Social Mobility and Crime Rates, 1970 – 2010: Applying the Cycles of Deviance Model to Violent and Economic Crime

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ABSTRACT

In his article, "Cycles of Deviance" (1996), Hawdon demonstrates how varying rates of social mobility correspond to cyclical patterns of drug use in the United States between 1880 and 1990. He proposes that social mobility alters the "deviance structure" of a society by changing the rate at which certain behaviors are labeled deviant, and thus, the rate at which people engage in those behaviors. This study provides an updated assessment of the cycles of deviance model to determine whether it can account for rates of violent and economic crime. I use social mobility to predict homicide, burglary, and overall rates of drug use from 1970 through 2010 using a time-series analysis. Crime data are obtained from the FBI's Uniform Crime Reports and Monitoring the Future. Social mobility data are obtained from the Bureau of Labor Statistics, the Bureau of Justice Statistics, and the U.S. Census Bureau. I also control for several well-established correlates of crime – namely, economic and demographic factors, police size, illicit drug market activity, and firearm availability. Results show moderate support for the cycles of deviance model in predicting rates of homicide and burglary. However, social mobility's influence with respect to drug use appears to vary with the size of the youth population.

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I. Statement of the Problem

In the 1990s, crime rates in the United States fell sharply for nine years in a row – the longest decline ever recorded. The decline was distributed across all regions, all demographic groups, and across every crime category. By the start of the twenty-first century, most serious crime rates had dropped by more than 35%, to levels that had not been observed since the 1960s (Zimring 2007). Unprecedented in contemporary crime statistics, the 1990s crime decline sparked the attention of social scientists, policymakers, and law enforcement officials, as they tried to understand its causes. Twenty years after it began, there is still little consensus with regard to the crime decline, which remains "a mystery to this day" (Zimring 2007).

As Zimring notes, "the consequences of sharply lower crime rates deserve much more attention than they have received" (2007). Changes in crime patterns over time have significant consequences for both the criminal justice system and other critical policy sectors; it is therefore important to gain an understanding of the mechanisms behind these crime trends. While some progress has been made in identifying potential explanatory factors, the relative contribution of these factors to the 1990s crime decline, or to crime trends in general, remains uncertain (Rosenfeld and Goldberger 2008).

In his article, "Cycles of Deviance" (1996), Hawdon offers an explanation for the cyclical patterns of drug use witnessed in the United States between 1880 and 1990. He shows that waves of increased drug use correspond to periods of high social mobility, while rates of drug use decreased during periods of social stability. Hawdon argues that social mobility alters the "deviance structure" of a society by changing the rate at which certain behaviors are labeled deviant, and thus, the rate at which people engage in those behaviors.

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In this study, I investigate whether Hawdon's cycles of deviance model can be applied to crime rates in general, particularly economic and violent crime. I conduct a time-series analysis of several crime categories from 1970 to 2010, including illicit drug use, burglary, and homicide, to determine whether various measures of social mobility appear to have an impact on their incidence. I also control for a number of factors that have been implicated as influential to crime trends, including economic and demographic factors, policing, illicit drug markets, and the availability of firearms.

II. Literature Review

A. *Crime Trends*

Since the 1960s, the United States has maintained relatively high crime rates, higher than many other industrialized nations (Barker 2010). Around 1965, the U.S. homicide rate began a steady rise from under 5 per 100,000 population to 8 per 100,000 in 1970. It fluctuated in the range of 8 to 10 per 100,000 until 1980, and then declined from 1980 to 1985 (Blumstein and Wallman 2006). In the period from 1985 to 1991, it rose 24 percent to a peak of 9.8 in 1991, and then declined markedly to less than 6 per 100,000 in 1999, a level lower than any annual rate since 1967 (Blumstein 2006). The homicide rate is frequently used as an indicator of crime trends because it tends to be most accurately recorded, but reported rates of other crime categories in the 1990s followed a similar pattern. The period witnessed a 43 percent decrease in homicides, a 38 percent decrease in all violent crime, and a 37 percent decrease in property crime (Barker 2010).

The crime decline leveled off around 2000, with subsequent years evidencing "an impressively flat trajectory in crime" (Blumstein and Wallman 2006). The homicide rate reached 5.5 per 100,000 population, and has remained fairly stable since (Bureau of Justice Statistics 2007). The property crime rate has continued to decrease each year, while the violent crime rate has moved up slightly since 2004. However, the violent crime rate (as of 2007) was still 40 percent lower than it was in 1990 (Barker 2010). What can explain these variations over time?

B. *Cycles of Deviance*

According to Hawdon (1996), social mobility alters the deviance structure of a society by increasing intergroup contact. It does this by either reducing the physical distance between groups, or reducing the stigma associated with interacting with people of different socioeconomic statuses. As more groups come into contact with one another, they grow more similar to one another and less homogeneous. The society as a whole becomes integrated, giving way to a larger social group that is more heterogeneous and diversified. As the variability of behavior in the larger social group increases, behavioral differences among smaller groups become increasingly difficult to distinguish. This results in behaviors that were previously considered deviant becoming defined as more acceptable. Conversely, when social mobility decreases, intergroup contact becomes less frequent, resulting in increased homogeneity. This accentuates differences between groups and elevates intergroup conflict, which in turn, heightens the importance of conforming to group norms. Those who engage in behaviors outside of group norms will now risk being labeled as deviant.

Another effect of increased intergroup contact is greater availability of groups for membership (Blau 1977, as cited in Hawdon 1996). With more groups to choose from, the exit costs associated with leaving a particular group decrease, as "the chance of finding a group that will accept [an] individual, and deviant behaviors he or she may perform [increases]" (Hawdon 1996:188). As exit costs are reduced, a group's ability to demand conformity to its normative standards is weakened. Individuals are thereby free to engage in a wider variety of behaviors, including ones that were previously forbidden (Hawdon 1996). Conversely, when an individual has access to only one group, exit costs are high, and the group's ability to demand conformity is enhanced. This decreases the number of behaviors individuals are able to engage in.

With increased associations and variability of behavior, individuals begin to question old norms, and it becomes increasingly difficult to discern between "proper" and "improper" behavior. This "normative ambiguity" alters the moral definitions of the group so that behaviors that would previously earn the practitioner a deviant label are no longer considered abnormal. These changes in the deviance structure have an impact on both the behavior of individuals and the moral evaluations of their behavior. As fewer behaviors are defined as deviant, less people earn a deviant label, despite an increase in the objective number of people actually engaging in the behaviors, and vice versa. Thus, it is possible that the relationship between the rate of an objective behavior and the rate at which the behavior is labeled deviant is actually inverse.

Hawdon provides evidence for this argument by comparing rates of drug use in the United States with concurrent indicators of social mobility. He demonstrates that the two waves of drug use occurring between 1880 and 1990 took place during times of rapid changes in immigration, urbanization, and the economy. During periods of accelerated social mobility, fewer behaviors were defined as deviant, allowing people to engage in behaviors that were previously labeled as such. Conversely, during periods of low social mobility, greater intolerance caused people to avoid behaviors defined as deviant. Hawdon exemplifies these attitude changes citing contemporary opinion surveys and policy initiatives pertaining to drug use. These reflected more permissive attitudes in times of high social mobility, and more restrictive ones when social mobility was low. Similar trends were also observed in the United Kingdom, Japan, Israel, and the former Soviet Republics (Hawdon 2005:269-308).

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Figure 1: Theoretical Model

High Rates of
Social Mobility
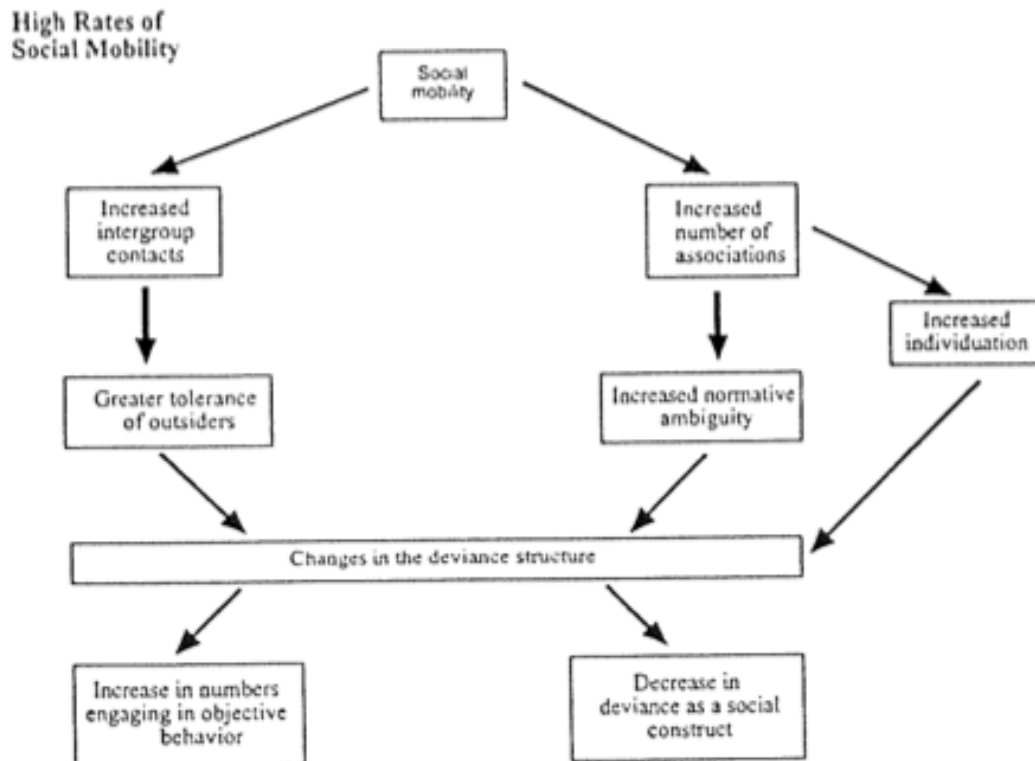
Presented in Hawdon 1996:190

Based on the evidence, it appears that social mobility may be the key mechanism behind cyclical crime patterns. However, there are several other factors thought to account for some of the variation that we must also consider. These include economic and demographic factors, rates of imprisonment, policing, illicit drug markets, and firearm availability.

C. *The Economy*

Economic conditions are thought to influence the motivation to commit crime in a number of ways. According to strain theory, if legitimate means to obtaining desired goals (such as economic success) are limited or unavailable, individuals may turn to illegitimate avenues to

achieve these goals (Merton 1938; Cloward and Ohlin 1960). This explains why people might be motivated toward crime in times of economic hardship. In addition to creating economic strain, a deteriorating economy is thought to weaken the level of social control in a society, or its ability to regulate its members (Hirschi 1969). According to Aravintes and Defina (2006), since the lives of employed individuals are directly structured by work, any deterioration in the job market can reduce this aspect of social control, potentially resulting in higher crime rates.

Grogger (1998), for example, documents how crime rates increased during the 1970s and 1980s, as real wages fell significantly. In the 1990s, as wages increased, property and violent crimes declined. Arvanites and Defina (2006) found a negative and statistically significant correlation between the improving economy of the 1990s and rates of robbery and property crime. More recently, Rosenfeld and Fornango (2007) used data from the Index of Consumer Sentiment to measure variation in economic confidence and optimism from 1970 to 2003. Their research reveals that consumer sentiment has a significant negative effect on robbery and property crime rates, controlling for factors such as unemployment and GDP per capita. Importantly, they demonstrate that changes in consumer sentiment precede corresponding changes in crime rates.

There is some disagreement, however, on the extent to which these positive economic trends impacted crime rates during the 1990s. Estimates of the effects on property crime range from about 6 or 7 percent at the low end (Levitt 2004), to as much as 40 percent at the high end (Raphael and Winter-Ebmer 2001).

D. *Demographic Factors*

A well-known phenomenon in criminology is the age-crime distribution, in which crime rates peak during the teen and young adult years and decline throughout adulthood (Gottfredson and Hirschi 1983). This suggests that the relative size of a society's youth population should have an impact on crime rates. Over the 20 years after 1980, the percentage of the U.S. population in the most crime-prone years declined substantially. According to Zimring, the smaller share of the population in high-risk groups likely depressed crime rates during this period. An analysis by Baumer (2008) however, suggests that change in the relative size of the elderly population, as opposed to youth cohorts, had a larger impact on the decline, accounting for between 4 and 8 percent of the observed declines in homicide. Levitt (2004) also holds that the increase in the elderly population contributed to the reduction in crime, but adds that changes in racial composition (specifically, an increase in the black population) "largely offset the age-distribution benefits" for certain types of crime. He concludes that demographic shifts may account for little more than one-sixth of the observed decline in property crime during the 1990s, and are not an important factor in the drop in violent crime.

Blumstein contends that cohort-size effects are relatively minor as compared with period effects, or changes over time. As an example, Fox (2006) argues that a sharp downturn in youth offending following the crack epidemic reduced the role of demographics on the crime decline of the 1990s to about 10 percent.

A controversial theory proposed by Donohue and Levitt (2001) maintains that the legalization of abortion in the early 1970s reduced crime in the 1990s by decreasing the number of "unwanted" children who would be at high-risk for criminality. The authors argue that teenage, single, and poor women who would be likely to raise disadvantaged children were able

to delay childrearing due to the legalization of abortion, thereby reducing criminality. In their time-series analysis, Donohue and Levitt found that cohorts of children born just after Roe v. Wade, who were 18 to 24 in the 1990s, experienced larger reductions in crime than other cohorts. They also determine that states with higher rates of abortion saw the largest declines in crime during the 1990s: over 25 percent. Joyce (2004) challenges this "abortion dividend" thesis, arguing that women who get abortions are less likely to raise at-risk children anyway. Zimring (2007) also shows that the percentage of children born to single women and unmarried teenagers has actually increased since the 1970s, suggesting the Roe v. Wade decision did not affect the number of youth at risk for criminality. He concludes that the influence of shifts in population is modest and can be overwhelmed by other social trends that influence crime rates.

E. *Imprisonment*

Increasing imprisonment is thought to reduce crime rates via two mechanisms. One is incapacitation, through which offenders are prevented from committing crime once they are incarcerated (Zimring and Hawkins 1995). The other is deterrence, by which increased penalties threatened for particular offenses are thought to deter people from committing crime (Zimring and Hawkins 1973).

According to Zimring (2007), it can be difficult to assess the magnitude and timing of the relationship between imprisonment and crime rates. For example, imprisonment increased significantly during the 1970s and 1980s, but crime did not significantly decrease until the 1990s, so it is unclear whether the two were related. Others have argued that the effect of imprisonment varies with crime type, and is not very influential for offenders in illicit drug

markets, for example, as they are easily replaced after being sent to prison (Blumstein and Rosenfeld 2008).

Rosenfeld and Fornango (2007) estimate that rising incarceration rates accounted for about 19 percent of the decline in robbery rates and 23 percent of the drop in burglary rates during the 1990s, controlling for the effects of economic conditions, changes in age and race composition, and lagged crime rates. Using an estimate of the elasticity of crime with respect to punishment, Levitt (2004) argues that the increase in incarceration over the 1990s can account for a reduction of approximately 12 percent for homicide and violent crime and 8 percent for property crime: about one-third of the observed decline in crime.

Research by Canela-Cacho, Blumstein, and Cohen (1997) indicates that the effect of imprisonment on crime varies with the scale of incarceration. The authors argue that incarceration has diminishing returns, meaning that once it reaches a certain level, it no longer reduces crime. Others have argued that increasing the prison population past a certain point even increases crime (Clear et al. 2003; Liedka, Piehl, and Useem 2006). Spelman (2006), for example, claims that as the prison population increases, the offense rate of the average prisoner – and thus, the effectiveness of the prison at reducing crime – goes down. That is, incapacitation effects diminish with the incarceration of less serious offenders.

F. *Policing*

Changes in policing have also been implicated as influential for crime rates. Based on a regression analysis using firemen as an indicator of number of police officers, Levitt (2002) estimates that an increase in police size during the 1990s accounted for about 5-6 percent of the observed crime reduction across the board.   Accordingly, Baumer (2008) estimates that about 3-

7 percent of the decline can be attributed to increased police forces based on an analysis of crime rates in 114 cities.

On the other hand, Eck and Maguire (2006) analyzed 27 studies of the effect of police strength on violent crime and concluded there is little evidence that generic changes in policing are responsible for reducing violent crime; they suggest instead that there is greater evidence for the impact of focused policing strategies. Recent meta-analyses examining the efficacy of focused policing initiatives found they were significantly associated with local reductions in crime and disorder (Weisburd et al. 2010; Bowers et al. 2011). However, given the decentralized nature of police resources, Zimring argues it is unlikely that such local strategy changes could reduce crime rates at the national level (2007).

G. *Illicit Drug Markets*

Illicit drug markets have the potential to increase crime rates in a number of ways. Violent crime can occur because disputes between buyers and sellers cannot be resolved through the police, courts, or other formal means of conflict resolution. Property crime and robbery are also likely to increase due to drug users being unable to generate the income needed to support their addictions. In particular, crack markets have been strongly involved in both violent and property crimes (Blumstein and Rosenfeld 2008). This was evidenced in the 1980s, when the market for crack cocaine grew rapidly (Levitt 2004). Blumstein (1995) explains how during this era, young people were recruited into crack markets to replace older sellers who were progressively being incarcerated. Because crack was typically sold in street markets, young sellers had to carry guns to protect themselves, which contributed to a major rise in firearm violence.

Baumer, in an empirical analysis of crime trends (2008), found that the prevalence of crack cocaine use and market activity had significant effects on many of the crime types he considered. Similarly, Messner et al. (2007) found that declining cocaine use, as indicated by the toxicology of accident victims, was associated with decreasing homicide levels. This effect emerged only for gun-related homicides, consistent with Blumstein's crack/firearms diffusion hypothesis. Rosenfeld (2004) contends that Blumstein's argument accounts for why violence was prominent among males and minority youths who sold crack, and why rates of nonfirearm-related violence were not affected by the decline in crack use. He professes however, that it "says nothing about the drop in property crime rates or the long-term decline in violence among adults" that also occurred during the period (Rosenfeld 2004).

H. *Firearm Availability*

Another factor thought to influence crime rates is firearm availability. Several studies have suggested that gun availability increases levels of gun violence (e.g. Cook 1983; Newton and Zimring 1969). Access to firearms is also thought to facilitate particular types of crime, such as robbery (Cook and Moore 1999).

Kleck (1979), for example, found that increased gun manufacturing and imports resulted in higher rates of homicide in the United States. Some have proposed, however, that the causal direction of the relationship between firearm possession and homicide rates is unclear (Blumstein and Rosenfeld 2008). According to a study by Rosenfeld, Baumer, and Messner (2007), firearm ownership increases rates of firearm homicide, which, in turn, increase rates of ownership.

A more recent study by Stolzenburg and D'Alessio (2000) found that legitimate gun availability had little to no effect on the violent crime rate. Results indicated instead that as the

number of guns reported stolen increased, the rate at which youths were arrested for gun-related

crimes also increased. This suggests that illegal gun availability may be more important than

legal gun availability in predicting violent crime rates.

III. Model

Hawdon provides considerable evidence in support of the cycles of deviance model, at least for normative crimes such as drug use. But can it also account for rates of crime that are less normative? By "normative crime", I mean acts that are frequently referred to as "victimless" (e.g. drug use and prostitution). There is a lack of agreement on whether these crimes are truly victimless, but I refer to them as normative because there is some question as to whether they should be criminalized (see Meir and Geis 1997 for a full discussion of the debate on the definition of victimless crimes).

According to the cycles argument, increased intergroup contact and exposure to a wider range of behavior lead to acceptance of behaviors that were previously defined as deviant. Increased availability of group membership also leads to lower exit costs, and therefore, more freedom for individuals to engage in acts that were previously considered deviant. In essence, people become desensitized to criminal behavior, which, in turn, elevates crime rates. This suggests that during periods of high social mobility, tolerance of more serious acts such as economic and violent crime might even increase, potentially making them more attractive to individuals. Although it is unlikely this type of behavior would be openly accepted, exposure to multiple value systems and the resulting normative ambiguity ultimately undermine mechanisms of social control (Hawdon 2005). It is therefore reasonable to suppose that when social mobility increases, individuals might be more liable to engage in economic and violent crime, despite their delineation as criminal.

It is worth noting, however, that gradual changes in tolerance may not be reflected in the legal system immediately. Even if social norms change at the civilian level, behaviors still legally defined as criminal may continue to be enforced as such, presumably sustaining some

level of deterrence. Alternatively, certain offenses might not be enforced as stringently if widespread tolerance develops. This might be more likely with normative crimes, such as drug use, than with more "serious" offenses like burglary or homicide. Since there is less normative ambiguity surrounding violent and economic crime to begin with, it is questionable whether social mobility would have as great an impact on their incidence.

Based on the above review of the literature, I hypothesize that: (1) violent crime will vary directly with social mobility, controlling for economic and demographic factors, police size, illicit drug market activity, and firearm availability; (2) economic crime will vary directly with social mobility, controlling for economic and demographic factors, police size, illicit drug market activity, and firearm availability; and (3) drug use will vary directly with social mobility, controlling for economic and demographic factors, police size, and firearm availability. In addition, because there is more normative ambiguity surrounding victimless crime (as discussed above), I also hypothesize that: (4) the cycles of deviance model will account for a greater percentage of the variance in fluctuations of drug use than of violent or economic crime. The null hypothesis is that social mobility will not have an impact on violent or economic crime, or drug use.

The time period of 1970 to 2010 was selected for several reasons. Firstly, this study provides an updated assessment of Hawdon's (1996) cycles of deviance theory, which examined rates of drug use from 1880 to 1990. This study includes the last two decades of that study and extends it to more recent decades to explore whether the model can also account for rates of non-normative crime. Second, this timeframe includes periods when crime rates increased dramatically (1970s to early 1990s) and decreased dramatically (mid-1990s to early 2000s). If the theory is truly general, it should be able to predict both increases and decreases in crime

rates. Finally, the time period was selected for practical purposes, namely, data availability. While some of the variables included in the analysis have been measured prior to the early 1970s, data on other important factors are unavailable prior to that time.

IV. Methods

A. *Crime Variables*

      The homicide rate, defined as the number of murders per 100,000 inhabitants, and the burglary rate, defined as the number of burglaries per 100,000 inhabitants, were measured using data from the FBI's Uniform Crime Reports (2012). The rate of illicit drug use, defined as the percentage of high school seniors who reported using an illicit drug in the previous 12 months, was measured using data from Monitoring the Future (2012). These crime data were collected for the years 1970 through 2010.

B. *Control Variables*

      Economic factors were operationalized using the GDP growth rate. The GDP growth rate is defined as the percentage growth rate of GDP at market prices based on constant 2000 U.S. dollars. GDP (Gross Domestic Product) is "the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products" (World Bank 2012). Demographic factors were operationalized using the youth population, measured as the percentage of the population aged 15 to 24. This data was obtained from the U.S. Census Bureau's Statistical Abstract (2012). Police size was measured as the number of full-time sworn law enforcement officers per 100,000 residents. This data was retrieved from the Bureau of Justice Statistics and the FBI's Uniform Crime Reports (2012). Illicit drug market activity was measured as the rate of cocaine use – defined as the percentage of high school seniors who reported using cocaine in the previous 12 months (Monitoring the Future 2012). Finally, firearm availability was measured as the percentage of people who

reported owning a gun. This was operationalized using the question "Do you happen to have in your home any guns or revolvers?" from the General Social Survey (2012).

C. *Social Mobility Variables*

According to Hawdon (2005), social mobility, defined as "all movements of people between and among structurally defined positions…can be measured by changes in the occupational structure, unemployment rates, immigration rates, [and] residential mobility…" (260). I decided to use four variables to measure social mobility: the unemployment rate, the immigration rate, the rate of residential mobility, and the incarceration rate. Although incarceration rates have previously been implicated as predictors of crime, they can also be used to measure social mobility since, like the other factors listed above, they represent aspects of social movement and change. Unfortunately, annual data on occupational change was unavailable.

The unemployment rate is defined as the number of unemployed people as a percent of the labor force. People are classified as unemployed "if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work" (Bureau of Labor Statistics 2012). The immigration rate is defined as the number of persons obtaining legal permanent resident status in the United States per 1,000 population, per year. This data was retrieved from the U.S. Department of Homeland Security (2010). The rate of residential mobility was operationalized as the percentage of the U.S. population that moved to a different residence in the United States within the past year (U.S. Census Bureau 2011). Finally, the incarceration rate is defined as the "number of sentenced inmates incarcerated under state and

federal jurisdiction per 100,000 population" (Bureau of Justice Statistics 2009). This data was obtained from the *Correctional Populations in the United States* series (2009).

I factor analyzed these four variables to test whether they loaded as one factor representing social mobility. One distinct factor emerged explaining 57.46 percent of the total variance in the four variables. The commonality for each variable was at least .456 with the exception of the immigration rate, which was .198. Because the scale did not account for much of the variation in immigration rates, I re-ran the factor analysis using only unemployment, residential mobility, and incarceration rates. This time, a distinct factor emerged explaining 72.52 percent of the total variance. All three factors "loaded" (.40 or greater than or equal to the absolute value of .40), and the commonality for all three variables was at least .492. Table 1 displays a list of all the variables used in this study.

Table 1: List of Variables

Variable	Source	Operational Definition
Homicide Rate	UCR	Number of homicides per 100,000 population
Burglary Rate	UCR	Number of burglaries per 100,000 population
Illicit Drug Use	Monitoring the Future	Percentage of high school seniors who reported using an illicit drug in the previous 12 months
GDP Growth Rate	World Bank	Percentage growth rate of GDP at market prices based on constant 2000 U.S. dollars
Youth Population	Statistical Abstract	Percentage of population aged 15 to 24
Police Size	Bureau of Justice Statistics and UCR	Number of full-time sworn law enforcement officers per 100,000 residents
Cocaine Use	Monitoring the Future	Percentage of high school seniors who reported using cocaine in the previous 12 months
Gun Ownership	General Social Survey	Percentage of people who reported having a gun in their home
Social Mobility		Factor analysis of: unemployment, residential mobility, and incarceration rates
Unemployment Rate	Bureau of Labor Statistics	Number of unemployed people as a percent of the labor force
Residential Mobility	U.S. Census Bureau	Percentage of U.S. population that moved to a different residence in the U.S. within the past year
Incarceration Rate	Bureau of Justice Statistics	Number of sentenced inmates incarcerated under state and federal jurisdiction per 100,000 population

V. Analysis

      I began by running a bivariate correlation matrix with social mobility, the three crime categories, and all of the control variables. Social mobility was highly correlated with homicide (r =.825) and burglary (r = .917), and significantly correlated with drug use (r = .426). It was also highly correlated with other independent variables, especially police size, gun ownership, and youth population, indicating likely problems with multicollinearity. Table 2 displays the bivariate correlations.

Table 2: Bivariate Correlations

	Homicide	Burglary	Drug Use	Social Mobility	GDP Growth	Youth Population	Police Size	Cocaine Use	Gun Ownership
Homicide	1	.903**	.257	.825**	.022	.656**	-.803**	.414*	.876**
Burglary	.903**	1	.557**	.917**	-.001	.813**	-.939**	.673**	.922**
Drug Use	.257	.557**	1	.426*	.063	.809**	-.516**	.755**	.558**
Social Mobility	.825**	.917**	.426*	1	.088	.830**	-.937**	.678**	.927**
GDP Growth	.022	-.001	.063	.088	1	-.056	-.071	.154	.098
Youth Population	.656**	.813**	.809**	.830**	-.056	1	-.830**	.717**	.863**
Police Size	-.803**	-.939**	-.516**	-.937**	-.071	-.830**	1	-.733**	-.873**
Cocaine Use	.414*	.673**	.755**	.678**	.154	.717**	-.733**	1	.584**
Gun Ownership	.876**	.922**	.558**	.927**	.098	.863**	-.873**	.584**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

I then ran regression analyses with social mobility and all of the controls for each dependent variable. It was clear the models were unstable; for all the variables except GDP growth rate, multicollinearity was a problem (VIF = 18.72 for youth population; VIF = 15.59 for police size; VIF = 7.39 for gun ownership). VIFs (Variance Inflation Factors) indicate how much the variance of the regression coefficient is inflated due to intercorrelation between the independent variables. A VIF of greater than 5 indicates there is likely a problem with multicollinearity, resulting in an unstable estimate. Multicollinearity is problematic because it inflates the standard errors, making it harder to detect significant effects (Dillon and Goldstein 1984). Overall regression tables can be found in Appendices A through C.

Since multicollinearity was a problem in the overall models, I ran the analysis again with social mobility and each control separately. After doing this, three variables did not have problematic VIFs: youth population (VIF = 3.221), cocaine use (VIF = 1.85), and GDP growth rate (VIF = 1.008).

I first ran models with social mobility and these three controls for each dependent variable, and then ran models with the controls that appeared to produce problematic VIFs. In the first homicide model, there was a positive correlation between social mobility and homicide (beta = .976; $p < .001$) and multicollinearity was not a problem (VIF = 3.25). Multicollinearity was problematic for youth population (VIF = 13.64) and cocaine use (VIF = 9.69), but the latter was significantly (negatively) correlated with homicide (beta = -.818; $p = .009$). GDP growth was not significant. It appears that cocaine use was an important predictor of homicide rates, although the relationship was not in the predicted direction. The negative association between cocaine use and homicide could possibly be a statistical artifact. While the effect of youth population was not significant, there was evidence of multicollinearity and the effect was close

to being significant (p = .312). Given the high VIF, it is likely that youth population is related to the homicide rate. However, it is clear that social mobility was the most important predictor, even controlling for GDP growth rate, youth population, and cocaine use.

In the model with police size, social mobility was almost significant (beta = .604; p = .08) even though the VIF was high (8.257). Looking at the zero-order correlations, police size appeared to have a large effect (-.789), but its partial correlation was only -.133 as compared to social mobility's partial correlation of .34. Similarly, the part correlation for social mobility was .210, compared to only -.077 for police size. The partial correlation is the correlation that remains between the independent and dependent variable after removing the shared variance explained by the independent and control variables. That is, social mobility's effect on homicide after removing the variance shared by social mobility and police size. The part correlation is the correlation that remains between the independent and dependent variable after removing the part of the independent variable that is explained by the control variable. In other words, the part correlation is social mobility's unique contribution to homicide. Based on the fact that social mobility was almost significant and its part and partial correlations were much higher than those for police size, it appears that social mobility is important in explaining homicide rates whereas police size is not.

In the model with gun ownership, social mobility was not significant and gun ownership appeared to be more important in explaining homicide rates (beta = .876 as compared to .021 for social mobility). Zero-order correlations for both variables were high (.833 for social mobility and .895 for gun ownership), but the partial and part correlations for gun ownership were much higher than those for social mobility (.595 and .330 vs. .017 and .008, respectively). These correlations suggest that the effect of social mobility on homicide is mostly explained by gun

ownership. However, since the VIF is high (7.068), it is impossible to separate the effects of the

two variables. Results of the homicide models are reported in Table 3.

Table 3: Regression of Social Mobility and Controls on Homicide

	Unstandardized Coefficients		Standardized Coefficients	Correlations		
	B	Standard Error	Beta	Zero-order	Partial	Part
(Constant)	1.456	4.944				
Social Mobility	1.707***	.294	.976	.823	.758	.541
GDP Growth	.072	.090	.093	.022	.158	.075
Youth Population	.585	.376	.537	.569	.298	.145
Cocaine Use	-.419**	.149	-.818	.401	-.491	-.263
R Square = .782						
(Constant)	12.703	7.544				
Social Mobility	1.013	.556	.604	.813	.342	.210
Police Size	-.022	.033	-.222	-.789	-.133	-.077
R Square = .667						
(Constant)	-4.802	3.162				
Social Mobility	.035	.384	.021	.833	.017	.008
Gun Ownership	.311***	.079	.876	.895	.595	.330
R Square = .802						

***p < .001
**p < .01

In the first burglary model, social mobility was significant (beta = .677; p < .001) and

multicollinearity was not a problem (VIF = 3.25). Multicollinearity was problematic for youth

population (VIF = 13.64), but this was significantly correlated to burglary (p = .028) even with

the inflated standard error. Although cocaine use was not significant, it once again displayed a

negative relationship with burglary (beta = -.286; p = .171). GDP growth was not significant.

This model indicates that youth population may have had an effect on burglary. However, social

mobility was still an important predictor, controlling for GDP growth rate, youth population, and

cocaine use.

In the second model, both social mobility and police size were significant (beta = .381; p = .053 and beta = -.579; p = .005, respectively) although the VIF was high (8.275). Police size appeared to explain more of the variance than did social mobility, but social mobility was still important in explaining changes in burglary rates over time.

In the third model, both social mobility and gun ownership were significant (beta = 131.179; p = .10 and beta = 35.343; p = .001, respectively) even though the VIF was high (7.068). Social mobility therefore appears to be important in predicting burglary, controlling for gun ownership rates. Results of the burglary models are reported in Table 4.

Table 4: Regression of Social Mobility and Controls on Burglary

	Unstandardized Coefficients		Standardized Coefficients	Correlations		
	B	Standard Error	Beta	Zero-order	Partial	Part
(Constant)	-404.347	618.774				
Social Mobility	211.430***	36.804	.677	.925	.754	.375
GDP Growth	2.129	11.274	.015	-.001	.038	.012
Youth Population	109.512*	47.020	.562	.846	.422	.152
Cocaine Use	-26.202	18.608	-.286	.727	-.271	-.092
R Square = .893						
(Constant)	3493.537	781.016				
Social Mobility	116.783*	57.594	.381	.923	.376	.132
Police Size	-10.549**	3.419	-.579	-.936	-.525	-.202
R Square = .893						
(Constant)	-330.351	388.176				
Social Mobility	131.197**	47.170	.421	.931	.465	.158
Gun Ownership	35.343***	9.731	.550	.940	.566	.207
R Square = .909						

***$p < .001$
**$p < .01$
*$p < .05$

Cocaine use was not included as a control in the drug use models because it is already included in the measurement of the dependent variable. In the first model, Social mobility was significantly correlated with drug use (p = .003), but this time the relationship was negative (beta = -.628). Youth population was also significant (p < .001) and appeared to be more important than social mobility in explaining drug use (beta = 1.255). GDP growth was not significantly related to drug use. Multicollinearity did not appear to be a problem for social mobility (VIF = 3.066) or youth population (VIF = 3.052). However, the standardized coefficient exceeding 1.0 is often a sign of an unstable model. In addition, the condition index was 40.45. Thus, while the VIF statistics did not indicate that multicollinearity was a problem, other evidence suggests that it was.

In the second model, neither social mobility nor police size was significant, although the VIF was high (8.257). The part and partial correlations were relatively weak for both variables (.056 and .063 for social mobility, and -.103 and -.115 for police size, respectively), so it appears that social mobility and police size are probably unimportant in explaining changes in drug use over time.

In the third model, social mobility was not significant although the VIF was high (7.068). However, the partial and part correlations were relatively high as compared to those for gun ownership (.256 and .239 vs. -.094 and -.085, respectively). Therefore, social mobility appears to be more important than gun ownership in explaining rates of drug use. However, given that the relationship between social mobility and rates of drug use disappeared when controlling for police size, and the relationship was negative when controlling for youth population, it is likely that the significant bivariate relationship between social mobility and rates of drug use is

spurious. Thus, contrary to my prediction, the fourth hypothesis is rejected. Regression results for drug use are reported in Table 5.

Table 5: Regression of Social Mobility and Controls on Drug Use						
	Unstandardized Coefficients		Standardized Coefficients	Correlations		
	B	Standard Error	Beta	Zero-order	Partial	Part
(Constant)	-35.683	11.735				
Social Mobility	-3.946**	1.220	-.628	.405	-.536	-.359
GDP Growth	.525	.318	.188	.063	.308	.183
Youth Population	4.917***	.759	1.255	.735	.786	.718
R Square = .680						
(Constant)	65.796	44.492				
Social Mobility	1.029	3.281	.161	.439	.063	.056
Police Size	-.113	.195	-.297	-.448	-.115	-.103
R Square = .204						
(Constant)	51.573	22.676				
Social Mobility	3.869	2.755	.635	.426	.256	.239
Gun Ownership	-.284	.568	-.226	.363	-.094	-.085
R Square = .189						

***p < .001
**p < .01

Because social mobility appeared to decrease drug use after controlling for youth population, I ran a model to see whether there was a significant interaction between the two variables. Youth population was first centered to reduce further problems with multicollinearity. The interaction revealed that neither social mobility nor youth population was significant by itself. However, social mobility was close to being significant (p = .239) and the VIFs were high. Social mobility's part correlation was also above .10, and higher than youth population's part correlation of .065. Given that the interaction between social mobility and youth population was significant and positive (beta = .702; p = .001), it appears that social mobility increases drug

use slightly when youth population is at average levels (15.9% of the population is aged 15 to 24). Results of the interaction are shown in Table 6.

Table 6: Interaction Between Social Mobility and Youth Population

	Unstandardized Coefficients		Standardized Coefficients	Correlations		
	B	Standard Error	Beta	Zero-order	Partial	Part
(Constant)	35.354	2.231				
Social Mobility	2.430	2.014	.387	.405	.235	.110
GDP Growth	.364	.266	.131	.063	.264	.125
Centered Youth Population	.896	1.266	.229	.735	.140	.065
Social Mobility x Youth Interaction	3.708***	1.015	.702	.653	.590	.334

Dependent Variable: Drug Use
***$p < .001$

I then calculated simple slopes to interpret the interaction between these two continuous variables. A simple slope is the slope of the regression of Y upon X at a single value of Z (see Aiken and West 1991). Simple slopes were calculated at levels plus and minus one standard deviation from the average youth population. At one standard deviation below the mean of youth population, an increase in one standard unit of social mobility decreased drug use by 5.3 percent ($p < .001$), and at one standard deviation above the mean of youth population, an increase in one standard unit of social mobility increased drug use by 10.19 percent ($p = .017$). Although the VIF was very high for the model above the mean (48.599), the coefficient was still significant. This indicates that the influence of social mobility on drug use varies by level of youth population. At low levels of youth population, social mobility appears to decrease drug use. At average and high levels of youth population, however, the theory was supported.

While the VIFs appeared acceptable for some of these models, significant problems with multicollinearity remained. For example, the condition index in the homicide and burglary models was 91.75, and in the drug use model it was 40.45. Since a condition index of greater than 30.0 indicates problematic multicollinearity, especially when combined with high variance-decomposition proportions for two estimated coefficients' variances, it is apparent that these models are highly unstable (see Dillon and Goldstein 1984). They do, however, seem to indicate that social mobility and youth population are important factors in predicting annual fluctuations in rates of crime and deviance.

VI. Discussion

Overall, there appears to be moderate support for the cycles of deviance model in predicting rates of homicide, burglary, and drug use. Social mobility was significantly correlated with homicide and burglary controlling for GDP growth, youth population, and cocaine use. When controlling for police size and rates of gun ownership, it was harder to separate the effects because of problems with multicollinearity. At least for homicide, gun ownership appeared to have a great deal of influence, even more so than social mobility. Youth population also likely played a role in fluctuations in homicide. The theory appeared to work best for predicting rates of burglary, as social mobility was significant in all burglary models. However, police size, gun ownership, and youth population also emerged as important correlates of burglary. Contrary to prediction, social mobility appeared to increase drug use only at average and above average levels of youth population. When youth population was low however, social mobility was negatively correlated with rates of drug use.

The fact that the theory appeared to better predict burglary than the other crime categories considered could be because increased social mobility provides more opportunities for burglary to occur by altering the routine activities of large segments of the population. According to Cohen and Felson, structural changes in "routine activity patterns" influence crime rates by increasing the likelihood that *motivated offenders* will converge with *suitable targets* in the absence of *capable guardians* (1979). By increasing the time that individuals spend outside their households, for example, social mobility might provide potential criminals with more opportunities to commit burglary by decreasing levels of guardianship. Changes in routine activity patterns have also been shown, to a lesser extent, to be related to homicide. However,

their influence appears to be limited to rates of "predatory crime" and would thus have little effect on drug use.

Findings of this study indicate that the cycles of deviance theory does indeed extend beyond normative crime. However, it appears to account for fluctuations in drug use only when youth population is at average or above average levels. A possible explanation for social mobility's varying effect on drug use is that a society's normative standards are influenced by its age structure. When the population is relatively old (i.e. below average levels of youth population), for example, normative attitudes might be relatively conservative. Thus, during times of high social mobility and increased interaction, conservative attitudes would be amplified and reinforced. On the other hand, when the population is relatively young (i.e. above average levels of youth population), counter-cultural attitudes might be elevated, causing interactions to amplify normative ambiguity and changes in moral definitions. When youth population is at average levels, attitudes might be more "moderate", so that high rates of interaction would simply reinforce the status quo. This may explain why social mobility appeared to increase drug use only slightly at average levels of youth population. If this explanation is correct, it suggests that the cycles of deviance model may operate in the predicted manner only under certain conditions, at least with regard to drug use. Future research might consider additional crime categories as dependent variables to explore the impact of social mobility on other types of normative, and non-normative crime.

In addition to social mobility, several of the control variables examined in this study emerged as important predictors of crime rates. Youth population in particular had considerable effects on all three dependent variables, especially drug use. This finding is not surprising given the well-established age-crime distribution, in which crime rates peak during the teen and young

adult years and decline throughout adulthood (Gottfredson and Hirschi 1983). Since crime in

general, and particularly drug use, is known to peak between the ages of 15 and 25, it makes

sense that rates of drug use would reflect the size of the youth population.

It is also conceivable that youth population is actually a reflection of social mobility

itself. Hawdon (1996) asserts that changes in the population structure affect social interaction

and, therefore, social mobility. A large proportion of youth in the population could increase rates

of college attendance, occupational change, marriage, and residential mobility – all of which

reflect social mobility. In this way, youth population could be an important factor that sets social

mobility into motion. Consistent with this possibility is the fact that youth population was

significantly correlated with the social mobility measure in this study (r = .830). Future research

should investigate the potential influence of youth population on social mobility.

Gun ownership rates were highly correlated with homicide and also appeared to play a

role in burglary rates. This finding is consistent with previous research indicating that gun

availability increases levels of gun violence (e.g. Cook 1983; Newton and Zimring 1969).

Several studies have found a positive association between firearm possession and rates of firearm

homicide (Cook and Ludwig 2006; Hemenway 2004), and access to firearms is also thought to

facilitate certain types of crime, such as robbery (Cook and Moore 1999). This may explain why

rates of gun ownership were significant predictors of homicide and burglary.

Police size appeared to have somewhat of an effect on burglary rates, but did not explain

much variation in homicide or drug use. This may be because the nature of these crimes is such

that they are unlikely to be affected by number of police officers. For example, homicide tends

to be reported regardless of the size of the police force; police officers therefore probably do not

have much of a deterrence effect with regard to homicide. Drug use, in contrast, is rarely ever

reported and is not a highly visible crime. Consequently, it too is unlikely to be affected by a change in police size. Burglary, on the other hand, might be more sensitive to changes in police size, as the presence of police officers could both deter criminals from committing burglary and increase the likelihood of burglary being reported. This may explain the differential effects of police size across crime categories.

GDP growth rate was not significantly related to any of the crime categories considered in this study. This suggests that economic factors, at least as reflected by GDP growth, are relatively unimportant in predicting crime trends. However, previous research has demonstrated that other economic variables, such as the unemployment rate, wages, and consumer optimism, are correlated with crime rates (e.g. Grogger 1998; Rosenfeld and Fornango 2007). Future research could employ one of these alternative measures of the economy as a control in a further test of this theory.

One surprising finding in this study was the inverse relationship between cocaine use and homicide. Cocaine use also displayed a negative correlation with burglary, although the relationship was not statistically significant. It seems unlikely that cocaine use is actually related to homicide or burglary. Cocaine use was highest in the early 1980s, when homicide and burglary rates were high, but it started to decrease in the mid-1980s, before other types of crime began to decrease. By the early 1990s, rates of cocaine use had decreased significantly, while other rates of crime were increasing. Cocaine use then leveled off in the mid 1990s, as rates of other crimes dropped considerably (Hawdon 2005). There is no way to say definitively why this relationship occurred. It is possible that cocaine use is related to crime in a manner that is producing a statistical artifact.

Limitations of this study include data availability and measurement of certain constructs. Annual data were unavailable prior to 1970 for many of the variables considered, making the time period of the study relatively short. Hawdon (1996) presents cycles of deviance as a macro-level theory analyzing large-scale changes in the social structure. Arguably, the 30 to 40 year time period used in this study may not have been long enough to capture some of these long-term trends. However, the study still has merit because there has been a great deal of structural change since 1980, as well as considerable fluctuation in crime rates. Additionally, this is the first assessment of the theory using quantitative methodologies. Therefore, although imperfect, this study contributes to the literature on the topic by providing an empirical test of the cycles of deviance model.

Crime data for this study were gathered from a number of different sources, suggesting certain variables may not be strictly comparable. For example, rates of burglary and homicide were obtained from the UCR, which is based on police reports, whereas rates of drug use were based on self-report data. Since self-report data can be subject to bias, it is difficult to know whether it accurately captures rates of drug use. Similarly, police report data often underestimates rates of crime, at least for categories other than homicide. Furthermore, the drug use data, which was obtained from Monitoring the Future, only captures the behavior of high school seniors, whereas the UCR data reflects adult offenses. Therefore, the two data sets are technically looking at different populations. Despite this discrepancy, Monitoring the Future data was the best available on drug use, as only index offenses are reported in the UCR.

Perhaps the most critical limitation is that only three indicators of social mobility were used in this study. In addition to unemployment, incarceration, and residential mobility rates, Hawdon (2005) lists "changes in the occupational structure, immigration rates, changes in

attendance rates in educational institutions, changes in the age structure of society, changing divorce rates, and changes in religious or political affiliations" (260), as potential measures of social mobility. While some of these variables were considered for inclusion in this study (e.g. immigration rates), annual data for other desired indicators, such as occupational change, were unavailable. Although including youth population in the social mobility measure might have strengthened its influence, it would also have prevented us from seeing the independent effects of youth on crime rates. For this reason, youth population was used as a control rather than an indicator of social mobility in this study.

In light of these constraints, the measure used in this study may not completely capture the construct of social mobility. Although reasonable given the data available, the measure is not ideal. When combined with the fact that support for the model is not overwhelming, and there are undoubtedly other factors at play, findings of this study are not conclusive. That only moderate support was found for cycles of deviance could be due to either poor measurement of social mobility, or to misspecification of the model itself. Unfortunately it is impossible to say for sure with the data available, so all conclusions are tentative.

This study examined national level crime rates, but future research might consider regional data to explore whether social mobility affects crime differently in different areas of the country. Since rates of various types of crime, as well as rates of social mobility, vary by region, a regional analysis might provide an opportunity to assess the theory on a more micro-level.

Finally, since social mobility was correlated with many of the control variables in this study, it is possible that some of these factors might actually be functions of social mobility. For example, social mobility could influence youth population, as perceived opportunities for economic advancement increase immigration rates and bring more young adults into the country.

Social mobility could also have an impact on gun ownership rates. If the process behind cycles of deviance is correct, increased tolerance of deviant behavior, such as violence, could encourage people to purchase more firearms. Evidence of this pattern has already been established in previous studies indicating a reciprocal relationship between gun ownership and homicide. Firearm ownership appears to increase rates of firearm homicide, which, in turn, increase rates of gun ownership (Rosenfeld, Baumer, and Messner 2007). The potential influence of social mobility on these other correlates of crime should therefore be a topic for future research.

VII. Conclusion

This study has attempted to test the explanatory power of Hawdon's (1996) cycles of deviance model for predicting rates of three different types of crime. A time-series analysis was conducted from 1970 to 2010, examining the impact of social mobility on rates of homicide, burglary, and drug use in the United States. The study also controlled for several factors established to be important correlates of crime – namely, the economy, youth population, police size, illicit drug market activity, and firearm availability. Results revealed moderate support for cycles of deviance in explaining rates of homicide and burglary, but its influence with regard to drug use is apparently limited to times when the youth population is at average or above average levels. At low levels of youth population, the theory was not supported. Youth population emerged as an important predictor of all three crime categories considered. Rates of gun ownership also seemed to have considerable influence, especially on fluctuations in homicide. Contrary to prediction, the cycles of deviance model appeared to explain more of the variation in rates of burglary than in homicide or drug use.

While previous research has speculated about the potential causes of varying crime trends, there has been little consensus as to which factors carry the most influence. Hawdon (1996) provides a unified theory for explaining the cyclical patterns of drug use witnessed in the United States between 1880 and 1990. He argues that social mobility alters the "deviance structure" of a society, and consequently, rates of drug use. The present study provides an updated assessment of the cycles of deviance model to explore whether it can account for rates of other types of crime, particularly economic and violent crime. Findings indicate that social mobility may play a role in annual changes in homicide, burglary, and drug use; however, it

seems to increase drug use only at average and above average levels of youth population. At lower levels of youth population, social mobility appears to decrease rates of drug use.

This study contributes to the literature on crime trends in that it may allow policymakers to better predict fluctuations in rates of homicide, burglary, and drug use. Being able to anticipate these trends may allow for early implementation of crime prevention initiatives during periods of high social mobility. For example, since social mobility is correlated with gun ownership rates, and gun ownership is a known correlate of homicide, it might be wise to implement gun control programs when high social mobility is anticipated. Accordingly, legislators might increase the size of the police force during periods of high social mobility to prevent a rise in burglary. These are just a few examples of how this research might be applied in efforts to reduce crime in the United States.

Changes in crime patterns over time have significant implications for both the criminal justice system and other critical policy sectors; it is therefore important to understand the mechanisms behind these crime trends. This study has attempted to assess one of the few theoretical models aimed at explaining overall changes in crime rates. Theoretically, this study provides insights into potential causes of deviant and criminal behavior. However, important limitations require that the topic be investigated more thoroughly before any definitive conclusions can be drawn about the impact of social mobility on crime rates. If future research shows cycles of deviance to be a valid model, the ability to accurately predict changes in crime trends may allow legislators to better prepare for future crime waves. Although the theory received only partial support, this study is a small step toward achieving this important goal. Hopefully, it will lay the groundwork for future research on the impact of social mobility on fluctuations in crime.

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Appendix A: Overall Regression Model for Homicide

	Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
	B	Standard Error	Beta	Tolerance	VIF
(Constant)	2.847	11.536			
Social Mobility	.231	.462	.136	.091	11.030
GDP Growth	.016	.077	.022	.588	1.700
Youth Population	.177	.364	.172	.053	18.725
Police Size	-.028	.032	-.286	.064	15.592
Cocaine Use	-.286*	.129	-.593	.094	10.664
Gun Ownership	.264**	.078	.747	.135	7.399
R Square = .867					

***$p < .001$
**$p < .01$
*$p < .05$

Appendix B: Overall Regression Model for Burglary

	Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
	B	Standard Error	Beta	Tolerance	VIF
(Constant)	147.188	1493.159			
Social Mobility	29.917	59.791	.097	.091	11.030
GDP Growth	-4.593	9.971	-.035	.588	1.700
Youth Population	57.610	47.063	.310	.053	18.725
Police Size	-4.483	4.119	-.252	.064	15.592
Cocaine Use	-10.462	16.652	-.120	.094	10.664
Gun Ownership	29.411**	10.130	.462	.135	7.399
R Square = .932					

***$p < .001$

**$p < .01$

*$p < .05$

Appendix C: Overall Regression Model for Drug Use

	Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
	B	Standard Error	Beta	Tolerance	VIF
(Constant)	-154.005	42.768			
Social Mobility	1.372	1.713	.208	.091	11.030
GDP Growth	.265	.286	.094	.588	1.700
Youth Population	4.219**	1.348	1.059	.053	18.725
Police Size	.498***	.118	1.303	.064	15.592
Cocaine Use	1.137*	.477	.609	.094	10.664
Gun Ownership	.201	.290	.148	.135	7.399

R Square = .878

***$p < .001$
**$p < .01$
*$p < .05$