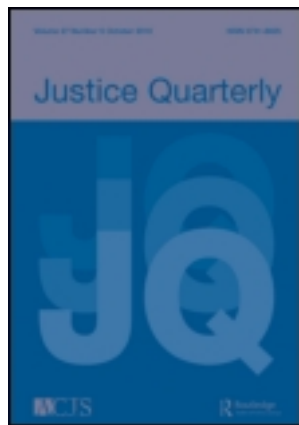


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Assessing the Relationship between Immigration Status and Drug Use

*Charles M. Katz, Andrew M. Fox and Michael
D. White*

The immigration-crime connection has been the basis for numerous immigration policy decisions. However, there are theoretical arguments and empirical evidence both for and against the positive relationship between immigration and crime. Moreover, much of this research has failed to focus specifically on illegal immigrants. The current study examines drug use patterns among 3,050 recently booked arrestees in Maricopa County, Arizona, from April 2007 to September 2008. Using logistic regression, the authors isolate the effects of immigration status on several types of drug use while controlling for relevant individual and situational characteristics. Findings show that illegal immigrants are generally less likely to use drugs when compared to US citizens, with the exception of powder cocaine use. The paper concludes with a discussion of the study's implications for the larger body of research on immigration and crime, as well for immigration and enforcement policy and practice.

Keywords illegal immigrants; crime; drug use

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Introduction

Historically, public perception has tied immigration to increased crime and, to a large extent, has influenced public policy on the issue. For example, Hagan and Polloni (1999, p. 618) noted that "perceptions of immigrant alcohol use and public drunkenness in association with fear of crime facilitated the passage of Prohibition," and led to Congressional acts in 1921 and 1924 that substantially reduced the numbers of immigrants admitted to the USA. More recently, concern has shifted to illegal immigration, as evidenced by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 which greatly expanded the criteria for deportation of illegal immigrants. Moreover, in 1994 California voters approved Proposition 187, which states that residents "have suffered and are suffering personal injury and damage caused by the criminal conduct of illegal aliens in this state" (Butcher & Piehl, 1998, p. 457; see also Lee, Martinez, & Rosenfeld, 2001).¹

Despite longstanding perceptions of the "criminal immigrant," there are compelling theoretical arguments both for and against the immigration-crime nexus, and research to date is mixed with numerous methodological shortcomings that limit our ability to draw conclusions about immigration and crime (Mears, 2002). As a result, definitive statements about the immigration-crime relationship remain elusive. Notably, the importance of this relationship has intensified in the wake of the September 11, 2001 terrorist attacks and ongoing dialogue over border security, illegal immigration, and crime (especially the drug trade), particularly in the southwestern USA.

The present study seeks to add to this discussion using data collected as part of the Arizona Arrestee Reporting Information Network (AARIN). Prior research has indicated that Arizona in general, and Maricopa County specifically, has a substantial number of unauthorized immigrants residing within its jurisdiction (Fischer, 2008). While estimates have varied, reports indicate that approximately 13% of residents in Maricopa County are unauthorized immigrants (Fischer, 2008; Hoefler, Rytina, & Baker, 2008). Relatedly, while the Maricopa County Sheriff's Office estimates that about 10% of all arrestees booked into the county jail are being detained on an Immigration and Customs Enforcement hold (Kiefer, 2008), the Maricopa County Attorney's Office reports that illegal immigrants account for 18.7% of all sentenced offenders in the county (Maricopa County Attorney's Office, 2008). This suggests that Maricopa County, Arizona, is an important community in which to explore the relationship between illegal immigration and patterns of criminal offending. The current study examines drug use patterns among 3,050 recently booked arrestees in Maricopa County

1. Proposition 187 was passed by California voters in November 1994 by a vote of 59% to 41%. Several lawsuits were immediately filed challenging the constitutionality of the Act. After the issuance of a permanent injunction prohibiting enforcement of the Act pending trial and the passage of federal immigration reform in 1996, the case was appealed to the Ninth Circuit Court of Appeals. In 1998, a federal judge ruled that large portions of Proposition 187 were unconstitutional, and in 1999 Governor Davis withdrew all appeals, essentially killing the Proposition (<http://www.aclu.org/immigrants-rights/cas-anti-immigrant-proposition-187-voided-ending-states-five-year-battle-aclu-righ>).

from April 2007 to September 2008. Using logistic regression, the authors isolate the effects of immigration status (84.9% US citizen, 11.6% illegal immigrant, 3.5% legal immigrant) on several types of drug use while controlling for relevant individual and situational characteristics. Separate analyses are carried out both by drug—marijuana, powder and crack cocaine, and methamphetamine—and by measure—self-report and urinalysis results. The paper concludes with a discussion of implications of the findings for the larger body of research on immigration and crime, as well for immigration and enforcement policy and practice.

Prior Research

Several government investigations have explored the immigration/crime link, including the 1901 Industrial Commission, the 1911 Immigration Commission, the 1931 Wickersham Report, and the 1994 Commission on Immigration reform (Butcher & Piehl, 1998; Ferracuti, 1968; Lee et al., 2001; Martinez & Lee, 2000b; Mears, 2002). Reid, Weiss, Adelman, and Jaret (2005, p. 758) note that many immigration critics highlight the 1965 Hart-Cellar Immigration Reform Act—which eased restrictions on immigration into the USA—“as the cause of subsequent increases in rates of crime.” Perhaps not coincidentally, understanding the link between immigration and crime was an early core focus of sociological research, which resulted in a sizeable body of research on the issue. Below we review both the theoretical perspectives and available empirical evidence on the immigration-crime link. We also consider the special case of illegal immigration, which sets the stage for the current study.

Theoretical Perspectives on the Immigration-Crime Link

Early American sociologists, particularly those from the Chicago school, focused a good deal of attention on exploring the social consequences of immigration and urbanization (Lee et al., 2001). At least three well-established sociological theories support the assertion that immigration increases crime: opportunity structure, social disorganization, and culture conflict. With regard to the first, strain theorists argue that disadvantaged groups (i.e., immigrants) face reduced or blocked opportunities for economic success through increased poverty, limited access to employment, residential segregation, and discrimination (Merton, 1938). The disjunction between goals and means to achieve those goals causes frustration and anger, and may lead to the adoption of illegitimate means, including property crime and violence (Agnew, 1992; Blau & Blau, 1982; Lee et al., 2001; Messner & Rosenfeld, 2001; Tonry, 1997).

The second sociological theory supporting an immigration-crime link involves cultural perspectives, including both culture conflict and the culture of poverty. Sellin (1938) notes that the value systems held by the “dominant interest group” are reflected in criminal law, and that the value systems of subordinate

groups—such as immigrants—may be different, and as a consequence, the behavior of those other groups may be deemed deviant (see also Lee et al., 2001). “Thus, immigrants may violate the law more often than natives due to conflicts at the level of cultural codes and associated problems of acculturation” (Lee et al., 2001, p. 562). Poverty may also play a role, as immigrants’ persistent exposure to disadvantaged structural conditions may alter their value systems away from middle-class norms and toward criminal activity (Anderson, 1999; Miller, 1958; Wolfgang & Ferracuti, 1967). Alternatively, the limited access to economic success may lead to the development of a “criminal immigrant subculture,” which increases the opportunity for immigrant crime primarily through ethnic gangs (Reid et al., 2005, p. 760). In an interesting and contradictory perspective on culture, Sutherland (1924, 1934) argues that acculturation—not immigration—causes crime. That is, as immigrants and their children experience the “forces of acculturation,” they become more like native-born citizens and thus become more criminal (Hagan & Polloni, 1999). Tonry (1997, p. 20) later extends this argument by highlighting the criminal involvement of “not the foreign born but their children” (see also Portes & Rumbaut, 2006).

Last, social disorganization theory would seem to offer support for an immigration-crime link, as the influx of immigrants “with diverse cultural backgrounds and limited economic resources, could weaken community institutions” (Reid et al., 2005, p. 760). In effect, immigration initiates social change which then weakens community institutions and social controls, leaving those areas vulnerable to increases in crime (Bankston, 1998; Bursik & Gasmick, 1993). Relatedly, Wilson (1987, 1996) argues that immigration may serve to increase crime among other native-born, minority groups—especially African Americans—as immigrants gain a foothold in certain labor markets and further displace those other groups.

Counter-Arguments on the Immigration-Crime Link

Scholars have also put forth compelling arguments against a positive association between immigration and crime, in some cases viewing immigration as “a positive, stabilizing force” (Lee et al., 2001, p. 563). Reid et al. (2005) note that the nature of immigration may have changed over time, which in turn could have altered the immigration-crime relationship. For example, they note that many recent immigrants do not fit the stereotypical early twentieth-century European immigrant who was unskilled, uneducated, and poor (see also Zhou, 2001). Immigrants who enter the USA with specialized skills and are college educated are unlikely to face the economic and social barriers of more traditional early twentieth-century immigrants. Moreover, immigrants may also experience enhanced opportunities through both ethnic enclaves in cities and economic niches which enhance their social standing and reduce their exposure to job discrimination (Logan, Alba, & McNulty, 1994; Portes, 1997). Zhang and Sanders (1999) argue that many immigrants with low-paying jobs may have a

greater appreciation for their economic opportunities (compared to native-born) given impoverished experiences in their homelands. The incentives for illegal immigrants may be equally compelling, as they want to avoid drawing attention to themselves that might lead to governmental intervention and deportation (Lee et al., 2001). More generally, immigration may invigorate local economies through job growth, increased spending and revenue for local businesses, and economic development while also increasing social control through strong family ties and social networks (Lee et al., 2001; Portes & Stepick, 1993).

Empirical Research on Immigration and Crime

Despite numerous methodological limitations (see Mears, 2002, and discussion below), research at the micro-level has consistently failed to identify a link between immigration and crime (Reid et al., 2005). For example, Lee et al. (2001) find that immigration had little impact on homicides among Latinos and African Americans in Miami, El Paso, and San Diego. Martinez and Lee (2000a) report that Haitian, Jamaican, and Cuban immigrants in Miami had lower offending rates than native-born citizens (see also Martinez, 1997). Both Toussaint and Hammer (1999) and Alba, Logan, and Bellair (1994) find that immigrants' risk of criminal victimization (including homicide) did not differ from native-born citizens. At the macro-level, the findings are a bit more mixed. Several studies have confirmed findings at the individual level, suggesting either no relationship or reduced criminality in areas with large immigrant populations (Alaniz, Cartmill, & Parker, 1998; Lee et al., 2001). For example, Butcher and Piehl (1998) examine several metropolitan areas and report no relationship between the size of the immigrant population and the crime rate. Alternatively, Lauritsen (2001) finds that immigration is positively associated with crime in suburban areas but not in urban centers. Hagan and Polloni (1999) examine the relationship between citizenship and crime and reported that, by and large, rates of criminality among immigrants are quite similar to citizens—though illegal immigrants did experience higher rates of arrest for property crimes. Similarly, Martinez (2000) finds no relationship between immigration and Latino homicides, with the exception of felony homicide rates. In a more recent study, however, Reid et al. (2005, p. 775) examine the relationship between four different types of crime and immigration across a stratified, random sample of 150 metropolitan areas and find no evidence of a “crime-conducive effect of immigration.”

The Special Case for Illegal Immigration

Nevertheless, public perceptions of the stereotypical “criminal immigrant” have persisted. This image is particularly stark for persons in the country illegally who are believed to “hold a unique and perceived threat to public safety” (Martinez, 2008, p. 55). Arguably, concern over illegal immigration and

crime intensified after the September 11, 2001 terrorist attacks, and in the view of some scholars, has reached a "moral panic" (Welch, 2002; see also Hickman & Suttorp, 2008). As evidence, consider the actions taken by the USA in 2006 alone to tighten security along the US/Mexico border: the deployment of 6,000 National Guard troops, authorization to build 700 miles of fencing and hire hundreds of additional border patrol agents, and installation of ground sensors and other surveillance technology (Hickman & Suttorp, 2008; Watson, 2007). Unfortunately, though the research examining immigration and crime is extensive, comparatively few studies have explored the special case of illegal immigration and crime.

Hagan and Polloni (1999, p. 628) examine arrest data among US citizens, immigrants, and illegal immigrants from San Diego and El Paso and find that both illegal and legal immigrants "are quite similar to citizens in their tendency to be arrested for drug, property, and violent crimes." Hagan and Polloni (1999) specifically highlight the comparatively low rate of drug offenses among illegal immigrants which contradicts conventional wisdom that individuals in the country illegally are a major source of drug problems. Conversely, in 2007, the Office of Inspector General (2007) issued a report examining recidivism among a "judgmental sample" of deportable criminal immigrants indicating a recidivism rate of over 70%—with an average of six new subsequent arrests. Methodological concerns and questions seriously undermine the implications of this report, however (see Hickman & Suttorp, 2008). In perhaps the most extensive study of illegal immigration and crime to date, Hickman and Suttorp (2008) compare recidivism rates among samples of "deportable" and "non-deportable" immigrants released from the Los Angeles County Jail in 2002.² They conclude: "Using a rigorous counterfactual modeling approach and multiple measures of recidivism to compare deportable and non-deportable immigrants, we found no difference in rearrest occurrence, frequency, or timing" (Hickman & Suttorp, 2008, p. 77). Despite consistent evidence from this small body of research, Martinez (2008, p. 53) notes that the public perception of immigration and crime is particularly strong for illegal immigrants, as "opponents claim waves of undocumented workers crossing the Mexican border contribute to neighborhood violence, create chaos, and threaten the American social and economic fabric" (see also Nevins, 2002, p. 11).

The Need for More Research

Unfortunately, a number of important questions regarding the immigration-crime relationship remain unanswered, in large part because of methodological limitations in the body of work described above. For example, Hagan and Polloni (1999, p. 619) note that research has generally failed to explore immigration

2. Hickman and Suttorp (2008) define deportable aliens as those who entered the country illegally, or who entered with legal permission that has since lapsed or been revoked.

status at the arrest stage and has instead over-relied on prison statistics, which is problematic because "high Hispanic incarceration rates are the product of specific immigration and criminal justice policies and practices." Specifically, they point to the demand for low wage, unskilled labor which disproportionately attracts young immigrant men—young men who are also at highest risk for engaging in crime. Moreover, immigrants are more often detained at the pretrial stage because of inability to pay bail or because they are viewed as flight risks, and research suggests that pretrial confinement is related to greater risk of incarceration upon conviction (Hood, 1992; Petersilia & Turner, 1986). As a result, research that fails to adequately control for age and pretrial status presents a biased picture of immigration and crime (Hagan & Polloni, 1999). Additionally, prior research on immigration and crime has often failed to differentiate among legal and illegal immigrants (see below), and has often focused solely on violent crime.

In perhaps the most comprehensive discussion of the limitations of immigration-crime research to date, Mears (2002) argues that there are nine different dimensions that require exploration before statements regarding causality can be made with confidence. These dimensions include: clearer distinctions among citizens, legal and illegal immigrants; greater investigation of different categories of crime (violent, property, drug, etc.); clearer distinctions between immigrant offenders and immigrant victims; greater emphasis on theory development and testing; as well as a host of methodological concerns, including greater use of survey data (and less reliance on official data), clarification of the unit of analysis (immigrants vs. immigration), and incidence versus prevalence (offenders vs. offenses); and the collection of both cross-sectional and longitudinal data (Mears, 2002). In addition to these limitations, Mears (2002, p. 287) notes that available research suggests variation in criminality across immigrant ethnic groups, cohorts, age groups, generations, and areas of country, leading to his conclusion that "strong assertions of fact should be avoided or expressed with all due caution."

The Present Study

There is a long history of concern among policymakers and citizens over the flow of immigrants into the USA, which have perpetuated images of the "criminal immigrant." Though the immigrant-crime issue has received considerable attention from academics, researchers, and policymakers, there are strong theoretical arguments both for and against an immigration-crime link, and the available research is sufficiently limited to prohibit definitive conclusions from being drawn. As a result, there is still little we can say with confidence about the immigration-crime relationship. Notably, the importance of this relationship has intensified in the last decade, as evidenced by an ongoing dialogue over border security, illegal immigration, and crime (and terrorism), particularly in the southwestern USA.

This study seeks to offer insights on this debate through an examination of illegal immigration and drug use in Maricopa County, Arizona. To date, almost no research has examined the relationship between immigration status and drug use. This issue is particularly important given public perceptions that illegal immigrants are disproportionately involved in drug use and the drug trade (Hagan & Polloni, 1999). The notable exception was Marcelli's (2001) examination of arrestees in California in the mid-1990s. While Marcelli reported that unauthorized Latino immigrant arrestees were less likely to use drugs than citizens, he did not have a direct measure of citizenship status. Instead, he identified arrestees as "unauthorized" through a five-step synthetic estimation model that predicted whether an arrestee was unauthorized based on such criteria as ethnicity, age, gender, educational attainment, and years residing in the USA.³ Accordingly, although past research has provided some guidance on the relationship between illegal immigration and crime in general, and drug use in particular, the findings have been inconsistent. Therefore, we use data obtained from the AARIN project to determine whether there are significant differences in drug use between illegal immigrants and US citizens.

Methods and Data

The AARIN project in Maricopa County was originally established in 1987 under the auspices of the Drug Use Forecasting (DUF) program, and later the Arrestee Drug Abuse Program (ADAM), both sponsored by the National Institute of Justice (NIJ) to monitor drug use trends, treatment needs, and at-risk behavior among recently booked arrestees. The program collected data from recently booked arrestees in 35 sites across the USA. In 2007, after NIJ terminated the nationwide program due to funding constraints, a few jurisdictions continued to fund the program through the use of local funds. Maricopa County was one of those sites, with funding provided by the Maricopa County Managers Office. The AARIN program maintained the same methodology as the ADAM project so that trends among recently booked arrestees could continue to be monitored over time. While the AARIN project samples males and females from both the adult and juvenile populations, the data used in the present study are restricted to adult arrestees.⁴

In order to ensure representative results for the entire population of arrestees in Maricopa County, the AARIN project employs a systematic sampling protocol that includes the collection of data at multiple facilities, with target quotas at each facility. Data are collected quarterly at all facilities; interviews are

3. Marcelli (2001, p. 492) notes that "legal status was correctly assigned approximately 85% of the time, using these four variables," when using another data set at his disposal.

4. We omitted juveniles from the present study because the sampling strategies used to obtain our juvenile and adult samples are distinct enough that sample selection bias might be in issue, and separate analyses would be required.

conducted during a two-week period at the 4th Avenue County Jail and during a one-week period at each of the Glendale and Mesa Police Departments. During data collection periods, for eight hours each day, interviews are conducted with arrestees who are randomly selected based on booking time. Consistent with the ADAM sampling strategy, a stock (i.e., arrested during non-data collection hours) and flow (i.e., arrested during data collection hours) selection process is employed to ensure a representative sample of arrestees. Arrestees who had been in custody longer than 48 hours were ineligible for participation in AARIN because of time limitations associated with urinalysis testing. Just more than 89% of approached adult arrestees agreed to participate in the study; more than 91% of those who were interviewed provided a urine specimen.

The core AARIN survey instrument, modeled after the ADAM and DUF instruments, generates self-report data on a variety of socio-demographic and behavior variables. In this paper, we focus on the demographic variables (gender, ethnicity, age, living arrangements) and educational and behavioral measures (frequency of prior arrests, drug use history, employment status, income) captured through the instrument. At the beginning of the survey, respondents were asked about their ethnic background, age, marital status, and educational background, and their gender was recorded on the instrument. Respondents were then asked a series of questions about their drug use history. In this section of the instrument, self-report data pertaining to lifetime, 12-month, 30-day, and past three-day drug use were collected for 14 types of drugs. Following these questions, arrestees were asked whether they had ever been arrested and the number of times they had been arrested in the past 12 months. At the end of the interview, charge data were collected from official processing records, and each respondent was asked to provide a urine sample. The sample was analyzed for four different drugs: marijuana, cocaine, opiates, and methamphetamine.⁵ The urinalysis is calibrated to detect drugs ingested within 72 hours of the interview and to keep false positives to no more than two per 100 (Visher, 1991).

Citizenship was determined through self-report and was measured through three varying levels of association. Specifically, respondents were asked two questions. First, all respondents were asked "Are you a citizen of the United States?" If they indicated that they were US citizens through birth they were coded as US citizens. Second, those who were not determined to be US citizens through birth were asked "How did you enter the United States?" Those who indicated that they entered with immigrant visas issued by the US State Department, were admitted as a refugee seeking asylum, or those who entered with student, work, or long-term visas were coded as legal immigrants. Those who indicated that they entered the USA with non-immigrant visas and overstayed or that entered the USA without documents were coded as illegal immigrants.

5. As a reliability check, all specimens that test positive with EMIT methods are retested using gas chromatography with mass spectrum detection (GC/MS).

Sample

Data for the present study were collected between April 2007 and September 2008. The sample consisted of 3,050 male and female arrestees. The descriptive characteristics of the sample are presented in Table 1. The table shows that about 77% of the sample is male and approximately 23% of the sample is female. In terms of ethnic background, more than 36% of the sample reported that they were Hispanic, 38.1% reported that they were white, 12.7% reported that they were African American, and 13.1% reported that they were from an "other" ethnic group. The mean age of recently booked arrestees was about 32 years old, and 31.5% of the arrestees were living with a spouse or a significant other at the time of their arrest. Additionally, the table shows that about 32% of the sample did not graduate from high school, 24.2% had graduated from high school or received a GED, and 44% received at least some post high school education. About half (49%) of the sample was employed full-time at the time they were arrested. 15.7% were employed part-time, and 35.3% were not employed at the time of arrest. The average total monthly income reported by arrestees was about \$1,900, of which about 12% reported that at least some of their income was earned through illegal activity.

Official records indicated that respondents had been charged with a wide variety of offenses. About 17% of the sample had been charged with a violent crime, 25% with a property offense, 14% with a drug offense, 7% with an alcohol offense, and approximately 55% had been charged with what we refer to as a technical offense.⁶ On average, sample respondents self-reported having been arrested .94 times in the past 12 months. Last, the table shows that almost 12% of respondents reported that they were an illegal immigrant, 3.5% reported that they were a legal immigrant, and almost 85% reported that they were a US citizen.

Analytic Strategy

Both bivariate and multivariate analyses were used to examine the differences in drug use by immigration status. First, arrestee demographics, educational attainment, arrest charge, and prior number of arrests were compared across the different categories of immigration status using chi-square and analysis of variance procedures. Second, the same analytic procedures were used to examine differences in self-reported and hard measures of drug use among US citizens, illegal immigrants, and legal immigrants. Third, we used logistic regression

6. Violent offenses included the following charges: assault, kidnapping, robbery, rape, sexual assault, weapons, domestic violent, other assault, and other crimes against persons. Property offenses included the following charges: arson, burglary, burglary tools, damage/destroy property, forgery, fraud, larceny/theft, stolen property, stolen vehicle, and trespassing. Drug use and sales offenses included the following charges: drug possession, drug sale, other drug offense. Alcohol offenses included: DUI and other alcohol violations. All other offenses were included as technical charges: prostitution, flight/escape/warrant, obscenity, resisting arrest, public peace, unspecified ROR violation, driving offense, and warrant.

Table 1 Characteristics of the sample

	Percent
Sex	
Female	23.2
Male	76.8
Race/ethnicity	
African American	12.7
White	38.1
Hispanic	36.1
Other	13.1
Age	31.87 (10.49) ¹
Education	
Did not graduate high school	31.8
High school diploma or GED	24.2
Post high school education	44.0
Employment status	
Not employed	35.3
Part-time	15.7
Full-time	49.0
Income	
Total income	1,934.35 (5,397.13)
Some income obtained illegally	11.8
Living with spouse or boy/girlfriend	31.5
Arrest charges	
Any violent	16.7
Any property	24.9
Any drug	14.3
Any alcohol	6.7
Any technical	55.4
Prior arrests (past 12 months)	.94 (1.89)
Immigration status	
US citizen	84.9
Illegal immigrant	11.6
Legal immigrant	3.5
Years in the USA (illegals only)	8.72 (7.48)
<i>N</i>	3,050

¹Mean (standard deviation).

to isolate the effects of immigration status on drug use while controlling for individual (e.g., ethnicity, age, gender) and situational characteristics (e.g., income, employment status, the offense for which the individual was arrested, number of prior arrests).

Nineteen logistic regression analyses were conducted, four predicting marijuana use (used marijuana in the past 12 months, used marijuana in the past 30 days, used marijuana in the past 3 days, and urine tested positive for marijuana),

four predicting powder cocaine use (used powder cocaine in the past 12 months, used powder cocaine in the past 30 days, used powder cocaine in the past 3 days, and urine tested positive for cocaine), three predicting crack cocaine use (used crack in the past 12 months, used crack in the past 30 days, used crack in the past 3 days), four predicting methamphetamine use (used methamphetamines in the past 12 months, used methamphetamines in the past 30 days, used methamphetamine in the past 3 days, and urine tested positive for methamphetamine), and four predicting any illicit drug use (used any illicit drug in the past 12 months, used any illicit drug in the past 30 days, used any illicit drug in the past 3 days, and urine tested positive for any illicit drug). There are only three measures for crack cocaine, as the urine test cannot differentiate between powder cocaine and crack.⁷ Before interpreting the findings we conducted multicollinearity diagnostics. The diagnostic tests indicated that multicollinearity was not a problem; no variance inflation factor was greater than 2.1 and no condition indices were over 16, well below levels that would suggest collinearity (Belsley, Kuh, & Welsch, 2002; Fisher & Mason, 1981).

Findings

Table 2 compares the background characteristics of the arrestees by immigration status. It shows that sex, race/ethnicity, age, employment status, earning illegal income, living with one's spouse (or boy/girlfriend), arrest charge, and the number of prior arrests are significantly related to immigration status. Specifically, about 96% of illegal immigrants were male, 98% were Hispanic, and their mean age was 29.5 (compared with US citizens, who were about 74% male, 44.6% white and only 26% Hispanic, and who had a mean age of 32.19). Legal immigrants more closely resembled illegal immigrants, being 87% male, about 76% Hispanic and having an average age of 31.9.

Illegal immigrants were most likely to have a full-time job (74.8%), followed by legal immigrants (69.4%) and US citizens (44.7%). US citizens were significantly more likely to report earning some of their income from illegal activity (13.3%) compared to illegal immigrants (3.4%) and legal immigrants (2.8%). Legal immigrants were most likely to report living with their spouse or boy/girlfriend while US citizens were least likely (ranging from 42.6% to 29.9%). The most frequent charge regardless of immigration status was a technical offense (56.9% of US citizens, 45.6% illegal immigrants, and 51.9% of legal immigrants). Legal immigrants were more likely to be arrested for a violent crime (24.1%) when compared to US citizens (16.8%) and illegal immigrants (13.3%). Illegal immigrants, on the other hand, were more likely to be arrested for an alcohol offense (18.7%) compared to legal immigrants (5.6%) and US citizens (5.1%). On average US citizens had just over one prior arrest in the previous 12 months

7. We also have measures of heroin/opiate use. However, levels of use are too low for this category of drugs to support multivariate analyses.

Table 2 Background characteristics by immigration status

	US citizen	Illegal immigrant	Legal immigrant
	%	%	%
Sex*			
Female	26.2	4.2	13.0
Male	73.8	95.8	87.0
Race/ethnicity*			
African American	14.6	0.6	6.5
White	44.6	0.6	5.6
Hispanic	26.0	98.0	75.9
Other	14.8	0.8	12.0
Age*	32.19 (10.67) ¹	29.50 (8.70)	31.87 (10.57)
Education			
Did not graduate high school	31.2	36.0	32.4
High school diploma or GED	25.0	19.3	22.2
Post high school education	43.8	44.8	45.4
Employment status*			
Not employed	39.4	9.3	22.2
Part-time	16.0	15.9	8.3
Full-time	44.7	74.8	69.4
Income			
Total income	2,004.2 (5,817.78)	1,484.9 (1,559.21)	1,730.0 (1,613.91)
Some income obtained illegally*	13.3	3.4	2.8
Living with spouse or boy/girlfriend*	29.9	39.7	42.6
Arrest charges			
Any violent*	16.8	13.3	24.1
Any property	24.7	25.8	25.9
Any drug	14.1	15.6	13.0
Any alcohol*	5.1	18.7	5.6
Any technical*	56.9	45.6	51.9
Prior arrests (past 12 months)*	1.05 (2.02)	.31 (.77)	.37 (.71)
N	2,589	353	108

¹Mean (standard deviation).

* $p < .05$.

while illegal immigrants and legal immigrants both averaged just above .3 prior arrests. There were no significant differences between immigration status and education or total monthly income.

In Table 3, we show the differences in alcohol and drug use by immigration status. Illegal immigrants were significantly more likely than legal immigrants and US citizens to report alcohol use in the past 30 days. There were no significant differences, however, in self-reported past 12-month and past 3-day alcohol use or the alcohol urinalysis results. The data analyses revealed that the

Table 3 Drug use variables by immigration status

	US citizen	Illegal immigrants	Legal immigrants
	%	%	%
Alcohol			
Past 12 months	77.8	78.2	74.1
Past 30 days*	67.3	72.5	61.1
Past 3 days	47.4	52.4	45.4
Urinalysis	12.0	11.9	9.3
Marijuana			
Past 12 months*	52.0	19.5	25.9
Past 30 days*	43.6	17.3	22.2
Past 3 days*	29.0	12.5	17.6
Urinalysis*	39.0	14.2	25.0
Powder cocaine			
Past 12 months*	14.3	21.5	15.7
Past 30 days*	8.0	17.6	12.0
Past 3 days*	4.0	11.3	6.5
Urinalysis ^{1*}	20.0	28.0	23.1
Crack cocaine			
Past 12 months*	15.6	5.7	0.0
Past 30 days*	12.0	3.7	0.0
Past 3 days*	8.6	2.3	0.0
Opiates			
Past 12 months*	7.6	0.8	0.0
Past 30 days*	5.3	0.6	0.0
Past 3 days*	4.0	0.3	0.0
Urinalysis*	7.0	1.7	0.9
Methamphetamine			
Past 12 months*	32.6	10.2	10.2
Past 30 days*	25.8	9.1	8.3
Past 3 days*	17.2	6.5	2.8
Urinalysis*	29.6	10.8	13.9
Any illicit drug			
Past 12 months*	67.4	39.7	42.6
Past 30 days*	59.8	34.8	35.2
Past 3 days*	45.7	26.3	22.2
Urinalysis*	66.9	41.9	48.1
N	2,589	353	108

¹Powder and crack cocaine urinalysis.

* $p < .05$.

relationship between immigration status and drug use is significant and robust across measures and time-period measured (i.e., self-report [past 12 months, past 30 days, past 3 days] versus urinalyses). Specifically, compared to illegal immigrants and legal immigrants, US citizens were significantly more likely to

self-report and test positive for marijuana, crack cocaine,⁸ opiates, methamphetamine, and any illicit drug. Conversely, illegal immigrants were significantly more likely to self-report and test positive for powder cocaine when compared to US citizens and legal immigrants. In general, illegal immigrants and legal immigrants reported about one-half the use when compared to US citizens.

Analyses by drug type and measure (i.e., self-report and urinalysis) were conducted, resulting in 19 logistic regression models. Due to space limitations we only present our analyses that relied on urinalyses, given that it has been found to be the most accurate and reliable measure of drug use (Fendrich & Xu, 1994; Katz, Webb, Gartin, & Marshall, 1997; Reardon, 1993; Webb, Katz, & Decker, 2006).

Our findings comparing the effects of immigration status on drug use, while controlling for arrestee characteristics are presented in Table 4, which includes the logistic regression coefficients (b), their standard errors (SE), and the odds ratio ($\text{Exp}(b)$) for each independent variable. As shown in the table, when compared with US citizens, illegal immigrants ($\text{Exp}(b) = .223$) and legal immigrants ($\text{Exp}(b) = .501$) were significantly less likely to use marijuana, methamphetamine ($\text{Exp}(b) = .341$ and $.428$, respectively), or any illicit drug ($\text{Exp}(b) = .402$ and $.548$, respectively). On the other hand, illegal immigrants were significantly more likely to use powder cocaine ($\text{Exp}(b) = 2.007$) when compared to US citizens.

A number of control variables were also found to be significantly associated with our measures. Females were significantly less likely to use marijuana ($\text{Exp}(b) = .445$) or any illicit drug ($\text{Exp}(b) = .626$), but were significantly more likely to use methamphetamine ($\text{Exp}(b) = 1.285$) when compared to males. Likewise, when contrasted with whites, African Americans were more likely to use marijuana ($\text{Exp}(b) = 1.660$) and cocaine ($\text{Exp}(b) = 3.021$), but less likely to use methamphetamine ($\text{Exp}(b) = .222$). Hispanic arrestees were more likely to use powder cocaine ($\text{Exp}(b) = 1.586$), and those who considered themselves to be from an other ethnic group were significantly less likely to use methamphetamine ($\text{Exp}(b) = .442$) and any illicit drug ($\text{Exp}(b) = .566$) when compared to whites. Older arrestees were less likely to use marijuana ($\text{Exp}(b) = .954$), but were more likely to use cocaine ($\text{Exp}(b) = 1.036$). When compared to unemployed arrestees, those who reported full-time employment were significantly less likely to use cocaine ($\text{Exp}(b) = .662$), methamphetamine ($\text{Exp}(b) = .722$), and any illicit drug ($\text{Exp}(b) = .619$). Similarly, those who reported part-time employment were significantly less likely to use cocaine ($\text{Exp}(b) = .733$). Those who reported higher monthly income were less likely to use marijuana ($\text{Exp}(b) = .856$). Relatedly, those who reported that at least some of their income was derived from illegal activity were significantly more likely to use marijuana ($\text{Exp}(b) = 1.845$), cocaine ($\text{Exp}(b) = 2.344$), methamphetamine ($\text{Exp}(b) = 1.440$), and any illicit drug ($\text{Exp}(b) = 3.973$). Those arrestees who lived with a spouse, boyfriend, or girlfriend were significantly less likely

8. As a reminder, urinalyses could not differentiate between crack and other forms of cocaine; therefore, UA results were presented under powder cocaine.

Table 4 Effect of immigration status on confirmed drug use while controlling for arrestee characteristics

	Marijuana		Cocaine (powder or crack)		Methamphetamine		Any illicit drug	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Sex (males reference)	-.811 (.105)	.445*	-.048 (.118)	.953	.251 (.103)	1.285*	-.469 (.102)	.626*
Race or ethnicity								
White (referent)	—	—	—	—	—	—	—	—
Black or African American	.507 (.127)	1.660*	1.106 (.140)	3.021*	-1.503 (.171)	.222*	.158 (.139)	1.172
Hispanic or Latino	.029 (.106)	1.029	.461 (.130)	1.586*	-.174 (.108)	.804	-.132 (.110)	.876
Other	.086 (.129)	1.090	-.004 (.167)	.999	-.816 (.145)	.442*	-.569 (.129)	.566*
Age	-.047 (.004)	.954*	.035 (.004)	1.036*	.007 (.004)	1.007	-.006 (.004)	.994
Level of education								
Did not graduate high school (referent)	—	—	—	—	—	—	—	—
High school diploma or GED	-.015 (.110)	.985	-.133 (.129)	.875	.082 (.116)	1.085	.008 (.111)	1.008
Post high school education	-.074 (.096)	.929	-.061 (.108)	.941	-.067 (.103)	.935	-.128 (.096)	.880
Employment status								
Not employed (referent)	—	—	—	—	—	—	—	—
Part-time	-.040 (.132)	.961	-.311 (.149)	.733*	.242 (.133)	1.274	-.140 (.137)	.870
Full-time	-.093 (.120)	.911	-.413 (.137)	.662*	-.326 (.125)	.722*	-.480 (.123)	.619*
Income								
Total income (log10)	-.156 (.078)	.856*	.029 (.089)	1.030	.003 (.081)	1.003	-.102 (.081)	.903
Some income obtained illegally	.612 (.141)	1.845*	.852 (.150)	2.344*	.365 (.145)	1.440*	1.380 (.193)	3.973*
Living with spouse or boy/girlfriend	-.036 (.091)	.965	-.475 (.109)	.622*	.085 (.097)	1.088	-.129 (.089)	.879
Arrest charges								
Any violent	-.132 (.126)	.876	-.094 (.149)	.910	-.120 (.140)	.887	-.117 (.125)	.890
Any property	-.247 (.112)	.781*	.126 (.124)	1.134	.528 (.116)	1.696*	.170 (.114)	1.186

Table 4 Continued

	Marijuana		Cocaine (powder or crack)		Methamphetamine		Any illicit drug	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Any drug	.949 (.129)	2.583*	.678 (.138)	1.970*	.930 (.133)	2.535*	2.160 (.193)	8.675*
Any alcohol	-.692 (.243)	.500*	.177 (.199)	1.193	-1.378 (.324)	.252*	-.560 (.173)	.571*
Any technical	.071 (.107)	1.074	.128 (.117)	1.136	.408 (.114)	1.503*	.310 (.110)	1.364*
Prior arrests (past 12 months)	-.006 (.022)	.994	.024 (.023)	1.024	.043 (.023)	1.044	.020 (.026)	1.020
Legal status								
US citizen (referent)	—	—	—	—	—	—	—	—
Illegal immigrant	-1.500 (.181)	.223*	.696 (.162)	2.007*	-1.076 (.197)	.341*	-.911 (.149)	.402*
Legal immigrant	-.692 (.243)	.501*	.392 (.246)	1.480	-.848 (.296)	.428*	-.602 (.219)	.548*
<i>N</i>	3,050		3,050		3,050		3,050	
Nagelkerke- <i>R</i> ²	0.191		0.132		0.169		0.222	
Model chi-square (df)	457.239* (20)		270.887* (20)		376.575* (20)		541.141* (20)	

**p* < .05.

to use cocaine ($\text{Exp}(b) = .622$) compared to those who did not live with a spouse, boyfriend, or girlfriend. Those who were arrested for a property offense were significantly less likely to use marijuana ($\text{Exp}(b) = .781$), but were significantly more likely to use methamphetamine ($\text{Exp}(b) = 1.696$). Not surprising, those who were arrested for a drug offense were significantly more likely to use marijuana ($\text{Exp}(b) = 2.583$), cocaine ($\text{Exp}(b) = 1.970$), methamphetamine ($\text{Exp}(b) = 2.535$), and any illicit drug ($\text{Exp}(b) = 8.675$). Those who were arrested for an alcohol offense were, on the other hand, significantly less likely to use marijuana ($\text{Exp}(b) = .500$), methamphetamine ($\text{Exp}(b) = .252$), and any illicit drug ($\text{Exp}(b) = .571$). Those who were arrested for a technical offense were significantly more likely to use methamphetamine ($\text{Exp}(b) = 1.503$) and any illicit drug ($\text{Exp}(b) = 1.364$). Level of education and the number of prior arrests were unrelated to our measures.

As seen in Appendices 1-5, results were remarkably consistent across the self-reported measures of drug use, both by time and drug type. The consistency across multivariate models reinforces confidence in the self-report data, and in the findings from the multivariate models.

Conclusions and Implications

The purpose of this paper was to examine the relationship between illegal immigrants and crime by examining patterns of drug use among a sample of recently booked adult arrestees in Maricopa County, Arizona ($n = 3,050$). Unfortunately, little research has examined the relationship between illegal immigration and crime in general, and even less research has focused on the relationship between illegal immigration and drug use specifically—despite conventional wisdom that illegal immigrants are intimately involved in drug use and the drug trade. As noted earlier, much of the prior research on immigration and crime has not differentiated between legal and illegal immigrants, has largely relied on official data (Mears, 2002), and has over-relied on prison-based samples, neglecting to examine the impact of immigration status at the arrest stage and earlier (Hagan & Polloni, 1999). One specific strength of the current paper was the use of both self-report data and a hard measure of criminality (i.e., urinalysis) to determine whether illegal immigrants in fact use drugs at higher rates than US citizens and legal immigrants.

Our analysis showed that there is a sizeable population of illegal immigrants arrested by law enforcement in Maricopa County. Approximately, 12% of recently booked arrestees self-reported being an illegal immigrant, and about 4% reported being legal immigrants. Taken alone, this finding suggests that the magnitude of the problem is not as substantial as some suggest, but is sizable enough to have a measurable impact on community levels of crime. While there are few estimates of illegal immigrants residing in Maricopa County, the Urban Institute estimated that approximately 9% of those living in the Phoenix metropolitan area were illegal immigrants (Fischer, 2008). This suggests that illegal immigrants are slightly more likely to be arrested than one would expect by

chance alone. Our data, however, do not allow us to understand whether this disparity reflects patterns of offending behavior or differential response by the police. Future research is not only needed to examine the incidence and prevalence of offending patterns among illegal immigrants, but also should examine whether there are contextual, institutional, or systematic differences in the way the police respond to illegal immigrants.

Our analysis also indicated that illegal immigrants differ in a number of notable ways across demographics and background characteristics. Illegal immigrants were significantly more likely to be younger, male, Hispanic, employed, living with a spouse or significant other, self-report fewer prior arrests, were less likely to be arrested for violence, and were less likely to receive income from illegal activities. At least in part, these findings are somewhat incongruent with strain theorists who posit that disadvantaged groups, such as illegal immigrants, have significantly less opportunity for economic success and have limited access to employment, thus resulting in increased criminality. The illegal immigrants in our sample were substantially more likely to be employed when compared to both legal immigrants and US citizens. Their total income was not significantly different than US citizens, and they were less likely to report that they received some income from illegal activity. Even with increased sanctions for employers who hire illegal immigrants, and increased federal surveillance to identify illegal immigrants who are employed, illegal immigrants among an arrestee sample appear to have ample access to employment.

We did find, however, that illegal immigrants were more likely to be arrested for offenses involving alcohol and more likely to report alcohol use in the past 30 days. Specifically, illegal immigrants were three to four times more likely to have been arrested for an alcohol-related offense than US citizens or legal immigrants. Further analysis of the data indicated that this finding was largely driven by arrests for driving under the influence (DUI) of alcohol. Our results might be related to differential patterns of behavior among illegal immigrants or differential patterns and practices by the police. One possibility is that illegal immigrants drink more alcohol than non-illegal immigrants, which could lead to higher rates of driving while intoxicated, which in turn could lead to increased probability of arrest for DUI. Prior research has not found strong support for this possible explanation, and the current study found that illegal immigrants were significantly more likely to use alcohol in only one of four use measures. While some studies have found that immigrants in general use alcohol at lower rates than US citizens (Kandula, Kersey, & Lurie, 2004), others have found that male immigrants from Mexico use alcohol infrequently, but when they do use alcohol they drink heavily (Caetano & Medina-Mora, 1988; Medina-Mora, Natera, & Borges, 2002). While there has been little research specifically examining patterns related to drinking and driving, anecdotal evidence suggests that drinking and driving might be more culturally accepted among those from Mexico (Wallisch & Spence, 2006). Another explanation might be that as a consequence of the aggressive and targeted apprehension of illegal immigrants by local law

enforcement officials in Maricopa County (Gorman, 2009), police are more likely to stop and question Hispanics living in communities characterized by high proportions of illegal immigrants, which might result in increased apprehensions of illegal immigrants for DUI. Future research should further explore the relationship between illegal immigrants and alcohol-related criminal offenses to determine whether the findings here are generalizable in other settings, and if they are, what causal mechanisms are responsible for the relationship.

Our findings also indicated that illegal immigrants have distinctive patterns of drug use when compared to US citizens and legal immigrants. In particular, our findings indicated that illegal immigrants were significantly less likely to use marijuana, methamphetamine, and any illicit drug when compared to US citizens. Several explanations might account for differences in drug use. First, various selection processes might be at play. Those with serious drug use problems might be less likely to illegally immigrate to the USA because they recognize that they will not have the social (i.e., family and friends) and economic resources available to succeed and thrive (Johnson, Van Geest, & Cho, 2002). Prior research suggests that many of those who seek to illegally immigrate to the USA do so because they are seeking to improve their livelihood, a characteristic that might be less prevalent among frequent drug users (Johnson et al., 2002). Additionally, illegal immigrants live under the threat of deportation. Several academics have postulated that illegal immigrants might be less likely to be involved in criminal activity, including drug use, because they avoid being involved in any activity that might lead to their detection by law enforcement agencies (Lee et al., 2001).

Conversely, we found that illegal immigrants use powder cocaine more often than US citizens and legal immigrants. Specifically, for those arrestees who self-reported being an illegal immigrant, the odds of their using powder cocaine increased by 100% when compared to US citizens. Our data do not allow us to determine the reasons for this relationship. It might be that powder cocaine use portrays some cultural symbolic significance such as wealth, status, or lifestyle, or it might reflect existing social networks that more easily facilitate the acquisition of powder cocaine when compared to other drugs. Some drug use scholars have suggested that drug use must be understood in the context of the person's native country. Geographic regions differ in terms of: (1) access to different drugs, (2) norms of acceptance by drug type, and (3) the affordability of specific drugs (Amaro, Whitaker, Coffman, & Heeren, 1990). As a consequence, our findings might be related to various geographical or cultural artifacts associated with the illegal immigrants in our sample.

Several potential limitations should be noted and serve as context for interpretation of the findings. First, the present study relied on self-nomination to determine immigration status. The human subject's protections protocol developed for the project did not permit us to obtain official data on their immigration status. While prior research has determined that self-reported behavior is a robust method of measuring various concepts related to crime and delinquency, we are unaware of any research examining the validity of self-reported

immigration status. Second, the present study relied on a sample of recently booked adult arrestees. Our findings should not be generalized to the general population. Because little is known about the relationship between illegal immigrants and crime in general, and drugs specifically, it is important that our findings not be taken out of context. Prior studies have shown that arrestee samples can be somewhat distinct in that they have not only had contact with the criminal justice system, but that they also over-represent poor, minority males (Tonry, 1997).

Third, the findings from the present study should not be generalized to other communities in the Southwest or elsewhere. As a number of studies have demonstrated, immigrants take different routes depending on where they have come from. Our findings are primarily reflective of those who came from Mexico. Communities in the east, for example, have higher concentrations of those from Eastern Europe, and some communities in Northern California and the Northwest have higher concentrations of Asian immigrants. Geographic, cultural, and immigrant demography all might have a powerful influence on patterns of crime and drug use. There is a need for researchers to carry out additional studies like this one in other places. It is unclear whether findings from similar studies in El Paso, Miami, Seattle, or Buffalo, for example, would be different from what we report in Maricopa County. Even though the current study was geographically limited in its scope, it presents results from a county that is at the center of the national immigration debate. Maricopa, Arizona's most populous county, has been at the center of the nation's discussion of state and federal immigration law and policy, most recently, SB1070. It is yet to be seen whether the behavior of immigrants differs in other parts of the country, at the least, it is important to understand the dynamics where much of the national debate is taking place.

In summary our findings refute the general contention that there is a strong relationship between illegal immigrants and crime in general and illegal immigrants and drug use specifically. While illegal immigrants comprised a modest proportion of the recently booked arrestees in our sample, when compared to US citizens, they did not vary substantially in terms of education and income. Importantly, we found that they were less involved in crime in general as measured by prior arrests and receiving earnings from illegal activity. Additionally, illegal immigrants in our sample were significantly less likely to have been arrested for a violent crime and to use illegal drugs overall, but more likely to use powder cocaine than US citizens. The findings from this study support a growing body of research that challenges the immigration-crime link. Future research should continue to investigate the immigration-crime nexus in different geographical areas, using diverse methodologies. It is important for policy decisions to be based on grounded research. Additionally, future research should examine the ways in which first generation immigrants differ from second and third generation immigrants in terms of criminal involvement. Such research will provide important directives and information to policymakers and law enforcement agencies. While the current study contributes to the

immigration-crime debate, given the importance and sensitivity of the immigration debate in this country, there must be a call for more research on the topic.

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Appendix 1. Effect of Immigration Status on Self-Reported Marijuana Use

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Sex (males reference)	-.571 (.099)	.565*	-.564 (.101)	.569*	-.632 (.115)	.532*
Race or ethnicity						
White (referent)	—	—	—	—	—	—
Black or African-American	.193 (.128)	1.212	.259 (.127)	1.296*	.315 (.137)	1.371*
Hispanic or Latino	-.159 (.106)	.853	-.147 (.106)	.863	-.016 (.166)	.984
Other	-.216 (.128)	.806	-.068 (.128)	.935	.038 (.141)	1.039
Age	-.050 (.004)	.951*	-.047 (.004)	.954*	-.051 (.005)	.950*
Level of education						
Did not graduate high school (referent)	—	—	—	—	—	—
High school diploma or GED	-.035 (.109)	.966	.008 (.108)	1.008	-.021 (.118)	.979
Post high school education	-.082 (.095)	.921	-.113 (.095)	.893	-.187 (.104)	.829
Employment status						
Not employed (referent)	—	—	—	—	—	—
Part-time	.242 (.131)	1.274	.081 (.130)	1.084	-.022 (.141)	.978
Full-time	-.077 (.118)	.926	-.128 (.118)	.880	-.110 (.129)	.896
Income						
Total income (log10)	-.135 (.077)	.874	-.087 (.077)	.917	-.076 (.084)	.927
Some income obtained illegally	1.047 (.152)	2.849*	.912 (.143)	2.490*	.981 (.144)	2.667*
Living with spouse or boy/girlfriend	-.079 (.088)	.924	-.085 (.089)	.918	-.075 (.099)	.928
Arrest charges						
Any violent	-.034 (.123)	.967	.095 (.123)	1.100	.032 (.134)	1.032
Any property	-.041 (.110)	.960	.019 (.109)	1.019	-.136 (.120)	.873
Any drug	1.135 (.137)	3.112*	.989 (.130)	2.688*	1.014 (.133)	2.758*
Any alcohol	-.548 (.191)	.578*	-.500 (.198)	.606*	-.636 (.241)	.529*

Appendix 1. Continued

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Any technical	.051 (.106)	1.052	.041 (.105)	1.041	-.054 (.114)	.948
Prior arrests (past 12 months)	.116 (.027)	1.123*	.092 (.025)	1.096*	.073 (.025)	1.076*
Legal status						
US citizen (referent)	—	—	—	—	—	—
Illegal alien	-1.526 (.166)	.217*	-1.254 (.170)	.285*	-1.050 (.192)	.350*
Legal alien	-1.034 (.241)	.356*	-.878 (.250)	.416*	-.549 (.273)	.578*
N	3,050		3,050		3,050	
Nagelkerke- R^2	0.243		0.205		0.195	
Model chi-square (df)	613.545* (20)		500.195* (20)		437.201* (20)	

* $p < .05$.

Appendix 2. Effect of Immigration Status on Self-Reported Powder Cocaine Use

	Past 12 months		Past 30 days		Past 3 days	
	b (SE)	Exp(b)	b (SE)	Exp(b)	b (SE)	Exp(b)
Sex (males reference)	.019 (.131)	1.019	-.001 (.169)	.999	-.242 (.243)	.785
Race or ethnicity						
White (referent)	—	—	—	—	—	—
Black or African-American	-.676 (.197)	.508*	-.213 (.244)	.808	-.064 (.331)	.938
Hispanic or Latino	-.082 (.138)	.921	.285 (.178)	1.330	.573 (.238)	1.773*
Other	-.439 (.182)	.644*	.134 (.219)	1.143	-.143 (.335)	.866
Age	-.022 (.005)	.978*	-.008 (.007)	.992	-.004 (.009)	.996
Level of education						
Did not graduate high school (referent)	—	—	—	—	—	—
High school diploma or GED	.115 (.144)	1.128	.190 (.179)	1.209	.083 (.202)	1.083
Post high school education	.197 (.123)	1.218	.240 (.154)	1.272	.083 (.202)	1.087
Employment status						
Not employed (referent)	—	—	—	—	—	—
Part-time	-.541 (.180)	.582*	-.401 (.223)	.670	-.399 (.287)	.671
Full-time	-.269 (.151)	.764	-.208 (.189)	.812	-.537 (.254)	.584*
Income						
Total income (log10)	.130 (.099)	1.139	.264 (.125)	1.302	.381 (.167)	1.463*
Some income obtained illegally	.977 (.159)	2.656*	1.104 (.190)	3.016*	1.007 (.252)	2.737*
Living with spouse or boy/girlfriend	-.147 (.119)	.863	-.130 (.147)	.878	-.285 (.201)	.752
Arrest charges						
Any violent	.244 (.157)	1.276	.274 (.192)	1.316	.510 (.242)	1.665*
Any property	.206 (.136)	1.228	.267 (.166)	1.306	.415 (.215)	1.515
Any drug	.574 (.153)	1.776*	.716 (.182)	2.046*	.711 (.238)	2.035*

Appendix 2. Continued

	Past 12 months		Past 30 days		Past 3 days	
	b (SE)	Exp(b)	b (SE)	Exp(b)	b (SE)	Exp(b)
Any alcohol	.425 (.212)	1.530*	.322 (.259)	1.381	.506 (.327)	1.659
Any technical	.063 (.130)	1.065	.058 (.157)	1.060	.091 (.204)	1.095
Prior arrests (past 12 months)	.068 (.027)	1.070*	.078 (.030)	1.081*	.066 (.032)	1.068*
Legal status						
US citizen (referent)	—	—	—	—	—	—
Illegal alien	.615 (.178)	1.849*	.970 (.205)	2.639*	1.049 (.256)	2.856*
Legal alien	.330 (.285)	1.390	.597 (.322)	1.816	.590 (.425)	1.805
N		3,050		3,050		3,050
Nagelkerke-R ²		0.093		0.101		0.111
Model chi-square (df)		166.777* (20)		145.099* (20)		111.826* (20)

*p < .05.

Appendix 3. Effect of Immigration Status on Self-Reported Crack Cocaine Use

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Sex (males reference)	.199 (.136)	1.221	.354 (.151)	1.425*	.297 (.176)	1.346
Race or ethnicity						
White (referent)	—	—	—	—	—	—
Black or African-American	.945 (.156)	2.573*	1.025 (.170)	2.788*	1.478 (.195)	4.384
Hispanic or Latino	-.244 (.163)	.784	-.173 (.184)	.841	.242 (.216)	1.274
Other	-.250 (.194)	.779	-.430 (.232)	.650	-.284 (.290)	.753
Age	.066 (.005)	1.069*	.073 (.006)	1.076*	.081 (.007)	1.084*
Level of education						
Did not graduate high school (referent)	—	—	—	—	—	—
High school diploma or GED	-.159 (.160)	.853	-.116 (.180)	.890	-.202 (.212)	.817
Post high school education	-.075 (.136)	.928	-.117 (.154)	.889	-.171 (.180)	.843
Employment status						
Not employed (referent)	—	—	—	—	—	—
Part-time	-.288 (.177)	.750	-.195 (.197)	.823	-.321 (.232)	.725
Full-time	-.522 (.163)	.593*	-.570 (.185)	.565*	-.707 (.220)	.493*
Income						
Total income (log10)	-.188 (.103)	.828	-.166 (.115)	.847	-.177 (.134)	.838
Some income obtained illegally	1.447 (.167)	4.250*	1.682 (.182)	5.378*	1.740 (.206)	5.696*
Living with spouse or boy/girlfriend	-.265 (.137)	.767	-.275 (.157)	.760	-.218 (.185)	.804
Arrest charges						
Any violent	.077 (.184)	1.080	.182 (.207)	1.200	-.213 (.264)	.808
Any property	.379 (.148)	1.460*	.332 (.166)	1.393*	.572 (.190)	1.772*

Appendix 3. Continued

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Any drug	.403 (.173)	1.496*	.562 (.190)	1.755*	.676 (.217)	1.967*
Any alcohol	-.303 (.330)	.739	-.068 (.365)	.935	-.667 (.550)	.513
Any technical	.213 (.143)	1.237	.304 (.160)	1.355	.229 (.185)	1.258
Prior arrests (past 12 months)	.122 (.030)	1.129*	.081 (.031)	1.085*	.061 (.032)	1.063
Legal status						
US citizen (referent)	—	—	—	—	—	—
Illegal alien	-.053 (.278)	.949	-.178 (.334)	.837	-.420 (.415)	.657
Legal alien ¹	—	—	—	—	—	—
<i>N</i>		3,050		3,050		3,050
Nagelkerke- <i>R</i> ²		0.254		0.273		0.303
Model chi-square (df)		462.565* (19)		438.959* (19)		409.380* (19)

¹Legal aliens did not report crack use, this variable was left out of these analyses.

**p* < .05.

Appendix 4. Effect of Immigration Status on Self-Reported Methamphetamine Use

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Sex (males reference)	.189 (.103)	1.208	.194 (.109)	1.214	.174 (.124)	1.190
Race or ethnicity						
White (referent)	—	—	—	—	—	—
Black or African-American	-1.836 (.179)	.159*	-1.864 (.206)	.155*	-1.802 (.250)	.165*
Hispanic or Latino	-.282 (.108)	.754*	-.242 (.114)	.785*	-.332 (.131)	.718*
Other	-.670 (.138)	.521*	-.623 (.148)	.536*	-.719 (.176)	.487*
Age	.000 (.004)	1.000	.004 (.004)	1.004	.008 (.005)	1.008
Level of education						
Did not graduate high school (referent)	—	—	—	—	—	—
High school diploma or GED	.185 (.116)	1.203	.178 (.122)	1.195	.026 (.140)	1.026
Post high school education	-.128 (.103)	.879	-.147 (.110)	.864	-.210 (.125)	.811
Employment status						
Not employed (referent)	—	—	—	—	—	—
Part-time	-.113 (.134)	.893	-.154 (.140)	.857	-.131 (.160)	.877
Full-time	-.602 (.124)	.548*	-.641 (.131)	.527*	-.506 (.150)	.603*
Income						
Total income (log10)	-.035 (.080)	.966	-.010 (.084)	.990	.096 (.096)	1.101
Some income obtained illegally	.820 (.144)	2.271*	.822 (.146)	2.275*	.780 (.158)	2.181*
Living with spouse or boy/girlfriend	.114 (.097)	1.121	.133 (.103)	1.142	.077 (.120)	1.080
Arrest charges						
Any violent	-.108 (.139)	.898	-.025 (.148)	.975	-.192 (.176)	.825
Any property	.362 (.117)	1.431*	.384 (.122)	1.468*	.434 (.138)	1.543*
Any drug	.705 (.136)	2.023*	.686 (.140)	1.985*	.757 (.153)	2.132*

Appendix 4. Continued

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Any alcohol	-1.039 (.279)	.354*	-1.622 (.398)	.197*	-1.296 (.429)	.273*
Any technical	.358 (.115)	1.431*	.330 (.121)	1.390*	.172 (.136)	1.188
Prior arrests (past 12 months)	.148 (.027)	1.160*	.112 (.026)	1.118*	.093 (.026)	1.097*
Legal status						
US citizen (referent)	—	—	—	—	—	—
Illegal alien	-1.044 (.201)	.352*	-.814 (.213)	.443*	-.652 (.247)	.521*
Legal alien	-1.157 (.334)	.314*	-1.057 (.364)	.347*	-1.658 (.597)	.191*
<i>N</i>	3,050		3,050		3,050	
Nagelkerke- <i>R</i> ²	0.225		0.203		0.167	
Model chi-square (df)	523.780* (20)		438.993* (20)		308.9238 (20)	

**p* < .05.

Appendix 5. Effect of Immigration Status on Any Self-Reported Drug Use

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Sex (males reference)	-.354 (.103)	.702*	-.373 (.100)	.689*	-.379 (.101)	.685*
Race or ethnicity						
White (referent)	—	—	—	—	—	—
Black or African-American	-.118 (.137)	.889	-.056 (.131)	.945	-.065 (.129)	.937
Hispanic or Latino	-.203 (.112)	.816	-.197 (.108)	.821	-.109 (.107)	.896
Other	-.549 (.133)	.577*	-.443 (.129)	.642*	-.413 (.132)	.661*
Age	-.024 (.004)	.976*	-.018 (.004)	.982*	-.014 (.004)	.986*
Level of education						
Did not graduate high school (referent)	—	—	—	—	—	—
High school diploma or GED	.047 (.113)	1.048	-.020 (.109)	.980	-.053 (.108)	.948
Post high school education	-.117 (.098)	.890	-.193 (.094)	.824*	-.221 (.095)	.802*
Employment status						
Not employed (referent)	—	—	—	—	—	—
Part-time	.053 (.140)	1.054	-.041 (.133)	.960	-.097 (.130)	.907
Full-time	-.277 (.125)	.758*	-.311 (.121)	.733*	-.290 (.119)	.748*
Income						
Total income (log10)	-.179 (.083)	.836*	-.098 (.079)	.907	-.061 (.078)	.941
Some income obtained illegally	1.903 (.231)	6.703*	1.950 (.207)	7.025*	1.692 (.161)	5.428*
Living with spouse or boy/girlfriend	-.195 (.090)	.823*	-.182 (.088)	.833*	-.154 (.089)	.858
Arrest charges						
Any violent	-.062 (.127)	.940	.057 (.123)	1.059	-.104 (.124)	.901
Any property	.096 (.116)	1.100	.205 (.112)	1.227	.159 (.110)	1.172
Any drug	1.807 (.178)	6.093*	1.597 (.154)	4.937*	1.413 (.135)	4.108*

Appendix 5. Continued

	Past 12 months		Past 30 days		Past 3 days	
	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)	<i>b</i> (SE)	Exp(<i>b</i>)
Any alcohol	-.521 (.174)	.594*	-.538 (.179)	.584*	-.681 (.200)	.506*
Any technical	.228 (.112)	1.255*	.212 (.108)	1.236*	.043 (.106)	1.044
Prior arrests (past 12 months)	.185 (.036)	1.203*	.154 (.031)	1.167*	.111 (.027)	1.117*
Legal status						
US citizen (referent)	—	—	—	—	—	—
Illegal alien	-.987 (.151)	.373*	-.798 (.150)	.450*	-.668 (.156)	.513*
Legal alien	-.789 (.222)	.454*	-.759 (.226)	.468*	-.869 (.253)	.419*
N	3,050		3,050		3050	
Nagelkerke- <i>R</i> ²	0.252		0.242		0.230	
Model chi-square (df)	621.9108 (20)		607.988* (20)		573.453* (20)	

**p* < .05.