childhood may be important in predicting offending, but it is possible that this coefficient is not significant given its large standard error (SE = .506), likely due to the small sample size.

\textit{U.S.-born, nonimmigrant population.} Logistic regression results for the U.S.-born, nonimmigrant population are presented in Table 10. Model 1 in this table, similar to

\textsuperscript{26} I also tried using the youngest age at migration group (since they reported the highest level of offending) as the reference category. The analysis yields similar results.
Model 1 in Table 9 contains the variables motivated by General Strain and Social Control Theories. All the variables are statistically significant in this model, except for death of relative. Consistent with previous research, reporting a higher level of control is significantly associated with decreased odds of offending, and reporting strain is significantly associated with decreased odds of offending. Comparing across populations, where all three measures of control theory are significant in predicting offending for the U.S.-born, only the attachment measure significantly predicts offending among the foreign-born immigrant population in that model.

Model 2 of Table 10 adds the demographic control variables of age, gender, residence location, and living in an intact family. After these controls are added, the measures of Control and General Strain Theories remain similar in direction and magnitude, with the exception of the commitment variable. Compared to Model 1, once demographic controls are added in Model 2, the coefficient for commitment is a larger negative number and significant at the .001 level. This change is likely a product of controlling for age in Model 2. Because the “commitment” measure asks about the chance of being in school in five years, older respondents who are nevertheless highly committed to education might already be about to finish their educational attainment by graduating. Without controlling for age in Model 1, commitment is constrained by its relationship with age; once age is controlled in Model 2, this allows the commitment measure to be independent of this age/commitment relationship and demonstrated by its unique effect on offending.

In Model 2, a one unit increase in attachment is associated with a .259 unit decrease, or a 22.9% reduction (1.0 - .771 = .229) in the odd of offending (p.<.001); a
one unit increase in commitment is associated with a 11% decrease in the odds of offending (p.<.001), and a one unit increase in days absent from school (less involvement) is associated with a 31.4% increase (1.314 - 1.0 = .314) in the likelihood of offending (p.<.001)—holding all other predictors constant. Reporting any strain is associated with a 51 percent increase in the likelihood to report offending, all else constant (p.<.001). Comparing across populations, in Model 2 of Table 9, the associations between the theoretical variables and offending are similar in magnitude direction. However, there is one difference worth mentioning. Where the commitment variable is negatively and significantly associated with the odds of offending among the U.S.-born, this association is positive but not significant for the foreign-born population. In fact, this association is significant in all models for the U.S.-born population, but never significant in any of the models for the foreign-born population. The results suggest that, where commitment to school is important in predicting offending among the U.S.-born population, this relationship does not hold true for foreign-born immigrants.

Demographic controls are also all statistically significant and in the expected direction, consistent with previous research, in this model. A one unit increase in age is associated with a 16% decrease in the odds of offending (p.<.001); and, being male is associated with 119 percent higher odds of an offense compared to females (p.<.001). Moreover, living in an urban rather than a rural setting is associated with a 21 percent increase in offending (p.<.01). Living in an intact family with both biological parents is associated with a 22.8 percent decrease in the odds of offending (p.<.001). Comparing across populations, in Model 2 of Table 9, the associations between the age and gender variables and offending are similar in magnitude direction compared to foreign-born
immigrants. However, where living in an intact family and in an urban area were strong predictors of offending among the U.S.-born, these variables are not significant in predicting offending among the foreign-born (Table 9).

_U.S.-born immigrant population._ For comparison purposes, I also conducted logistic regression for the U.S.-born immigrant population. The analysis mirrors the models presented in Table 10, and Models 1 and 2 in Table 9. These results are presented in Appendix B. This population is comprised of American children who have been born and socialized in the United States, but who were born to at least one foreign-born parent. Thus, it would be expected that the types and strengths of the associations between the independent and dependent variables among this population would be similar to those among the U.S.-born nonimmigrant population.

Surprisingly, this population seems instead to more closely resemble the foreign-born population in terms of the associations between the dependent variable and its predictors (see Appendix B). For example, where the three control measures had a strong statistical association with offending among nonimmigrants (p<.001), only one of those measures—attachment—is statistically significant in all models among U.S.-born and foreign-born immigrants (p<.01). Additionally, where living in an urban setting and living in an intact family where both statistically associated (p<.01 and p<.001 respectively) with the odds of reporting offending among U.S.-born nonimmigrant, these measures are not statistically significant among U.S.-born or foreign-born immigrants.
Additional Analysis

Thus far, multivariate logistic regression models for foreign-born immigrants did not support the hypothesis of this dissertation regarding the relationship between age at migration and offending. To further understanding of how age at migration and illegal activity may intersect, additional analytical approaches are considered and discussed below. First, to determine if age at migration is better conceptualized as a continuous predictor, rather than by using dichotomous age categories, I ran a supplemental logistic model using a continuous measure for age at migration, but this coefficient was also not significantly associated with the odds of offending. Other supplemental analyses considered whether the form of the dependent variable or the heterogeneity of the foreign-born population might be responsible for the null findings; I also analyzed each age-at-migration group separately. These supplemental analyses are discussed below.

*Ordinal Offending Measure.* As noted earlier in the descriptive analysis, although the possible number of offenses that a participant can report ranges from 0-24 over the 4 years period, the mean number of offenses actually reported was only 1.05 offenses, with less than 10 percent of the sample reporting more than 3 offenses. Univariate analysis on this measure confirmed that the variable is not normally distributed. Thus, I transformed and recoded the variable according to its interquartile range. The coding for the ordinal offending variable is as follows: 0=0 offenses; 1=1 offense; 2=2 offenses; 3=3 or 4 offenses; and 4=5+ offenses.

The newly coded variable allowed me to run an ordered logistic regression model with the theoretical, demographic, and age at migration variables (comparable to Model 4 in Table 9) for the foreign-born sample (not presented in a table). The only notable
difference between this analysis and Model 4 of Table 9 is that involvement is not significantly associated with offending in the analysis using the ordinal measure of offending. The dichotomous variables for age at migration remain non-significant.

*Types of Offending.* It is possible that although age at migration does not predict the odds of an offense generally, it may predict the odds of certain types of offending. The NLSY97 asked about participants’ involvement in property, violent, and drug related offenses. Thus, I created three dichotomous (1/0) variables indicating whether a participant had reported one of these specific types of offenses. I ran one binary logistic model per type of offense as the dependent variable—each included all theoretical, demographic, and age at migration variables. A summary of these supplemental results is briefly discussed below. Although the results are not presented in a table, comparisons of the following models to model 4 in Table 9 are discussed given that the population (all foreign-born immigrants) and predictors variables included in the models are identical.

*Property offenses.* The dichotomous dependent variable for this model was created from four questions in the NLSY97: 1) “Since the last interview on [date of last interview], have you purposely damaged or destroyed property that did not belong to you? 2) Since the last interview on [date of last interview], have you stolen something from a store or something that did not belong to you worth less than 50 dollars? 3) Since the last interview on [date of last interview], have you stolen something from a store, person or house, or something that did not belong to you worth 50 dollars or more including stealing a car? 4) Since the last interview on [date of last interview], have you committed other property crimes such as fencing, receiving, possessing or selling stolen property, or cheated someone by selling them something that was worthless or worth
much less than what you said it was?” The “property offense” variable is coded ‘1’ if the participant responded yes to any of the questions over the 4-year survey period, and ‘0’ if they reported no property offenses during this period. As is the case in Model 4 in Table 9, the odds of property offending are predicted by attachment (b=-.360; p.<.10), strain (b=.463; p.<.10), age (b=-.229; p.<.10), gender (b=.834; p.<.001), and years in the country (b=.130; p.<.10). Involvement is not statistically associated with property offending in this model.

**Violent offenses.** The dichotomous dependent variable for this model was created from one NLSY97 question: “Since the last interview on [date of last interview], have you attacked someone with the idea of seriously hurting them or have had a situation end up in a serious fight or assault of some kind?” Only two coefficients in this model, strain (b=.598; p.<.10) and gender (b=1.003; p.<.01), predict the odds of reporting a violent offense. The coefficients for age at migration and years in the country are not statistically significant.

**Drug offenses.** The dichotomous dependent variable for this model was created from one NLSY97 question: “Since the last interview on [date of last interview], have you sold or helped to sell marijuana (pot, grass), hashish (hash) or other hard drugs such as heroin, cocaine or LSD?” Results are presented in Table 11. In this model, drug offending is predicted by attachment (b=-.455; p.<.10), age (b=-.525; p.<.01), gender (b=1.202; p.<.01), and assimilation (b=.311; p.<.05).

Surprisingly, the two dichotomous measures for age at migration (in Model 1, Table 11) also predict the odds of a drug offense, lending some support to the hypothesis of this dissertation. More specifically, compared to those who migrate during
adolescence, migrating during early childhood is negatively associated with the odds of drug offending, all other variables constant (b=-3.230; p.<.05; OR=.040). Also, migrating during middle childhood is negatively associated with the odds of drug offending (b=-2.021; p.<.05; OR=.132). As a check on these results, I ran an additional supplemental model (not shown in a table) which used an ordinal level (early=1; mid=2; and adolescence=3) measure for age at migration. The measure is positively and significantly associated with the odds of drug offending (b=1.580; p.<.05; OR=4.854), suggesting that for each jump in the age-at-migration group (where age at migration increases), there is an increase of 1.58 (or 358%) increase in the likelihood of a drug offense.

As an additional step to verify those results, I decided to run a step-by-step analysis and introduce variables by blocks, using the dependent dichotomous measure for drug offending—comparable to the analysis in Table 9. The results of this analysis are presented in Table 12. Model 1 in this table includes all the theoretical covariates; Model 2 adds the demographic controls; Model 3 adds the two age-at-migration dichotomous variables; and, Model 4 adds the control for assimilation. Interestingly, the age-at-migration dummies become significant in predicting drug offending once the assimilation control is introduced in Model 4.27 This seems to suggest that failing to control for the number of years a respondent has lived in the U.S. may mask the importance of age at migration in predicting drug offending, given that these variables are correlated. Once years in the U.S. are controlled for, we are able to see the unique effect of age at migration. In this context, I speculate that the effect of age at migration is significant in

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27 I also created an interaction term using the variable for age at migration and the assimilation variable. The interaction term was added to Model 4 in Table 12. However, the coefficient was not statistically significant, and the main effects the other variables in the model remained the same.
this analysis only when we account for the number of years a participant has lived in the
country because drug offences may need a certain degree of connection that can only be
obtained over time (e.g. time to meet and develop relationships and trust with potential
buyers and suppliers). Lastly, these results should be taken with a note of caution.
Although the effect of age at migration on drug offending is significant, this effect is
relatively small (OR = .040; .132). Additionally, the total number of foreign-born
participants who reported a drug offense was also small (N = 34).

Homogeneity of Foreign-Born Population. The sample of foreign-born
immigrants in this study is composed primarily of immigrants of Hispanic descent
(N=350; 62.6%). It is possible that the influence of age at migration may be distinct for
this group, and that the analyses combining all foreign-born immigrants obscured the
importance unique to Hispanic immigrants. I explored this possibility (not presented in a
table) as well by running a model containing the theoretical covariates, demographic
controls, and age at migration variables for foreign-born Hispanics only. Again, age at
migration was significant only in predicting the odds of drug offending. In this analysis,
compared to those who migrate during adolescence, migrating during early childhood is
negatively associated with drug offending, holding other variables constant (b=-3.618;
p. < .10; OR=.027). Also, migrating during middle childhood is negatively associated with
the odds of self-reported drug offending (b=-2.664; p. < .05; OR=.070).

Separate analysis of Age at Migration Groups. Lastly, a primary aim of this
dissertation was to investigate whether age at migration groups differed in terms of the
type, direction, or magnitude of the associations between predictors motivated by control
and strain theory, and any offending (e.g. strength or direction of relationship with
offending, or offending may be predicted by a certain variable or set of variables for one age group, but not the others). Thus, I ran three identical models containing the theoretical covariates, demographic controls, and the assimilation control, for each of those groups (comparable to Model 4 in Table 9 for the foreign-born population). The results are briefly summarized below and presented in Appendix C.

**Early childhood model.** The odds of offending are predicted by attachment (b=-.676; p.<.01), age (b=-.276; p.<.10), gender (b=.720; p.<.05), and assimilation (b=.215; p.<.05). The variables are associated with offending in the expected directions. Where strain and involvement are significant (although marginally) in predicting offending among the broader foreign-born population, they do not predict offending among those who migrated in early childhood specifically.

**Middle childhood model.** The odds of offending are predicted by involvement (b=.835; p.<.05), strain (b=.709; p.<.10), age (b=-.348; p.<.10), and gender (b=.936; p.<.05). Surprisingly, where the attachment measure was significant in predicting offending among all immigrants, whether foreign or U.S.-born (and in all statistical models), it was not significant in predicting offending among those who migrated in middle childhood. Similarly, the number of years a participant has lived in the country does not predict offending for this population.

**Adolescence model.** The odds of offending are predicted only by the measure of school commitment (b=.775; p.<10). No other variables are significant in predicting offending for this age-at-migration group (including strong predictors such as gender). It is important to mention that school commitment was not significant in any model for
immigrants, whether U.S. or foreign-born. Additionally, the direction of the association with offending is in the opposite direction expected.

To sum, and as discussed throughout this dissertation, the above results seem to suggest that differences exist in terms of the relationships between the dependent and theoretical predictor variables among the three age-at-migration groups (and when comparing across the U.S.-born immigrant and nonimmigrant populations). However, these results need to be interpreted with caution given the overall small sample size of each group, and the particularly small sample size of those who migrated during middle childhood (N=161) and adolescence (N = 75). Although the results are with no doubt interesting and worth mentioning, it is not known whether they represent true population parameters, or whether they are a partial product of the large standard errors and small sample sizes.
Table 2. Descriptive statistics for all U.S.-Born Nonimmigrants, U.S.-Born Immigrants, and Foreign-Born Immigrants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Foreign-Born (N = 559)</th>
<th>All U.S.-Born (N = 7356)</th>
<th>U.S.-Born 2nd Gen (N = 712)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (n)</td>
<td>Mean (SD)</td>
<td>% (n)</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at migration(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at Migration Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 (1.75)</td>
<td>42.6 (238)</td>
<td>42.6 (238)</td>
<td>42.6 (238)</td>
</tr>
<tr>
<td>6-11 (1.50)</td>
<td>38.5 (215)</td>
<td>38.5 (215)</td>
<td>38.5 (215)</td>
</tr>
<tr>
<td>12-17 (1.25)</td>
<td>19.0 (106)</td>
<td>19.0 (106)</td>
<td>19.0 (106)</td>
</tr>
<tr>
<td>Dependent Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offending (0/1)</td>
<td>24.3 %</td>
<td>36.6 %</td>
<td>34.2 %</td>
</tr>
<tr>
<td>Offense Count (0-24)</td>
<td>0.70 (1.74)</td>
<td>1.07 (2.14)</td>
<td>1.08 (2.20)</td>
</tr>
<tr>
<td>Theoretical Controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Theory(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>2.91 (0.67)</td>
<td>2.82 (0.79)</td>
<td>2.91 (0.73)</td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>1.22 (0.78)</td>
<td>1.08 (0.78)</td>
<td>1.19 (0.75)</td>
</tr>
<tr>
<td>Involvement (0-2)</td>
<td>0.88 (0.57)</td>
<td>0.94 (0.57)</td>
<td>0.96 (0.60)</td>
</tr>
<tr>
<td>General Strain Theory(c)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>0.44 (0.50)</td>
<td>0.54 (0.50)</td>
<td>0.48 (0.50)</td>
</tr>
<tr>
<td>Other Strain (0/1)</td>
<td>0.32 (0.47)</td>
<td>0.35 (0.49)</td>
<td>0.32 (0.47)</td>
</tr>
<tr>
<td>Other Controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in 2000</td>
<td>17.38 (1.47)</td>
<td>17.28 (1.48)</td>
<td>17.24 (1.45)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.48 (0.50)</td>
<td>0.51 (0.50)</td>
<td>0.50 (0.50)</td>
</tr>
<tr>
<td>Male (1)</td>
<td>47.8 (267)</td>
<td>50.8 (3736)</td>
<td>50.0 (356)</td>
</tr>
<tr>
<td>Female (0)</td>
<td>52.2 (292)</td>
<td>49.2 (3620)</td>
<td>50.0 (356)</td>
</tr>
<tr>
<td>Residence Location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban (1)</td>
<td>91.3 (505)</td>
<td>74.7 (5255)</td>
<td>92.0 (655)</td>
</tr>
<tr>
<td>Rural (0)</td>
<td>8.7 (48)</td>
<td>25.3 (1784)</td>
<td>8.0 (55)</td>
</tr>
<tr>
<td>Intact family</td>
<td>0.58 (0.49)</td>
<td>0.48 (0.50)</td>
<td>0.60 (0.49)</td>
</tr>
<tr>
<td>Assimilation (years in the U.S.)</td>
<td>10.46 (4.28)</td>
<td>10.46 (4.28)</td>
<td>10.46 (4.28)</td>
</tr>
</tbody>
</table>

Notes:
\(a\)Represents the number of offenses reported in interview years 2000, 2001, 2002, and 2003. \(b\)Attachment measure is based on perceived school fairness with likert scale from 1(strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). \(c\)Other strain contains 4 strain items, which excludes death of relative.

ABBREVIATIONS: SD = standard deviation.
Table 3. Descriptive Statistics for Foreign-Born Immigrants by Age at Migration Category

<table>
<thead>
<tr>
<th>Variables</th>
<th>All Foreign-Born</th>
<th>1.75 (0-5yrs)</th>
<th>1.5 (6-11yrs)</th>
<th>1.25 (12-17yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (n)</td>
<td>Mean (SD)</td>
<td>% (n)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at migration</td>
<td>6.92 (4.38)</td>
<td>2.68 (1.64)</td>
<td>8.38 (1.68)</td>
<td>13.48 (1.30)</td>
</tr>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offending (0/1)</td>
<td>24.3 %</td>
<td>28.1 %</td>
<td>22.2 %</td>
<td>21.3 %</td>
</tr>
<tr>
<td>Offense Count (0-24)</td>
<td>0.70 (1.74)</td>
<td>0.85 (2.03)</td>
<td>0.63 (1.54)</td>
<td>0.48 (1.27)</td>
</tr>
<tr>
<td><strong>Theoretical Controls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>2.91 (0.67)</td>
<td>2.82 (0.69)</td>
<td>2.99 (0.67)</td>
<td>2.97 (0.62)</td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>1.22 (0.78)</td>
<td>1.21 (0.73)</td>
<td>1.26 (0.73)</td>
<td>1.07 (1.07)</td>
</tr>
<tr>
<td>Involvement (0-3)</td>
<td>0.88 (0.57)</td>
<td>0.86 (0.54)</td>
<td>0.89 (0.59)</td>
<td>0.91 (0.59)</td>
</tr>
<tr>
<td>General Strain Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>0.44 (0.50)</td>
<td>0.45 (0.50)</td>
<td>0.42 (0.49)</td>
<td>0.45 (0.50)</td>
</tr>
<tr>
<td>Other Strain (0/1)</td>
<td>0.32 (0.47)</td>
<td>0.39 (0.49)</td>
<td>0.29 (0.46)</td>
<td>0.22 (0.42)</td>
</tr>
<tr>
<td><strong>Other Controls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in 2000</td>
<td>17.38 (1.47)</td>
<td>17.18 (1.48)</td>
<td>17.21 (1.43)</td>
<td>18.21 (1.26)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (1)</td>
<td>47.8 (267)</td>
<td>43.3 (103)</td>
<td>51.6 (111)</td>
<td>5.0 (53)</td>
</tr>
<tr>
<td>Female (0)</td>
<td>52.2 (292)</td>
<td>56.7 (135)</td>
<td>48.4 (192)</td>
<td>50.0 (53)</td>
</tr>
<tr>
<td>Residence Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban (1)</td>
<td>0.91 (0.28)</td>
<td>0.89 (0.31)</td>
<td>0.93 (0.26)</td>
<td>0.92 (0.27)</td>
</tr>
<tr>
<td>Rural (0)</td>
<td>91.3 (505)</td>
<td>89.4 (210)</td>
<td>93.0 (198)</td>
<td>92.4 (97)</td>
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<tr>
<td>Inact family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assimilation (years in U.S.)</td>
<td>8.7 (48)</td>
<td>10.6 (25)</td>
<td>7.0 (15)</td>
<td>7.6 (8)</td>
</tr>
</tbody>
</table>

Notes: Descriptive statistics for foreign-born immigrants

aRepresents the number of offenses reported in interview years 2000, 2001, 2002, and 2003. bAttachment measure is based on perceived school fairness with Likert scale from 1 (strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items, which excludes death of relative.

ABBREVIATIONS: SD = standard deviation.
### Table 4. Percentage of offending reported by offense type

<table>
<thead>
<tr>
<th>Type</th>
<th>U.S.-Born</th>
<th>2nd-Gen</th>
<th>Foreign-Born</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
<td>14%</td>
<td>14%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Violent</td>
<td>17%</td>
<td>16%</td>
<td>10%</td>
</tr>
<tr>
<td>Property</td>
<td>26%</td>
<td>25%</td>
<td>18%</td>
</tr>
</tbody>
</table>

### Table 5. Average number of offences reported by offense type

<table>
<thead>
<tr>
<th>Type</th>
<th>U.S.-Born</th>
<th>2nd-Gen</th>
<th>Foreign-Born</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
<td>0.24</td>
<td>0.24</td>
<td>0.11</td>
</tr>
<tr>
<td>Violent</td>
<td>0.26</td>
<td>0.23</td>
<td>0.14</td>
</tr>
<tr>
<td>Property</td>
<td>0.58</td>
<td>0.60</td>
<td>0.44</td>
</tr>
</tbody>
</table>

### Table 6. Percentage of offending reported by offense type

<table>
<thead>
<tr>
<th>Type</th>
<th>1.75 Gen</th>
<th>1.5 Gen</th>
<th>1.25 Gen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
<td>10%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Violent</td>
<td>11%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Property</td>
<td>20%</td>
<td>19%</td>
<td>12%</td>
</tr>
</tbody>
</table>

### Table 7. Average number of offences reported by offense type

<table>
<thead>
<tr>
<th>Type</th>
<th>1.75 Gen</th>
<th>1.5 Gen</th>
<th>1.25 Gen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
<td>0.14</td>
<td>0.10</td>
<td>0.07</td>
</tr>
<tr>
<td>Violent</td>
<td>0.17</td>
<td>0.13</td>
<td>0.11</td>
</tr>
<tr>
<td>Property</td>
<td>0.53</td>
<td>0.41</td>
<td>0.30</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>1. Age at migration</td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>2. Attachment</td>
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<td></td>
<td>1.0</td>
</tr>
<tr>
<td>3. Commitment</td>
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<td>.06</td>
</tr>
<tr>
<td>4. Involvement</td>
<td>.04</td>
<td></td>
<td>-.10</td>
</tr>
<tr>
<td>5. Strain Scale (0-4)</td>
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</tr>
<tr>
<td>6. Death of Relative</td>
<td>-.01</td>
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<td></td>
</tr>
<tr>
<td>7. Age in 2000</td>
<td>.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Gender (male)</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Assimilation (years in U.S.)</td>
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<tr>
<td>10. Residence Location (urban)</td>
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</tr>
<tr>
<td>11. Intact Family</td>
<td>-.08</td>
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<td>12. Age at Migration*Assimilat</td>
<td>-.96</td>
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<tr>
<td>13. Offending (0/1)</td>
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</tr>
<tr>
<td>14. Offense Count (0-24)</td>
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</tr>
<tr>
<td>15. Offense Index Scale (0-4)</td>
<td>-.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .10, **p < .05, ***p < .01.

Note: Offense index scale is constructed based on data transformations to more closely resemble normal distribution. 0 = 0 offenses; 1 = 1 offense; 2 = 2 offense; 3 = 3 or 4 offenses; and 4 = 5+ offenses.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Theoretical Controls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>-0.385 *</td>
<td>0.171</td>
<td>-0.431 *</td>
<td>0.171</td>
</tr>
<tr>
<td>(0.680)</td>
<td>(0.650)</td>
<td>(0.670)</td>
<td>(0.672)</td>
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</tr>
<tr>
<td>Commitment (0-2)</td>
<td>0.146</td>
<td>0.158</td>
<td>0.121</td>
<td>0.158</td>
</tr>
<tr>
<td>(1.158)</td>
<td>(1.129)</td>
<td>(1.144)</td>
<td>(1.157)</td>
<td></td>
</tr>
<tr>
<td>Less Involvement (0-2)</td>
<td>0.242</td>
<td>0.211</td>
<td>0.361</td>
<td>0.211</td>
</tr>
<tr>
<td>(1.273)</td>
<td>(1.435)</td>
<td>(1.464)</td>
<td>(1.474)</td>
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</tr>
<tr>
<td><strong>General Strain Theory</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>-0.161</td>
<td>0.239</td>
<td>-0.230</td>
<td>0.239</td>
</tr>
<tr>
<td>(0.851)</td>
<td>(0.794)</td>
<td>(0.785)</td>
<td>(0.791)</td>
<td></td>
</tr>
<tr>
<td>Other Strain (1/0)</td>
<td>0.493 *</td>
<td>0.240</td>
<td>0.486  *</td>
<td>0.240</td>
</tr>
<tr>
<td>(1.637)</td>
<td>(1.625)</td>
<td>(1.586)</td>
<td>(1.565)</td>
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<tr>
<td><strong>Demographic Controls</strong></td>
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</tr>
<tr>
<td>Age in 2000</td>
<td>-0.141</td>
<td>0.084</td>
<td>-0.138</td>
<td>0.086</td>
</tr>
<tr>
<td>(0.868)</td>
<td>(0.871)</td>
<td>(0.775)</td>
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<td></td>
</tr>
<tr>
<td>Gender (1=male)</td>
<td>0.851 ***</td>
<td>0.236</td>
<td>0.878 ***</td>
<td>0.237</td>
</tr>
<tr>
<td>(2.342)</td>
<td>(2.406)</td>
<td>(2.465)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence (1=urban)</td>
<td>0.149</td>
<td>0.443</td>
<td>0.172</td>
<td>0.445</td>
</tr>
<tr>
<td>(1.160)</td>
<td>(1.188)</td>
<td>(1.205)</td>
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<td></td>
</tr>
<tr>
<td>Intact family (1=yes)</td>
<td>-0.078</td>
<td>0.241</td>
<td>-0.086</td>
<td>0.244</td>
</tr>
<tr>
<td>(0.925)</td>
<td>(0.918)</td>
<td>(0.905)</td>
<td></td>
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</tr>
<tr>
<td><strong>Migration Age Variables</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0-5 (1=yes)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-11 (1=yes)</td>
<td>0.195</td>
<td>0.348</td>
<td>-1.115</td>
<td>0.837</td>
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<tr>
<td>(1.215)</td>
<td>(0.328)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Assimilation (years in the U.S.)</td>
<td>0.124</td>
<td>0.072</td>
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<td></td>
</tr>
<tr>
<td>(1.132)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[R^2 = 0.43, \quad -2 \text{Log Likelihood} = 970.99, \quad 454.7, \quad 452.6, \quad 449.6\]

\[^* p < .10, \quad ^* p < .05, \quad ^** p < .01, \quad ^*** p < .001.\]

N=428. Odds Ratios in parenthesis. Offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with likert scale from 1(strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.
Table 10. Logistic Regression Models Predicting Any Offending Among U.S.-Born Nonimmigrants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Theoretical Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>-0.193 ***</td>
<td>0.034</td>
<td>-0.259 ***</td>
<td>0.035</td>
</tr>
<tr>
<td></td>
<td>(0.824)</td>
<td>(0.771)</td>
<td>(0.940)</td>
<td>(0.885)</td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>-0.062</td>
<td>0.034</td>
<td>-0.123 ***</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>(0.940)</td>
<td>(0.885)</td>
<td>(1.227)</td>
<td>(1.314)</td>
</tr>
<tr>
<td>Less Involvement (0-2)</td>
<td>0.205 ***</td>
<td>0.047</td>
<td>0.273 ***</td>
<td>0.049</td>
</tr>
<tr>
<td></td>
<td>(1.227)</td>
<td>(1.314)</td>
<td>(1.472)</td>
<td>(1.510)</td>
</tr>
<tr>
<td>General Strain Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>-0.014</td>
<td>0.054</td>
<td>-0.024</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>(0.986)</td>
<td>(0.976)</td>
<td>(1.472)</td>
<td>(1.510)</td>
</tr>
<tr>
<td>Other Strain (1/0)</td>
<td>0.387 ***</td>
<td>0.056</td>
<td>0.412 ***</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td>(1.472)</td>
<td>(1.510)</td>
<td>(1.931)</td>
<td>(2.071)</td>
</tr>
<tr>
<td>Demographic Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in 2000</td>
<td>-0.181 ***</td>
<td>0.020</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>(0.834)</td>
<td>(0.934)</td>
<td>(1.206)</td>
<td>(1.305)</td>
</tr>
<tr>
<td>Gender (1=male)</td>
<td>0.787 ***</td>
<td>0.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.196)</td>
<td>(2.326)</td>
<td>(2.618)</td>
<td>(2.759)</td>
</tr>
<tr>
<td>Residence (1=urban)</td>
<td>0.188 **</td>
<td>0.065</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.206)</td>
<td>(1.265)</td>
<td>(1.967)</td>
<td>(2.137)</td>
</tr>
<tr>
<td>Intact family (1=yes)</td>
<td>-0.259 ***</td>
<td>0.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.295)</td>
<td>(1.365)</td>
<td>(1.881)</td>
<td>(2.044)</td>
</tr>
</tbody>
</table>

\[ R^2 \quad 0.026 \quad 0.097 \]

\[ -2 \text{ Log Likelihood} \quad 8004 \quad 7707 \]

\( p < .10. * p < .05. ** p < .01. *** p < .001. \) N=6174. Odds Ratios in parenthesis. Offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with Likert scale from 1 (strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.
Table 11. Logistic Regression Model Predicting Drug Offending Among Foreign-Born Immigrants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Theoretical Controls</strong></td>
<td></td>
</tr>
<tr>
<td>Control Theory</td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>-0.455</td>
</tr>
<tr>
<td>(0.635)</td>
<td></td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>0.023</td>
</tr>
<tr>
<td>(1.486)</td>
<td></td>
</tr>
<tr>
<td>Less Involvement (0-2)</td>
<td>0.396</td>
</tr>
<tr>
<td>(1.486)</td>
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</tr>
<tr>
<td><strong>General Strain Theory</strong></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>-0.372</td>
</tr>
<tr>
<td>(0.689)</td>
<td></td>
</tr>
<tr>
<td>Other Strain (1/0)</td>
<td>0.494</td>
</tr>
<tr>
<td>(1.638)</td>
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</tr>
<tr>
<td><strong>Demographic Controls</strong></td>
<td></td>
</tr>
<tr>
<td>Age in 2000</td>
<td>-0.525</td>
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<tr>
<td>(0.591)</td>
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</tr>
<tr>
<td>Gender (1=male)</td>
<td>1.202</td>
</tr>
<tr>
<td>(3.328)</td>
<td></td>
</tr>
<tr>
<td>Residence (1=urban)</td>
<td>0.560</td>
</tr>
<tr>
<td>(1.058)</td>
<td></td>
</tr>
<tr>
<td>Intact family (1=yes)</td>
<td>0.057</td>
</tr>
<tr>
<td>(1.059)</td>
<td></td>
</tr>
<tr>
<td><strong>Migration Age Variables</strong></td>
<td></td>
</tr>
<tr>
<td>0-5 (1=yes)</td>
<td>-3.230</td>
</tr>
<tr>
<td>(0.040)</td>
<td></td>
</tr>
<tr>
<td>6-11 (1=yes)</td>
<td>-2.021</td>
</tr>
<tr>
<td>(0.132)</td>
<td></td>
</tr>
<tr>
<td>Assimilation (years in the U.S.)</td>
<td>0.311</td>
</tr>
<tr>
<td>(1.365)</td>
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</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.145</td>
</tr>
<tr>
<td>-2 Log Likelihood</td>
<td>205.954</td>
</tr>
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</table>

*p < .10. **p < .05. ***p < .01. ****p < .001. N=428. Odds Ratios in parenthesis. Drug offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with likert scale from 1(strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.
Table 12. Logistic Regression Models Predicting Drug Offending Among Foreign-Born Immigrants (N=559)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical Controls</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>-0.447</td>
<td>-0.492</td>
<td>-0.265</td>
<td>-0.465</td>
</tr>
<tr>
<td>(0.639)</td>
<td>(0.611)</td>
<td>(1.024)</td>
<td>(1.005)</td>
<td>(1.005)</td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>0.240</td>
<td>0.025</td>
<td>0.253</td>
<td>0.005</td>
</tr>
<tr>
<td>(1.824)</td>
<td>(0.976)</td>
<td>(1.177)</td>
<td>(1.024)</td>
<td>(1.024)</td>
</tr>
<tr>
<td>Less Involvement (0-2)</td>
<td>0.239</td>
<td>0.362</td>
<td>0.342</td>
<td>0.395</td>
</tr>
<tr>
<td>(1.270)</td>
<td>(1.436)</td>
<td>(1.484)</td>
<td>(1.484)</td>
<td>(1.484)</td>
</tr>
<tr>
<td>General Strain Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>-0.276</td>
<td>-0.378</td>
<td>-0.390</td>
<td>-0.413</td>
</tr>
<tr>
<td>(0.759)</td>
<td>(0.685)</td>
<td>(0.662)</td>
<td>(0.662)</td>
<td>(0.662)</td>
</tr>
<tr>
<td>Other Strain (1/0)</td>
<td>0.610</td>
<td>0.568</td>
<td>0.378</td>
<td>0.531</td>
</tr>
<tr>
<td>(1.840)</td>
<td>(1.765)</td>
<td>(1.701)</td>
<td>(1.701)</td>
<td>(1.701)</td>
</tr>
<tr>
<td>Demographic Controls</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in 2000</td>
<td>-0.229</td>
<td>0.138</td>
<td>-0.240</td>
<td>0.086</td>
</tr>
<tr>
<td>(0.796)</td>
<td>(0.787)</td>
<td>(0.787)</td>
<td>(0.787)</td>
<td>(0.787)</td>
</tr>
<tr>
<td>Gender (1=male)</td>
<td>1.130 **</td>
<td>0.401</td>
<td>1.173 **</td>
<td>0.237</td>
</tr>
<tr>
<td>(3.095)</td>
<td>(3.233)</td>
<td>(3.233)</td>
<td>(3.233)</td>
<td>(3.233)</td>
</tr>
<tr>
<td>Residence (1=urban)</td>
<td>-0.068</td>
<td>0.665</td>
<td>-0.037</td>
<td>0.445</td>
</tr>
<tr>
<td>(0.934)</td>
<td>(0.963)</td>
<td>(0.963)</td>
<td>(0.963)</td>
<td>(0.963)</td>
</tr>
<tr>
<td>Intact family (1=yes)</td>
<td>-0.068</td>
<td>0.387</td>
<td>0.004</td>
<td>0.244</td>
</tr>
<tr>
<td>(0.955)</td>
<td>(1.004)</td>
<td>(1.004)</td>
<td>(1.004)</td>
<td>(1.004)</td>
</tr>
<tr>
<td>Migration Age Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 (1=yes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.103</td>
<td>0.348</td>
<td>3.230 *</td>
<td>1.450</td>
</tr>
<tr>
<td>(1.109)</td>
<td>(0.040)</td>
<td>(0.040)</td>
<td>(0.040)</td>
<td>(0.040)</td>
</tr>
<tr>
<td>6-11 (1=yes)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.519</td>
<td>0.362</td>
<td>2.021 *</td>
<td>0.869</td>
</tr>
<tr>
<td>(0.595)</td>
<td>(0.132)</td>
<td>(0.132)</td>
<td>(0.132)</td>
<td>(0.132)</td>
</tr>
<tr>
<td>Assimilation (years in the U.S.)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.311 *</td>
<td>0.123</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.365)</td>
<td>(1.365)</td>
<td>(1.365)</td>
<td>(1.365)</td>
</tr>
</tbody>
</table>

\[ R^2 \]  
-2 Log Likelihood 226 215.1 214.9 212.9 206

\[ p < .10, ^* p < .05, ^{*} p < .01, ^{**} p < .001 \]

Nested Models total N=430. Odds Ratios in parenthesis. Drug offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with likert scale from 1 (strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.
Figure 2: Self-Reported Crime by Age at Migration

Notes: N=559 foreign-born immigrants. The 1.75, 1.5, and 1.25 generations represent age at migration groups 0-5, 6-11, and 12-17 respectively. ANOVA was used to test mean differences among the groups. Mean group differences are not statistically significant.
CHAPTER 5: DISCUSSION AND CONCLUSION

As the post-1965 massive wave of migration into the country continues, and as the debate over immigration policies and security at the border are at the forefront of today’s politics and public discussion, the question of how the immigrant population will shape the cultural, social, and economic make-up of the United States is one of the most critical issues in contemporary American society (Ousey and Kubrin 2014). The growth of the foreign-born population has accounted for almost a third of the country’s total population growth in the last two decades. According to recent estimates, by 2050, immigrants (foreign and U.S.-born) are projected to make up a third of the total youth population (U.S. Census, 2010). In terms of age at arrival among those who migrated prior to adulthood, approximately 40% arrived during early childhood, 30% during middle childhood, and 30% during adolescence (Current Population Survey 2012).

It is clear that these demographic trends are substantial, thus will lead us to consider whether, “the country will suffer or be better off because of this historic shift” (Suarez-Orozco and Suarez-Orozco 2001). With no doubt, the adaptation and integration of immigrants and immigrant children will play a key role in answering the above question. More specifically, how this population fares on outcomes such as crime will play a key role in shaping the social, economic, and political landscape of the country (Pickett 2016). Thus, understanding what factors influence offending patterns among immigrants is of paramount importance today and into the future (Piquero et al. 2016b).

Although empirical work has accumulated over the last several decades to assess the link between criminal offending and immigrant status, this literature has focused almost
exclusively on adults, and on examining the detrimental role of increased assimilation on offending (Garcia Coll and Magnuson 1997; Portes et al. 2009; Portes and Zhou 1993; Rumbaut 1991, 1997). Scholars have often called for the inclusion of age at migration in this line of research—suggesting for instance that migrating during distinct ages and developmental stages could create uniquely challenging adaptation trajectories affecting criminal offending patterns ultimately. However, little has been done to assess the possible influence of age at migration on offending (Portes Alejandro 1996; Portes and Rumbaut 2005; Rumbaut 2004).

Research Question and Key Findings

The primary goal of this dissertation was to assess whether age at migration affects the likelihood of offending. Using Rumbaut’s generational typology based on age at arrival, I aimed to fill a longstanding gap in this literature by assessing whether age at migration affects offending among immigrants who arrived before adulthood—and whether this relationship varied by offense type, or among immigrants of Hispanic descent.

The data used for this study came from the National Longitudinal Survey of Youth 1997. The NLSY97 is unique in that it asked respondents about their age at migration, and a variety of questions related to self-reported offending. The data allowed me to examine whether any offense was reported at all during the time period of interest, the total number of offenses reported, and the type of offending reported (property, violent, and drug-related). A total of 559 participants, who self-identified as foreign-born immigrants, made up the primary sample of this study.
First, using binary logistic regression, I examined whether the age at which a respondent migrated into the country predicted the odds of reporting any type of criminal offending, after controlling for theoretically important covariates and demographic variables. Given previous research findings and theoretical notions discussed earlier in this dissertation, I hypothesized that statistically significant differences would exist in offending among the age-at-migration groups. The results of this analysis did not provide support for my hypothesis. In that analysis, migrating during early childhood or mid-childhood did not differentially affect the odds of offending, relative to migrating in adolescence.

Supplemental analyses considered whether the form of the dependent variable might have been responsible for the null findings. In that analysis, the two measures of age at migration were significant in predicting drug offending (but not property or violent offenses). Compared to those who migrate during adolescence, migrating during early childhood or middle childhood was negatively associated with the odds of drug offending, all other variables constant. A partial explanation may be that, compared to children who migrated at a young age, children who migrated in adolescence may have had added pressure to sell drugs in order to support themselves. This may especially be the case for adolescents who migrated as unaccompanied minors without their families. The fact that tens of thousands of unaccompanied adolescents enter the U.S. every year has been well documented (U.S. Customs and Border Protection 2016). However,

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28 It is worth mentioning that differences in offending were not significant for other types of economic property offences (e.g. have you stolen something more than $50) in the analysis. It is difficult to speculate why a respondent may be more likely to sell or help sell drugs rather than stealing. This perhaps relates to the status/prestige associated with selling drugs, and the fact that selling drugs is typically a event that occurs between willing sellers and buyers, rather than unwilling victims of crime (Ilan 2015).
NLSY97 did not record whether immigrant children traveled as accompanied minors, and it is therefore not possible to test for this possibility. Although the results provide partial support for the salience of age at migration in predicting offending, the results need to be taken and interpreted with an important note of caution. First, the age at migration variables are only significant once the number of years a respondent has lived in the U.S. is controlled for—perhaps because it takes time after arrival for immigrants to get established in their communities in order successfully make connections to potential sellers and buyers. Embeddedness has been recognized as an important factor not only for success in conventional activities, but also for illicit lucrative activities (McCarthy and Hagan 2001). Second, the magnitude and impact of age at migration coefficient is relatively small (OR = .040 for ages 0-5; .132 for ages 6-11). For comparison, in the same model (Model 4 of Table 12), the impact of other variables ranges from OR = .591 for participant’s age, to OR = 3.328 for gender. It is likely that this is related to the fact that the total number of participants who reported a drug offense was quite small (N=34).

The next few paragraphs provide a discussion of the implications of these findings in the context of theory, previous research findings and methodology in this area of study, and implications for policy.

Implications for Relevant Theoretical Literature

Child development theory asserts that successful development of children proceeds through sensitive and unique age periods—which could be distinctively disrupted and affected by the initial migration experience and challenges particular to
adaptation trajectories. In partial support of the theory, research to date has found that migrating during very early childhood (e.g. five years old or younger) is more beneficial in terms of economic and educational achievement and upward mobility, compared to those who migrated at an older age (Cherpitel et al. 2017; Cheung, Chudek, and Heine 2011; Myers et al. 2009; Oropesa and Landale 1997, 2009; Ousey and Kubrin 2014; Portes et al. 2009; Portes and Rumbaut 2005; Rumbaut 2004). However, research that has focused on offending specifically, has suggested that offending is considerably higher among the youngest age-at-migration group when compared to those who migrated later in life (Bianca E Bersani 2014; Bianca E. Bersani 2014; Bersani and DiPietro 2013; DiPietro and Cwick 2014; Miller 2015). Whether migrating between very early childhood, but before adulthood, had a distinct and significant effect on criminal offending, was still an open-ended question. The results of this dissertation are an important first step in providing an answer. In this study, migrating during distinct ages does not differentially predict self-reported offending among foreign-born immigrants (aside from the supplemental analyses where age at migration predicted drug offending). Contrary to child development theory, the results may suggest that the initial shock of migration and challenges faced by immigrants who arrive during distinct age periods does not differentially affect offending among the age-at-migration groups.

Additionally, this dissertation suggested the possibility that theoretical constructs from control and general strain theory could differentially operate/apply among different groups (e.g., differences could exist in terms of the type, direction, or magnitude of the

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29 As explained earlier in the introduction, research on offending has treated age at migration as a dichotomy between ‘very young’ and everyone else, including adults.
associations between theoretical predictors and offending among immigrants). In fact, the results of the multivariate analyses provide preliminary support to suggest that this is the case, especially in terms of control theory.

First, school commitment (based on the respondent’s perceived chance of being in school in 5 years) consistently predicted offending among the U.S.-born. However, this association was never significant for the foreign-born population. The results suggest that, where commitment to school is important in reducing offending among the U.S.-born population, this relationship may not hold true for foreign-born immigrants. An interesting exception here is that commitment was significant in predicting offending only among those who migrated during adolescence (but not for other age at migration groups). However, commitment was positively rather than negatively related to offending.

Second, being attached to school (where respondents were asked their perception that discipline at school was fair) emerges as an especially important predictor in terms of offending among immigrants. In fact, school attachment is the only theoretical measure that is consistently associated with offending in models for the foreign-born population. Similarly, school attachment is the only measure of control that is associated with the odds of offending in all models among the U.S.-born immigrant population.

Third, although limited by small population sizes, the results also provide preliminary evidence that control measures may operate differentially among foreign-born immigrants, based on age at migration. Only attachment to school was significant in predicting offending among those who migrated in early childhood, while school involvement was the only significant measure in doing so among those who migrated in
adolescence. As highlighted earlier, school commitment predicted offending among those who migrated in adolescence.

**Empirical contribution**

Although limited in number, previous studies have found that age at migration is an important predictor of language acquisition, educational, and employment outcomes. As a group, these studies suggest that an earlier age at migration is more beneficial generally, and that this benefit typically decreases as age at migration increases. For example, a study by Myers et al. (2009) investigated the effect of age at arrival on socioeconomic outcomes for foreign-born immigrants. In term of education, their work finds that educational attainment declines progressively with later age at arrival. In term of occupation, the likelihood of holding a higher status occupation declines with older age at arrival as well. The general explanation often afforded in these studies is that the timing of migration within the life-course sets immigrants into certain life-course trajectories (Stevens 1999; 2004). For instance, immigrants who enter the country in early childhood are more likely to go school in the U.S. and for longer, and therefore more likely to become more fluent in English, to achieve academically, and ultimately do better occupationally than those who enter the country at older ages (Beck et al. 2012; Medvedeva 2010; Myers et al. 2009).

In sum, previous findings have suggested that age at migration is an important predictor of successful adaptation and upward mobility among foreign-born immigrants—and that an earlier age at arrival is more beneficial in this context. Taking the overall results of this dissertation—that age at migration does not influence offending
generally—it can be concluded that where age at migration may be an important predictor of achievement-related adaptation outcomes, it is not a significant predictor of offending specifically. However, the supplemental results do compliment the overall findings of previous research studies. The results suggest that migration at an earlier age (before adolescence) is more desirable for a successful immigrant adaptation and wellbeing since those who migrated at this age report a lower level of drug offending than those who migrated in adolescence. While research to date has begun to explore and unpack what might account for differences in experiences and outcomes among immigrant groups, a fuller understanding of the relationship between migration experiences and offending is still lacking. In sum, this dissertation adds to the literature by considering the influence of age at migration on criminal offending among individuals who migrated before adulthood.

Methodological Implications

In terms of methodology, research studies that focus on immigrants’ adaptation generally group this population according to generation (i.e. 1st v. 2nd; foreign-born vs. U.S.-born immigrants) because of the assumption that there are significant categorical differences among these groups. However, the traditional categorization dichotomy has been repeatedly criticized because it ignores the diversity in age at migration among foreign-born immigrants (Bui 2009; Oropesa and Landale 1997; Portes 2003; Rumbaut 1991, 2004). As discussed earlier, Rumbaut and other scholars have called for the inclusion of age at migration in the categorization of immigrants in research, suggesting instead to use decimal categories based on age at migration. This dissertation follows that
lead, and uniquely contributes to the literature by using age-at-migration categories in studying offending as the key outcome of interest. However, the results did not find support for the salience of using age at migration in this context (aside from the supplemental analysis on drug offending).

Additionally, among the primary reasons cited to use finer-grade age at migration categories to study immigrants, is the potential for increased consistency in definition and measurement of the immigration population across studies. However, we must also consider whether this consistency is warranted or desirable for studying all adaptation outcomes. It may be ‘best practice’ instead, to employ a categorization strategy that is uniquely suited for the type of outcome being studied. In a 2009 study, Myers considered the impact of employing different categorizations of age at arrival on several measures of socioeconomic achievement outcome. He concluded that “the best representation of age at arrival appears to depend heavily on the outcome of interest”; and, that “dichotomous [grouping those who arrived in early childhood and those who arrived at any age after, for example] representations of age at migration on occasion may fit as well or better than the more elaborate representations” (p.224). Myers suggests that although more age groupings may be better when there is a large enough sample available, a universal definition of generational groupings based on age at migration may not be applicable to all outcomes. The overall findings of this dissertation compliment Myer’s findings and conclusion. It seems that, in the context of studying criminal offending among immigrants, the traditional categorization employed by other studies to date, using the more readily available distinction between those who arrived at a very young age vs. everybody else, generally is no less disadvantageous than using the finer-grade categories.
based on migration age. Nonetheless, when large samples and data on age at migration are available, probing for differences among the age groups may be a worthy endeavor—as suggested by the statistically significant differences in drug offending among the age at migration groups.

Policy Implications

Scholars have suggested that migration during certain ages could present additional barriers for successful adaptation and integration. Within this context, this dissertation investigated whether arrival into the United States during distinct ages was differentially detrimental in terms of offending. Findings could have the potential to inform current policy (for instance, channeling resources for immigrant children who migrate during the most challenging ages). The primary findings suggest that age at migration has no significant effect on the likelihood to offend, which may suggest that there is no significant need to channel additional resources to specific age-at-migration groups.

Supplemental results, however, revealed that immigrants who arrived during adolescence were more likely to report drug offending than immigrants who arrived during early or middle childhood. Rumbaut and other scholars have described those who arrived during adolescence as teens who may or may not come with their families, who may only attend a few years of education in the U.S., and who may enter the labor force very soon after arrival. Because of those reasons there is potential for high variation within this group (e.g. likely to either go into the workforce, or complete most or all high school education). Research has suggested that those who arrived in adolescence do
worse or no better educationally and occupationally than those who migrate in younger ages, or when compared to those who migrated in adulthood—which suggests that this group in particular may undergo a particularly problematic adaptation process overall. The findings regarding higher drug offending among those who migrated in adolescence lend additional support to this notion. Although these results are preliminary, there is reason to suspect that immigrants who arrived during adolescence do in fact face additional barriers for integration, which is reflected in their likelihood for offending. Given that the massive flow of immigrants to the United States continues, and that the number of migrant unaccompanied children and children with families reached record highs in recent years\textsuperscript{30}—policy makers should seek out additional research to better understand the adaptation trajectories that immigrants children experience, and channel additional resources and services to those who need it most. Although additional research is necessary, previous findings and the results of this dissertation suggest that the earlier in life immigrant children arrive, the more fully and successfully they are incorporated in American society, and the lower their propensity for offending.

Limitations

To my knowledge, this is the first study that directly assesses the influence of age at arrival on self-reported criminal offending. This analysis was possible because the NLSY97 contained a question that directly asked respondents about age at arrival. It is

\textsuperscript{30} For example, according to a New York Times report, more than 63,000 children were caught crossing the United States border in 2014 — double the previous year’s number (Park 2014).
rare to find any large nationally representative data sets containing this question, and
even more rare to find data sets that contains offending measures as well as a measure of
migration age. However, the use of this data also limits this dissertation in several ways.
First, although the total sample of foreign-born immigrants in the NLSY97 was sizable
(N = 559), the number of participants in each age-at-migration group was considerably
smaller, and even smaller when conducting multivariate analysis (e.g. cases lost due to
non-responses). This was specially the case for the smallest group, who migrated in
adolescence. This presents issues in terms of statistical power. Where larger sample sizes
are beneficial in that they more closely approximate the population under study, smaller
sample sizes may limit my ability to detect the possible effect of the independent
variables.

Second, this dissertation does not contain other measures typically included in
studies of immigrant adaptation, studies of children, or studies of crime. For instance,
recent research on immigrants have included measures of assimilation, school outcomes,
parental relationships, family types, poverty measures, intermarriage, and naturalization.
The primary reasons why the NLSY97 does not include such measures is that it was not
designed to study immigrants specifically—like the Children of Immigrants Longitudinal
Study for instance. Studies of children typically include childhood circumstances, those
related to parents and families, to neighborhood characteristics, to the school, and to
peers. Studies of criminal offending have included measures of education attainment,
neighborhood characteristics, employment, family status, prior criminal justice contacts
and criminal history, and socioeconomic status, just to name a few. Many of these
measures were not available in the NLSY97, and even though some measures were
available in the NLSY97 in later waves, they could not be included in this study design, given the need to ensure correct temporal order independent and dependent variables. Although including the measures mentioned above is with no doubt a limitation, the primary goal of this dissertation was to take a first step in assessing the influence of age at migration on offending. The more parsimonious models in this study provided a baseline/initial analysis of age at migration on crime. Additional controls would have been more important only after establishing a relationship between the key independent and dependent variables. Since, for the most part, I did not find a significant relationship between these variables, there is less need for a more detailed or complicated model that adds a larger number of controls.

Third, it should be noted that the reliability and validity of self-report offending data has been criticized on several grounds. For example, the full range of offending in which youth engage is rarely covered by the survey questions (e.g. youth may engage in other illegal activities which surveys do not ask about). Moreover, the use of subjective response categories (e.g. strongly agree, agree, disagree, etc.) may obscure the magnitude or counts of reported acts (Thornberry and Krohn 2000). The data obtained from NLSY97 are not exempt from similar critiques. Thus, the potential limitations of self-report data should be recognized. That being said, previous work also has compared self-report data with official measures and this work generally finds good concordance between these measures (Babinski, Hartsough, and Lambert 2001; Hindelang, Hirschi, and Weis 1979; Huizinga and Elliott n.d.; Kirk 2006). Additionally, it has been suggested that the validity/reliability of self-reported offending might be especially problematic for foreign-born immigrants youth—they may be more likely to underreport for fear of legal
consequences related not only to the offence, but also to their status as immigrants (Theodore and Habans 2016). Despite this criticism, exploring self-reported offending data among this population is still a worthwhile endeavor. In addition to the concordance literature I mention above, this is a first attempt to investigate the association between age at migration and crime. Future work can consider whether other measures of crime are more appropriate in this context.

Fourth, this study only focused on those who migrated during childhood and adolescence, but not those who migrated as adults. In this way, the study is limited since it is not representative of the entire foreign-born population. However, other research focusing on offending patterns among ‘the true first-generation’ of adult foreign-born immigrants has been accumulated over the last couple of decades (Butcher and Piehl 1998; M. T. Lee et al. 2001; Lee and Martinez 2002; Martínez and Valenzuela 2006; Nunziata 2015; Orrick et al. 2016; Polczynski Olson et al. 2009). As mentioned in the introduction chapter, the study of immigrant children in the United States is very limited—especially as it relates to offending.

Fifth, although the NLSY97 is a nationality representative survey of American youth, it is possible that the population of immigrants in the NLSY97 may not accurately represent the overall population of immigrants in the United States. For instance, given the small sample size, it was not feasible to control for nationality. In the same vein, the

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31 The NLSY97 cohort was selected in two phases. In the first phase, a list of housing units for the cross-sectional sample and the oversample was derived from two independently selected, stratified multistage area probability samples. This ensured an accurate representation of different sections of the population defined by race, income, region, and other factors. In the second phase, subsamples of the eligible persons identified in the first phase were selected for interview.
Center for Immigration Studies (2017) reports that there are an approximate 44.5 million immigrants in the country—with an approximate 30% of those being undocumented (10.6 million). Since the NLSY97 does not record legal vs. illegal status, it is not possible to know how this study's sample represents true population parameters. Although these are with no doubt limitations of the current research, the primary focus of this dissertation was to begin the exploration of the possible influence of age at migration on offending among all immigrants. Future research with larger and more representative samples should tackle these limitations.

Sixth, given the age ranges of the participants in this study, it is possible that participants had unequal 'opportunity to offend' (see Figure 1), as is suggested by the age-crime curve. Participants ranged in ages 15-20 in the year 2000 (the first wave of data when offending was collected) to ages 18-23 in the year 2000 (the last wave of data when offending was collected). Thus, it is possible that some participants ranged in ages as young as 15 to 18 during that time period, while others ranged in ages as old as 20 to 23 during that same period. According to Hirschi and Gottfredson (1983), the age crime curve refers to the fact that crimes are most prevalent during mid to late adolescence and begin to decline in early adulthood. Hence, it is possible that this study captured the peak of offending for some participants (those in adolescence), while it captured the period where offending begins declining for others. Along the same lines, Laub and Sampson (2003) find that offending careers or 'trajectories' typically extend until sometime in mid to late adulthood. Since this study only records offending until ages 18-23, it is possible that, if age at migration has a 'more visible' effect when analyzing full offending trajectories, that effect may not be captured by this study.
Suggestions for Future Research

Theorizing on offending differences among immigrant groups has often included suggestions that age at migration must be an important factor influencing criminal offending. Based on the findings of this study, there is limited support to substantiate these long-standing claims. What to make of these findings, and where could research focus next? Perhaps a good place to start is an investigation of whether possible intervening mechanisms linking age at migration and offending exist. Scholars have suggested that the age at which immigrants arrive may influence their adaptation trajectories or set immigrants into certain life pathways, which ultimately may be more or less conducive to maladaptive and offending behaviors (Rumbaut 2004). Before evaluating the direct relationship between age at arrival and offending, scholars should investigate whether and how age at migration does in fact influence immigrants, and their adaptation trajectories in these ways. Other scholars should for instance investigate whether age at migration influences other maladaptive outcomes among immigrants, such as mental and emotional disorders, trouble at school, etc.

Moreover, theorizing on the possible causes of differences in offending among immigrants has led to assumptions about the nature of immigrant families. Scholars frequently refer to differences in the family structure and family dynamics among immigrant groups, and the erosion of the family as a likely catalyst for the maladaptive outcomes observed among immigrant groups (DiPietro 2010). The significance and influential nature of the family in explaining the overall adaptation process and outcomes among immigrants has been repeatedly supported in the literature. Although this
dissertation found only limited support for the direct influence of age at migration, it is also possible that its influence could be indirect. Future research perhaps should investigate whether migration age influences family dynamics among immigrants. In particular, the literature has found that three processes are especially influential in explaining offending differences among immigrant generations—increased parent-child conflict, dissonant assimilation (the difference in rate of assimilation between immigrant children and parents), and parental role reversal (where more assimilated immigrant children take on a more dominant role (Chen and Zhong 2013; DiPietro and Cwick 2014; Dipietro and McGloin 2012). Scholars should investigate whether age at migration has an influence on these important processes.

Additionally, future research examining the relationship between age at arrival and offending should consider collecting offending data from participants at an older age, when a fuller range of offending trajectories can be observed. It is also important to utilize the largest sample of participants possible in order to be able desegregate by age-at-migration groups, nationality groups, etc., and still have the statistical power to be able to conduct meaningful analyses. As it was made clear by the limitations of this study highlighted earlier, future research studies in this area should contain important demographic and theoretical constructs that have been found to be significant in predicting outcomes among this population (e.g. those related to the immigrant and adaptation experience, to the family, the school, the neighborhood). Given the difficulties and costs associated with data collection, and the fact that age at migration is rarely measured in survey data, constructing such a study may prove difficult.
An additional possibility is that age at migration may matter, but for those who migrated at older ages (i.e., 18+). It was not possible to assess this possibility with the data used in this dissertation, since all participants migrated before 18 years of age. It is a fact that most crime is committed by young people, and those between ages 18-21 are still in the high-crime age group. Future research should investigate this possibility.

Perhaps more importantly, future research should specifically further investigate the possible influence of age at arrival on drug offending. It is crucial to either refute or replicate these findings. The findings of this dissertation, as well as previous research supporting the influential role of migration age on other constructs, suggests that this construct merits further attention.

Conclusion

As is the case with other human processes, the relationship between age at arrival, adaptation, and offending, is complex. Immigrants who arrive during distinct ages experience social processes that may often operate in opposite directions in terms of their influence on offending. For instance, a very young age at arrival has been found to be beneficial in terms adaptation and achievement outcomes such as language acquisition and school outcomes (Beck et al. 2012; Gonzalez 2002; Medvedeva 2010; Schmid 2001). It may be that, due to the very young age, immigrants are less likely to be aware of, and be affected by, the initial shock of migration, or social stressors related to their adaptation after arrival. However, because of their very young age at arrival, they are also more likely to assimilate more fully and absorb the American mainstream. However, high assimilation level has repeatedly been linked to increase the likelihood for offending
(Bianca E Bersani 2014; Bianca E. Bersani 2014; Bersani and DiPietro 2013; Miller and Gibson 2011; Portes et al. 2005, 2009). This means that many of the protections afforded to other immigrants who arrive at an older age (e.g. context of reception and context of the homeland, idea of American dream, motivation to achieve) are not afforded to this immigrant group specifically. Additionally, more negative processes such as dissonant assimilation and increased conflict at home are also more likely among this group (Bui 2009; DiPietro and Cwick 2014; Portes et al. 2005; Samaniego and Gonzales 1999). This fact, coupled with disadvantages particular to immigrants such us higher likelihood to perceive discrimination, and to feel caught between two worlds, may ultimately amount to increased likelihood for offending. Immigrants who arrive during other ages may experience these, and other processes, to varying degrees. Research investigating these processes, and our overall understanding of how these processes operate, is limited.

Scholars, and several theoretical notions, have long suggested the possible influential nature of age at migration on immigrant adaptation broadly, and within the context of offending more specifically. This study investigated the influence of age at migration on the likelihood of offending, among foreign-born immigrants who migrated before adulthood. More specifically, the primary research question asked: Does age at migration (i.e. early childhood, middle childhood, or adolescence) affect the odds of offending? Supplemental research asked whether the relationship between age at migration and offending varies by offense type (i.e. property, drug, or violent), or for immigrants of Hispanic descent.

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This study used data (waves 1-8) from the National Longitudinal Survey of Youth 1997. The NLSY97 asked respondents about their age at migration, and a variety of questions related to self-reported offending, making this data source uniquely suited to address the research question. A total of 559 participants, who self-identified as foreign-born immigrants, made up the primary sample of this study.

To address the primary research question, I first examined whether the age at which a respondent migrated into the country predicted the odds of reporting any type of criminal offending, after controlling for theoretically important covariates and demographic variables. The results of this analysis did not provide support for my hypothesis that statistically significant differences in offending would exist among the age-at-migration groups (migrating during early childhood or mid-childhood did not differentially affect the odds of offending, relative to migrating in adolescence). Then, I considered whether age at migration affected specific types of offending. The analysis suggested that compared to those who migrate during adolescence, migrating during early childhood or middle childhood was negatively associated with the odds of drug offending, all other variables constant. Although the results provide partial support for the salience of age at migration in predicting offending, the results need to be taken and interpreted with caution (for reasons discussed earlier in this chapter). Thus, the overall findings of this dissertation call into question previous theoretical suggestions regarding the influence of age at migration on offending generally.

As the debate continues over whether immigrants are indispensable contributors to our country, or whether they are a burden to our economy, social services, and criminal justice agencies and public safety, understanding what factors influence offending among
immigrants is of paramount importance (Piquero et al. 2016b). The current study suggests, as numerous others have, that immigrants offend at rates that are either lower, or comparable to those of native-born nonimmigrants. More importantly, the findings of this dissertation add to our overall knowledge in the immigrant-crime nexus by investigating whether the age at which an immigrant arrives in the United States influences criminal offending. At least with the sample and measures used in this study, it appears that the age at which foreign-born immigrants arrive into the country is not especially influential or determining in immigrant's offending patterns.

However, preliminary support was found to suggest that immigrants who arrived during adolescence are more likely to engage in drug offenses than immigrants who arrived during early or middle childhood. The findings add support to previous research suggesting that this group may undergo a particularly problematic process of adaptation (see Rumbaut 2004), which may be reflected in the group's higher likelihood for drug offending. Although additional research is necessary, previous findings and the results of this dissertation suggest that the earlier in life immigrant children arrive, the more fully and successfully they are incorporated in American society, and the lower their propensity for offending may be.

A Final Note on the Importance of Non-significant Findings

It is important to mention that the results of this dissertation, although not generally statistically significant, are still worthwhile contributions to sociological knowledge. Franco, Malhotra, and Simonovits (2014) studied publication bias in the social sciences by analyzing a sample of 221 conducted studies (published and
unpublished) and find that strong results are 40% more likely to be published and 60% more likely to be written up (P. 1502). The results of this work provide direct evidence of publication bias, caused primarily by the fact that authors do not write up and submit null findings (primarily related to the fact that authors perceive negative or null findings to be uninteresting and not worthy of publication or further analysis). As Franco et al. state, the current selection process and bias in publishing significant results, increases the chances that published results reflect type I errors rather than true population parameters, and it makes it very difficult to 'take stock' of the state of knowledge in a field or particular topic because null results are largely unobservable to the research community. This is especially a problem in the social sciences since there is no process for preregistering studies, and making them available regardless of their publication status (Franco et al. 2014). Additionally, the study by Franco et al. concludes that researchers decide not to write up results and submit for review for publication because they believe the results have no publication potential. In other words, few studies with null results ever actually make it to the review process in the first place.

Failing to consider the importance of null results (whether it is writing up the results, submitting for review and publication, or making them available to the research community) has the potential for significant consequences. Taking this dissertation as an example, and were the findings not presented and made available, researchers may waste efforts and resources in reconducting a study that has already been executed (Franco et al. 2014). Additionally, if researchers in the future conduct a similar study and find significant results by chance, the study publication will erroneously suggest stronger effects. Making the findings of this dissertation available is an important step in
providing context for results of future studies in this area. After all, the probability that a research claim is true depends largely not only in the study's power and bias, but more importantly, on the number of other studies in question and the ratio of true to no relationships in each research area or topic (Ioannidis 2018).
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### APPENDIX A: OTHER PEARSON’S R CORRELATION COEFFICIENT MATRICES

**Appendix A: Pearson’s r Correlation Coefficient Matrix—All US-Born**

#### Pearson’s r Correlation Coefficient Matrix—First Generation

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<td>2. Commitment</td>
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<td>3. Involvement</td>
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<td>4. Strain (0/1)</td>
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<td>5. Death of Relative</td>
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<td>-.01</td>
<td>.01</td>
<td>.09 ***</td>
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<td>6. Age in 2000</td>
<td>-.15 *** .24 *** .10 ***</td>
<td>.00</td>
<td>-.02</td>
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<tr>
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<td>.09 ***</td>
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<td>-.03 **</td>
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<td>.01</td>
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*Note: Gender (male) is constructed based on data transformations to more closely resemble normal distribution. 0 = 0 offenses; 1 = 1 offense; 2 = 2 offense; 3 = 3 or 4 offenses; and 4 = 5+ offenses.*

#### Pearson’s r Correlation Coefficient Matrix—Second Generation

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<tr>
<td>8. Residence Location (urban)</td>
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<td>9. Intact Family</td>
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<td>10. Offending (0/1)</td>
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<td>-.02</td>
<td>.08</td>
<td>.06</td>
<td>-.08</td>
<td>.18 ***</td>
<td>.05</td>
<td>-.05</td>
<td>-.05 ***</td>
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<td>.86 ***</td>
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*Note: Offense index scale is constructed based on data transformations to more closely resemble normal distribution. 0 = 0 offenses; 1 = 1 offense; 2 = 2 offense; 3 = 3 or 4 offenses; and 4 = 5+ offenses.*

*Note: Offense index scale is constructed based on data transformations to more closely resemble normal distribution. 0 = 0 offenses; 1 = 1 offense; 2 = 2 offense; 3 = 3 or 4 offenses; and 4 = 5+ offenses.*
### APPENDIX B: LOGISTIC REGRESSION MODELS PREDICTING ANY OFFENDING AMONG U.S.-BORN IMMIGRANTS

#### Appendix B. Logistic Regression Models Predicting Any Offending Among U.S.-Born Immigrants

<table>
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<tr>
<th>Variable</th>
<th>Model 1</th>
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<td>B</td>
<td>SE</td>
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<td><strong>Theoretical Controls</strong></td>
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<tr>
<td>Control Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment (1-4)</td>
<td>-0.275 * (0.760)</td>
<td>0.120</td>
<td>-0.330 ** (0.719)</td>
<td>0.124</td>
</tr>
<tr>
<td>Commitment (0-2)</td>
<td>0.042 (1.043)</td>
<td>0.117</td>
<td>-0.003 (0.997)</td>
<td>0.124</td>
</tr>
<tr>
<td>Less Involvement (0-2)</td>
<td>0.170 (1.185)</td>
<td>0.047</td>
<td>0.179 (1.196)</td>
<td>0.154</td>
</tr>
<tr>
<td><strong>General Strain Theory</strong></td>
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</tr>
<tr>
<td>Death of Relative (0/1)</td>
<td>0.074 (1.077)</td>
<td>0.176</td>
<td>0.103 (1.108)</td>
<td>0.181</td>
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<tr>
<td>Other Strain (1/0)</td>
<td>0.448 * (1.566)</td>
<td>0.183</td>
<td>0.492 ** (1.635)</td>
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<td><strong>Demographic Controls</strong></td>
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<tr>
<td>Age in 2000</td>
<td>-0.167 * (0.846)</td>
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<td>0.065</td>
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<tr>
<td>Gender (1=male)</td>
<td>0.790 *** (2.204)</td>
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<td>0.182</td>
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<tr>
<td>Residence (1=urban)</td>
<td>0.166 (1.181)</td>
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<td>0.366</td>
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<tr>
<td>Intact family (1=yes)</td>
<td>-0.194 (1.215)</td>
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<td>0.184</td>
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</table>

- $R^2 = 0.033$  
- $-2$ Log Likelihood = 750.7

$p < .10$.  
$p < .05$.  
$p < .01$.  
$p < .001$. N=592. Odds Ratios in parenthesis. Offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with likert scale from 1(strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.
## Appendix C: Logistic Regression Models Predicting Any Offending by Age at Migration Group

### Variable 

<table>
<thead>
<tr>
<th>Variable</th>
<th>Early (N = 192)</th>
<th>Mid (N = 161)</th>
<th>Adolescence (N = 75)</th>
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<td><strong>Theoretical Controls</strong></td>
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<tr>
<td>Control Theory</td>
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<tr>
<td>Attachment (1-4)</td>
<td>-0.676 *</td>
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<td>(0.509)</td>
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<td>Commitment (0-2)</td>
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<td>(0.896)</td>
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<td>Less Involvement (0-2)</td>
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<td>(1.292)</td>
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<td>Death of Relative (0/1)</td>
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<td>(0.662)</td>
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<td>Other Strain (1/0)</td>
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<tr>
<td>(1.108)</td>
<td>(2.032)</td>
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<tr>
<td><strong>Demographic Controls</strong></td>
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<tr>
<td>Age in 2000</td>
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<td>0.157</td>
<td>-0.348 1</td>
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<tr>
<td>(0.758)</td>
<td>(0.706)</td>
<td>(0.729)</td>
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<td>Gender (1=male)</td>
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<td>0.936 *</td>
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<tr>
<td>(2.054)</td>
<td>(2.550)</td>
<td>(2.910)</td>
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<td>Residence (1=urban)</td>
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<td>(0.979)</td>
<td>(1.051)</td>
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<td>Intact family (1=yes)</td>
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<td>(0.897)</td>
<td>(0.996)</td>
<td>(0.465)</td>
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<td>Assimilation (Years in the U.S.)</td>
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<td>0.103</td>
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<tr>
<td>(1.240)</td>
<td>(1.054)</td>
<td>(0.933)</td>
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\[ R^2 = 0.137 \]
\[ \text{-2 Log Likelihood} = 212.4 \]

\[ p < .10. \] * \( p < .05. \) ** \( p < .01. \) *** \( p < .001. \) Odds Ratios in parenthesis. Offending (yes/no) represents offenses reported in interview years 2000, 2001, 2002, and 2003. Attachment measure is based on perceived school fairness with likert scale from 1(strongly disagree) to 4 (strongly agree). Commitment is based on perceived chance of being in school in 5 years in percentage (0 = 0%; 1 = 1-50%; 2 = >50%). Involvement is based on days absent from school in previous quarter (0 = none; 1 = 1-9; 2 = >10). Other strain contains 4 strain items.