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# Bringing Crime Trends Back into Criminology: A Critical Assessment of the Literature and a Blueprint for Future Inquiry

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## Keywords

crime trends, criminal behavior, violence, property crime

## Abstract

Rates of street crime have dropped substantially over the past several decades, but important nuances of this decline are underappreciated and the reasons for it remain unclear. We suggest that the narrow conception of change adopted within criminology has hindered the field's capacity to develop a stronger scientific understanding of crime trends. Criminology has focused heavily on within-person changes in crime, devoting comparatively little attention to changes in aggregate crime rates. In this review, we make a case for integrating research on crime trends into the core of criminology. After describing the late twentieth century crime drop, we present a conceptual framework that situates the study of crime trends in the criminological theoretical literature and illuminates several unresolved questions central to criminological inquiry. We then highlight major shortcomings of current empirical approaches and outline several methodological improvements that would enhance our capacity to describe and explain crime trends.



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## INTRODUCTION

Rates of street crime (e.g., murder, rape, robbery, burglary, motor vehicle theft) are lower in the United States now than at any point since the early 1990s.<sup>1</sup> The crime drop caught criminologists by surprise, partly because reversals in crime trends are sometimes spurred by exogenous shocks, such as an abrupt change in demand for illicit drugs, which are inherently difficult to predict. That said, criminologists were simply not prepared to anticipate the crime drop or to explain its sources after it had begun.

Ironically, although the study of crime trends is as old as criminology itself (Rosenfeld & Weisburd 2016), it is not part of mainstream criminological theory or research. Criminologists know far more about developmental changes in individual criminal behavior than about the behavior of aggregate crime rates over time. This intellectual imbalance is unfortunate because the study of macro-level crime trends, in concert with the study of individuals, constitutes a strategic site for answering core criminological questions that cannot be adequately addressed by either approach in isolation. In this review, we present the case for bringing the study of crime trends back to the center of criminology.

We begin by offering the late twentieth century crime drop in the United States as Exhibit A to illustrate some of the shortcomings of current approaches to the study of crime trends, including an overreliance on police data on crime and insufficient attention to differences in crime trends by offense type, demographic group, and unit of analysis. We next present a conceptual framework that inserts the study of crime trends in core criminological theories of social control, criminal propensities, and the criminogenic qualities of physical and social settings. Viewing the crime trends literature through this framework yields fresh insights into what is (and is not) known about recent crime trends and illuminates new avenues of empirical inquiry both for scholars currently studying crime trends and those studying within-individual changes in criminal behavior. We end by outlining several improvements in data and methods that would facilitate the description, explanation, and forecasting of crime trends in America.<sup>2</sup>

## LATE TWENTIETH CENTURY CRIME TRENDS

A common view of the late twentieth century crime decline is that it began in the early 1990s (e.g., Blumstein & Rosenfeld 1998, Zimring 2007). In fact, it appears that there were many crime drops that differ according to starting point, amplitude, shape, and duration. If our explanations of crime trends are to be comprehensive and truly informative, they must be based on descriptive data that capture these variations and reveal their complexities. Below, we consider some of the complexities in US crime trends over the past half-century associated with the type of crime under consideration, the source of data used to describe the trend, the demographic background of victims and offenders, and the unit of analysis.

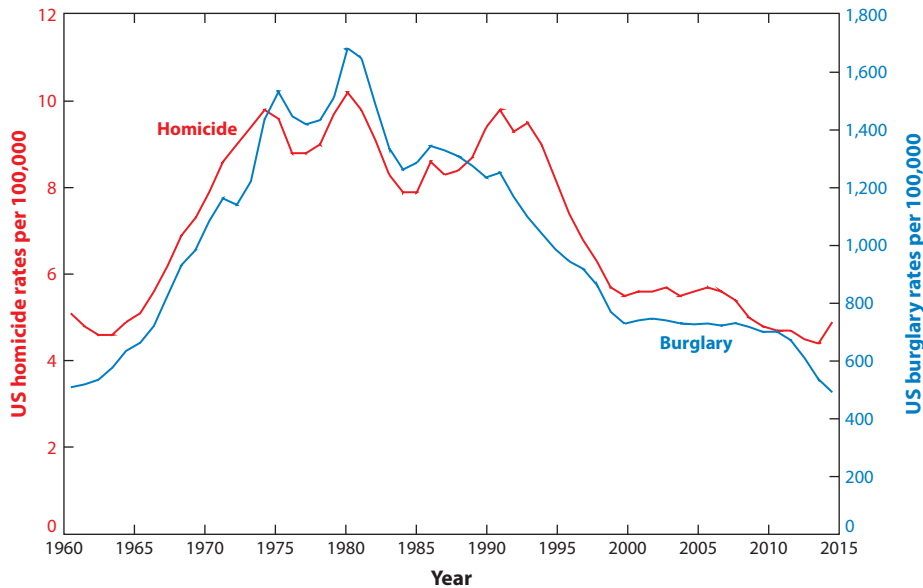
### The Importance of Offense Type

According to the FBI's Uniform Crime Reports (UCR), the primary data source on crimes known to the police, rates of violent and property crime have exhibited two great swings over the past

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<sup>1</sup>Whether the same is true of corporate, governmental, and e-crimes is unknown. We restrict our attention in this paper to trends in street crime, which we refer to simply as crime.

<sup>2</sup>We focus on crime trends observed in America during the past half-century because they enable us to delve deeply into the empirical and conceptual limits of current approaches, but our assessment also has implications for understanding longer-term historical trends (Eisner 2008, Roth 2010) and the multinational nature of contemporary changes in crime (see Baumer & Wolff 2014b).



**Figure 1**

Homicide and burglary rates per 100,000 US population, 1960–2015 (Bur. Justice Stat. 2017b, Fed. Bur. Investig. 2017).

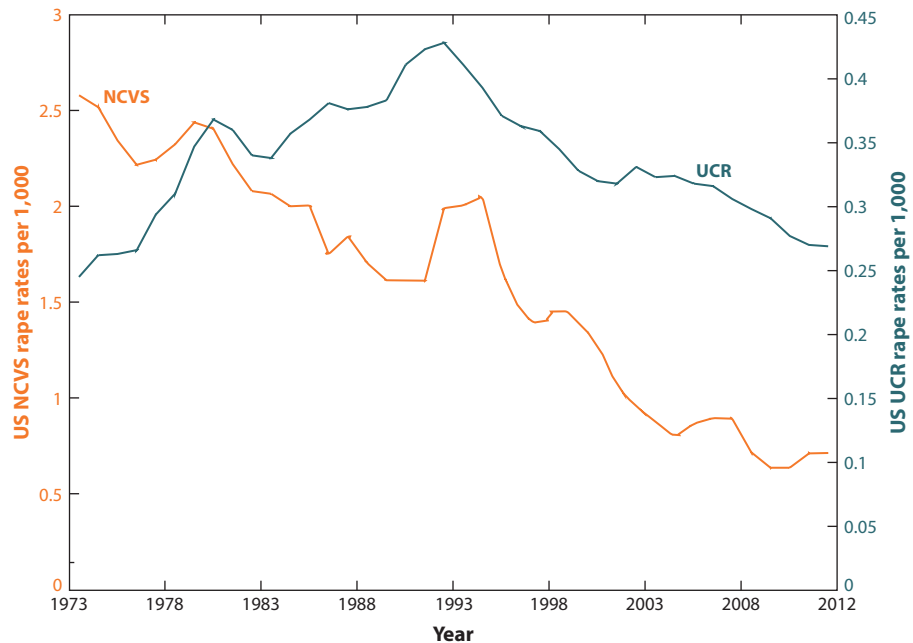
half-century: a substantial increase beginning in the 1960s and an almost equally large decline approximately two or three decades later. As a result, most of the increase in crime that began approximately 50 years ago was wiped out by the crime drop. The trends in homicide and burglary, the most serious violent and property offenses, respectively, illustrate these major swings, as shown in **Figure 1**.

The trends in homicide and burglary rates are generally similar but not identical. Both rose from the mid-1960s and peaked in 1980 but then diverged. The burglary rate began a long descent, but the homicide rate fell for a few years and increased again to a second peak in the early 1990s, the conventional starting point for discussions of the contemporary crime drop. To our knowledge, the earlier drop in burglary and other property offenses has yet to be explained. A comprehensive explanation of recent crime trends should be able to account for the multiple and divergent turning points in rates of violent and property crime.

### Patterns Contingent on Data Source

The timing of the crime drop is contingent on the specific offense type under consideration, but during the past half-century there are instances in which we observe opposite trends for the same offense type, depending on the data source used to describe them. For example, **Figure 2** displays the trends in rape rates based on data from the UCR and from the National Crime Victimization Survey (NCVS) between 1973, the first year of the NCVS, and 2012.<sup>3</sup> The UCR and NCVS rape

<sup>3</sup>We thank Janet Lauritsen for providing the NCVS data shown here. See Lauritsen et al. (2016) for a description of the data. In 2013, the FBI revised the definition of rape used in the UCR. The trend data shown here use the former legacy definition of rape (see US Dep. Justice 2013).



**Figure 2**

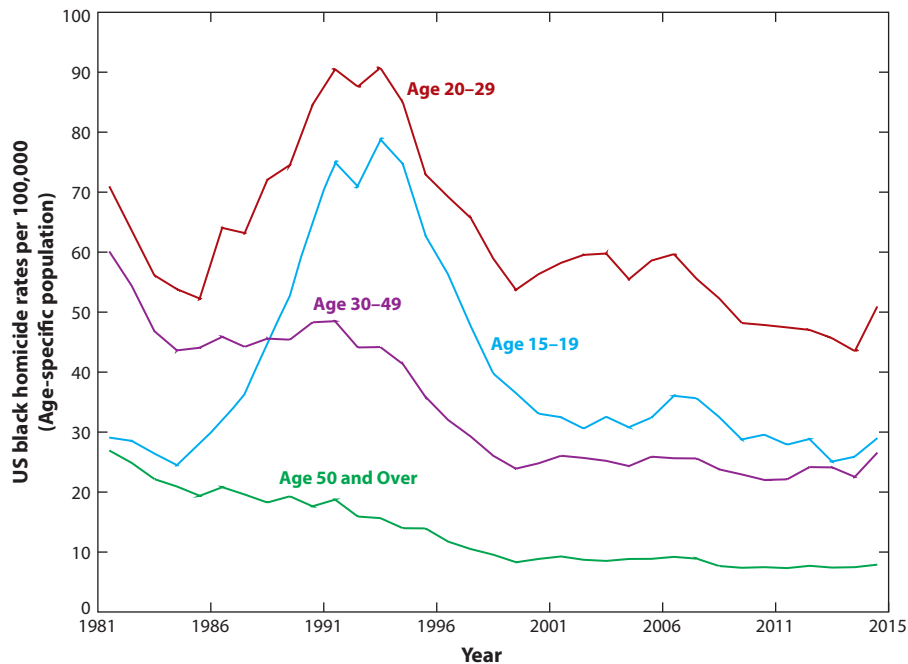
Uniform Crime Report (UCR) and National Crime Victimization Survey (NCVS) rape rates per 1,000 US population, 1973–2012 (Bur. Justice Stat. 2017a,b).

rates both trended downward between the early 1990s and 2012. Prior to the 1990s, however, the two series moved in opposite directions. The UCR rape rate nearly doubled in magnitude during the preceding two decades, whereas the NCVS rape rate fell. A very similar pattern exists for aggravated assault (see Lauritsen et al. 2016).

Lauritsen et al. (2016) conclude that these contrasting trends most likely reflect changes in police crime-recording practices, which yielded increases in UCR rape and aggravated assault rates in the 1970s and 1980s despite survey evidence they were decreasing (see also Jensen & Karpos 1993, Rosenfeld 2007). Whatever the sources of this discrepancy, it should alert researchers to the critical importance of the data source for describing and testing explanations of crime trends.

## Demographic-Specific Trends

The timing, shape, and magnitude of the crime drop also differ by the age and, to a lesser degree, the sex and race of victims and offenders. Lethal and nonlethal victimization trends for males and females correspond closely over the several decades, even though the male rates are several times higher than the female rates. For both groups, violent victimization rates rose during the late 1980s to peaks in the early 1990s and dropped thereafter (see Cooper & Smith 2011, Lauritsen et al. 2014). Sex-specific trends in homicide offending over this period yield very similar patterns, with one notable exception. Unlike the male rates, female offending rates did not rise during the late 1980s (see Cooper & Smith 2011). The late 1980s homicide increase was specific to male offenders, particularly youthful victims and offenders. These patterns are consistent with the Blumstein hypothesis linking the homicide increase to firearm violence associated with the expansion of crack-cocaine markets during that period (Blumstein 1995). But we need more than a males-only



**Figure 3**

Black homicide rates per 100,000 age-specific population, 1981–2015 (Natl. Cent. Health Stat. 2017).

explanation of recent crime trends. A comprehensive explanation should also encompass the drop in female homicide offending that began as far back as 1980, if not earlier.

**Figure 3** displays age-specific homicide victimization rates for blacks between 1981 and 2015.<sup>4</sup> The victimization rates for blacks under the age of 30 rose from the mid-1980s through the early 1990s and fell thereafter. A similar temporal pattern exists for whites, although levels of homicide victimization are several times higher among blacks than whites. As several researchers have pointed out, the 1990s homicide drop, and the sharp rise preceding it, were confined to adolescents and young adults (Blumstein & Rosenfeld 1998; Cook & Laub 1998, 2002). By contrast, the homicide victimization rates for older adults of both races began to decline at least ten years earlier (Rosenfeld 2000).<sup>5</sup> Similar age-graded patterns are found in rates of serious violent victimization using the NCVS (Truman & Morgan 2016).

**Figure 3** also shows that youth and adult homicide rates for blacks were flat or have fallen since the beginning of the current century; however, in 2015, the rates among adolescents and young adults increased. Although homicide rates remained far lower than the levels of the early 1990s, the increase in 2015 was quite large. For example, the homicide victimization rate among blacks between the ages of 20 and 29 rose by 17.1% from 2014 to 2015.

Some observers have attributed the recent homicide increase to the Ferguson Effect of heightened tensions between the police and African Americans (Mac Donald 2016). This is a plausible, if impressionistic, interpretation of the homicide increase among blacks (Rosenfeld 2016).

<sup>4</sup>The data are from the National Center for Health Statistics (NCHS), which compiles fatal injury data from death certificates (see Natl. Cent. Health Stat. 2017).

<sup>5</sup>Homicide offending patterns by age and race are similar to those for victimization (see Fox & Zawitz 2007).

But whites also experienced a homicide increase in 2015. National Center for Health Statistics (NCHS) data show that the homicide victimization rate among 20–29-year-old whites increased by 10.6% between 2014 and 2015, and available data on the race of victims and offenders from the Supplementary Homicide Reports (SHRs) indicate that this increase was primarily due to increases in white homicide offending (Fed. Bur. Investig. 2014, 2015). It is not obvious why tension between blacks and the police would result in more killings among whites. The homicide rise among whites suggests other factors were at work, such as increased illicit drug-market activity associated with the heroin and synthetic opioid epidemic. Additional research is clearly needed on the sources of the relatively abrupt and sizable adolescent and young-adult homicide rise in 2015.

## The Spatial Context of Crime Trends

National crime rates consist of an amalgam of crime rates at the subnational level, including cities and neighborhoods. An important research question is whether the localized trends in crime conform to or deviate from the national pattern. For cities, the answer seems to depend on the time period under investigation. An important study by McDowall & Loftin (2009) found that city-level crime trends from 1960–2004 corresponded closely with the national trend. The authors concluded that crime changes at the local level are shaped by national conditions. Studies based on more recent time periods, however, observe greater heterogeneity. McCall et al. (2010) show that although many large cities exhibited homicide trends that parallel national trends between 1976 and 2005, several also experienced shifts that differed slightly in magnitude and timing (see also Baumer et al. 1998, Rosenfeld et al. 2005). Additionally, Baumer & Wolff (2014a) replicated the analysis conducted by McDowall & Loftin (2009) separately for the 1990s and 2000s and found that although there was a very high level of uniformity in crime reductions during the 1990s, there was more heterogeneity across cities in crime trends during the 2000s.

Scholars also investigate whether crime trends vary across microspatial locations, usually within a single city. This research typically employs group-based trajectory models or parametric growth-curve models to determine whether there are distinct clusters of areas (e.g., street segments or census tracts) that follow similar crime trends (e.g., stable, increasing, or decreasing). The extent to which there is heterogeneity in trends within a city appears to be contingent on the temporal period under review as well as the microspatial units and particular cities studied.

The bulk of investigations examine trends since the 1980s and have uncovered that a majority of microspatial units within a city exhibit stability rather than change, especially among those with relatively low levels of crime. For instance, research documents the predominance of stability across census tracts in Chicago (Griffiths & Chavez 2004, Sampson 2012) and across street segments within several cities, including Seattle (Weisburd et al. 2004, 2012), Boston (Braga et al. 2010, 2011), Albany, New York (Wheeler et al. 2016), and Vancouver (Andresen et al. 2016, Curman et al. 2015). This research is noteworthy, as it illustrates that although crime may be changing at the city level, most areas do not mirror this trend because they change little.

Findings of stability notwithstanding, research on crime trends across microspatial areas within cities has routinely detected important heterogeneity, i.e., some tracts exhibit change, whereas others are stable within a city. Scholars suggest that this heterogeneity helps to elucidate city level patterns. For example, studies based on two periods in Chicago (1965–1995, 1980–1995) found that although stability was a prominent pattern, approximately 40 percent of tracts experienced homicide increases, which conformed more closely to the city-wide trend (Griffiths & Chavez 2004, Stults 2010). In addition, Weisburd et al. (2004) focused primarily on the 1990s, a period of crime decline, and found that approximately 14 percent of street segments had declining crime rates, which paralleled the city-wide pattern. Several other studies of crime trends for street

segments during the 1990s and 2000s have found similar heterogeneity in trajectories (for a review, see Andresen et al. 2016), leading some to suggest that a relatively small number of microspatial locations may have been especially instrumental in accounting for the contemporary crime decline (Curman et al. 2015, Weisburd et al. 2004, Wheeler et al. 2016).

Yet, work that capitalizes on longitudinal crime data during the 1990s and 2000s across multiple cities shows widespread declines for serious crime and thus much less stability (L.J. Krivo, M.B. Vélez, C.J. Lyons, J.B. Phillips, E. Sabbath, unpublished results; see also Friedson & Sharkey 2015).<sup>6</sup> We thus suggest that the evidence in support of the stability assertion remains thin and quite variable across locations.

Overall, subnational research on crime trends suggests that for much of the contemporary era there was significant uniformity across cities in crime trends, with somewhat greater heterogeneity observed since the early 2000s. The dominant pattern has been a significant reduction in crime rates in most states, metropolitan areas, counties, and cities (Baumer et al. 2012). At more local levels, the story is more complex as the findings often hinge on patterns within a single city and during different time periods. Adding to this complexity is the fact that crime is spatially concentrated to a great degree (Shaw & McKay 1942, Weisburd et al. 2012). Many microspatial areas (e.g., neighborhoods, census tracts, and street segments) tend to experience very little—sometimes no—crime, which means there is not much potential for significant reductions. In contrast, the clustering of crime also means that a relatively small proportion of microspatial areas experience very high levels of crime, and the available evidence suggests that, at least during the 1990s and 2000s, changes in these areas were critical to the observed city-wide changes. We encourage future research to assess whether such findings can be extrapolated to make sense of national crime rates, i.e., whether temporal changes in national crime rates are disproportionately driven by a fairly small number of micro places.

## Summary of Contemporary Crime Trends

Our brief descriptive overview of crime trends has revealed that there was not one but multiple “Great American Crime Declines” (Zimring 2007). Depending on the offense type, data source, and demographic background of victim and offender, the crime drop began either in the early 1990s or as early as the 1970s. Property crimes began their long descent around 1980. Rape and aggravated assault also started to drop then, according to the NCVS. Although general homicide rates did not begin to decline until the early 1990s, homicide rates for adults age 30 and over and females began to fall at least as early as 1980. Adolescent and young-adult homicide rates rose from the mid-1980s to a peak in the early 1990s and then fell. The age-graded homicide time trends are similar for blacks and whites, despite their very different levels. Finally, city crime rates tend to follow a national trend and result disproportionately from changes in a small number of high-crime areas within cities. These general patterns in the data are interrupted on occasion by short-run reversals in the trend, such as the rise in youth homicide rates during the late 1980s, or by abrupt changes, such as the homicide increase of 2015. Just as the crime drop of the early 1990s was not anticipated by criminologists, no one to our knowledge forecasted the recent homicide increase. It is difficult to predict sharp reversals in crime trends, especially in advance of the exogenous shocks that may have produced them, such as the crack-cocaine epidemic of the 1980s, the opioid epidemic a quarter century later, or the recent controversial police killings and associated

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<sup>6</sup>Krivo et al. (2017) examine census tract trends in homicide and burglary during the 2000s in 18 cities. They find stable homicide trends in just 11 percent of the tracts studied, with no tracts exhibiting stable burglary rates.

police-community tensions. For the same reason, whether the trend reversals are temporary or long term is difficult to determine with any certainty until well after they have begun, if then.

Even though predicting changes in crime rates is difficult, criminologists could do a better job of explaining the changes once they occur. Theoretically, our explanations are limited, as they are variable-centered rather than theoretically driven. They tend to focus on single explanatory factors (e.g., changes in exposure to lead, abortion policy, and unemployment) to the exclusion of multiple and interacting causal mechanisms. Further, our knowledge of crime trends is limited by the isolation of crime trends research from the corpus of contemporary criminological theory. In the following section, we outline a conceptual framework intended to bring the study of crime trends back into the center of criminology.

## **MAKING SENSE OF CONTEMPORARY CRIME TRENDS**

Our assessment of the descriptive evidence in the preceding section suggests several important nuances in contemporary crime trends. Nonetheless, the predominant pattern based on official and victimization data is that, with the exception of the relatively brief spike in violence among adolescents and young adults during the late 1980s and early 1990s, rates of property crime and violence have been declining in the United States since at least the early 1980s, with especially large declines observed during the 1990s. Despite a consensus that the surge in violence among young people during the late 1980s was strongly linked to the proliferation of crack cocaine in many urban areas (Baumer et al. 1998, Blumstein 1995, Fryer et al. 2013, Ousey & Lee 2004), reasons for the widespread and very large decreases that have been observed for all age groups since the early 1990s and the decline among older adults that started a decade earlier remain highly elusive. A key reason, we suggest, is the absence of a coherent conceptual framework for the study of crime rate changes over time that is linked to the wider literature on the theoretical and empirical foundations of crime and social control.

### **The Current State of Research**

The crime trends literature is not new, but it remains in the early stages of intellectual development. As it stands now, scholars have offered a variety of factors or lists of variables that are possibly related to shifts in crime levels. For instance, Levitt (2004) identified 10 possibilities, and Baumer (2008) highlighted 12 potentially relevant factors. More recently, Farrell et al. (2014) located 17 unique hypotheses, many of which represent a single factor or variable, and this list does not incorporate all the hypotheses identified in earlier reviews. The variable-centric and largely atheoretical organization of the research has produced fragmented knowledge and placed it on the periphery of the core etiological crime literature, which may be an important reason for the relatively small community of scholars drawn to it. It has contributed to a complex and disorganized explanatory landscape that makes it difficult to see commonalities in explanations and parallels in empirical findings. The crime trends literature is unified by a focus on temporal changes in levels of crime and little else. It is perhaps not surprising in this context that studies of the crime drop often are directed at identifying the magic bullet (Abortion! Lead!) rather than evaluating the merits of a set of well-established causal processes shown to be important for understanding variation in criminal activity and that may illuminate more clearly the reasons for contemporary shifts in crime rates.

A similar scenario once characterized studies of delinquency (Hirschi 1989). Prior to the development of a strong theoretical base, the empirical research on the etiology of delinquency highlighted many potentially relevant individual variables or factors (and occasionally multiple factors) (e.g., Glueck & Glueck 1950). This approach was useful for stimulating empirical

research, yet made it difficult to locate common themes and parallel arguments across variables as well as to evaluate and organize knowledge about the key factors that promote or constrain involvement in delinquency (Kornhauser 1978).

Integrating the disparate lists of crime trends hypotheses with the theoretical literature can simplify the explanatory landscape and illuminate common ground among the many causal factors that have been implicated. Additionally, it can yield fresh insights into the lessons that can (and cannot) be gleaned from existing research, help guide future inquiry about major shifts in crime rates, and highlight new research questions pertinent both to those who study crime trends and those devoted to research on within-person changes in criminal behavior.

## **Toward A Parsimonious Conceptual Framework for Understanding Crime Trends**

There are many potentially useful frameworks that could help to better organize and guide research on crime trends,<sup>7</sup> but we build on the general framework outlined by Baumer & Wolff (2014a) to illuminate the utility of integrating theory more centrally within this literature. That framework is especially useful, in our view, because it parallels the basic dimensions of the etiology of criminal behavior more generally (see Cohen & Felson 1979, Tittle 1995) and because it draws attention to both the proximate and more distal causal mechanisms implied by the various arguments that have been advanced for contemporary crime reductions. Baumer & Wolff (2014a) maintain that each of the major explanations for the contemporary crime decline implies one or more of the following causal processes: (a) enhancements in the social controls to which individuals are exposed, thereby reducing the likelihood that they engage in crime; (b) reductions in propensities and motivations to engage in crime; and/or (c) decreases in the exposure of individuals to physical or social settings conducive to crime. The last of these categories references modifications in opportunity structures that, in turn, can influence social controls, criminal propensities, or both. We retain it as a distinct category because it emphasizes a collection of factors linked by their role in modifying the volume and nature of opportunities for crime.<sup>8</sup>

**Table 1** summarizes our classification of the most common explanations of crime trends into the aforementioned theoretical categories. We acknowledge that there could be meaningful disagreements about the designated classifications. Debates about such decisions should only help to clarify the theoretical logic of these arguments. As **Table 1** reveals, some of the factors emphasized in the crime trends literature imply impacts that operate through more than one of the specified mechanisms.

**Changes in social controls.** Several ideas advanced about contemporary reductions in crime emphasize increases in the social controls or constraints to which people are exposed. The specific factors emphasized as producing those changes encompass both formal and informal social control mechanisms, as is clear in the first column of **Table 1**. But each implies the same causal logic and very similar proximate causal processes. Collectively, they are posited to increase surveillance to deter would-be offenders and strengthen commitments and attachments to social institutions to raise the perceived costs (formal and informal) associated with involvement in crime. These

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<sup>7</sup>For example, it might be productive to link explanations for changes in crime rates to individual theories of crime (e.g., Meithe et al. 1991) or to classify them as emphasizing cohort attributes, period conditions, or some combination of the two (e.g., O'Brien 2003).

<sup>8</sup>See Katz (1988) and Meier et al. (2001) for more elaborate discussions of how social and physical settings encompass elements of both situational motivation and constraint that may be relevant to whether crime occurs.

**Table 1 Implied causal mechanisms for factors highlighted as explanations of the contemporary crime decline**

Factor/variable emphasized in crime trends literature	General causal mechanisms		
	Increases in social control	Reduction in criminal propensity/motivation for crime	Reduction in crime from criminogenic settings
Growth in immigration <sup>a</sup>	yes	no	no
Increased community cohesion and stronger social institutions <sup>b</sup>	yes	no	no
Increased government trust <sup>b</sup>	yes	yes	no
Growth in police forces <sup>c</sup>	yes	no	yes
Enhanced policing strategies <sup>c</sup>	yes	yes	yes
Enhanced security measures <sup>d</sup>	yes	yes	yes
Increase in imprisonment <sup>c</sup>	yes	yes	no
Aging population <sup>c</sup>	yes	yes	no
Growth in economic opportunities and performance <sup>c</sup>	yes	yes	yes
Legalization of abortion <sup>c</sup>	no	yes	no
Reduction in lead exposure <sup>f</sup>	no	yes	no
Stabilization of illicit and secondary markets <sup>c, e</sup>	no	yes	yes
Reduction in substance use (e.g., crack cocaine and alcohol) <sup>g</sup>	no	yes	yes
Increased time spent in the home and away from public spaces <sup>d, g</sup>	no	yes	yes

<sup>a</sup>See, e.g., Sampson (2008), Stowell et al. (2009), and Ousey & Kubrin (2009).

<sup>b</sup>See LaFree (1998, 1999) and Roth (2010).

<sup>c</sup>For a summary of the arguments, see Blumstein & Wallman (2006), Zimring (2007), and Goldberger & Rosenfeld (2008).

<sup>d</sup>See Farrell et al. (2014).

<sup>e</sup>For thorough reviews, see Rosenfeld & Fornango (2007) and Rosenfeld (2009).

<sup>f</sup>See Nevin (2007) and Reyes (2007).

<sup>g</sup>See Farrell et al. (2014).

processes underlie and unite explanatory factors that tend to be treated as distinct and often competing hypotheses rather than hypotheses emanating from a similar pathway: shifts in levels of social control. This includes arguments about the relevance to crime trends of growth in imprisonment and policing (see Zimring 2007) on the one hand and increases in immigration that revitalize community social organization (Ousey & Kubrin 2009, Sampson 2008, Stowell et al. 2009) on the other hand.

For purposes of identifying the proximate causes of changes in crime rates, emphasizing the commonalities among these factors directs attention to the need for research that considers more directly whether there have been important shifts over the past few decades in public and private surveillance, collective efficacy, and the perceived costs associated with criminal activity. These factors are fundamental to the etiology of crime, yet their temporal patterns have not been explored directly in prior research. Instead, the research has focused on conditions posited to influence crime trends through these factors.

**Changes in criminal propensities and motivations.** As shown in **Table 1**, some scholars have implied that decreasing levels of crime may be the result of reductions in criminal propensities or other sources of motivation to engage in crime. Turning first to criminal propensity, although it is a multidimensional construct, scholars emphasize the capacity for self-control, reflected primarily in impulsivity and sensation seeking (Burt et al. 2014, Gottfredson & Hirschi 1990). Donohue & Levitt's (2001) abortion-dividend thesis is perhaps the most often cited explanation of the

contemporary crime decline that hinges on shifts in levels of criminal propensity. Parallel arguments reference decreases in exposure to lead toxins during the 1970s and 1980s. High levels of lead in the blood, especially in childhood, have been shown to disrupt the development of self-control (Lidsky & Schneider 2003, Needleman 2004). Some scholars have suggested that a reduction in lead exposure among children in the 1980s produced lower levels of crime among youth and young adults in the 1990s, with the implied mechanism being increased levels of self-control (Narag et al. 2009, Nevin 2007).

The abortion dividend and lead exposure arguments differ in important respects, of course, but the common thread between them is that during the last several decades of the twentieth century the prevalence of low self-control, one of the hallmarks of criminal propensity, may have decreased in the population. A substantial body of research on the link between self-control and criminal behavior (see Pratt & Cullen 2000) suggests that crime rates should have declined as a result.

The variable-centered crime trends literature has considered the potential relevance of changes in lead exposure and the legalization of abortion but only in isolation from one another and not as joint manifestations of the same underlying causal processes (see Donohue & Levitt 2001; Reyes 2007, 2015). As a result, despite the accumulation of a voluminous literature on self-control over the past few decades, to our knowledge no research has examined whether aggregate levels of self-control have changed over time, whether shifts in other relevant factors (e.g., modifications to child-rearing) have occurred that could explain such changes, or whether any of this has a bearing on crime trends. This illuminates a major gap in the crime trends literature. Likewise, although studies of self-control have yielded valuable information on individual criminal propensities, the implications of that individual-level research for the substantial shifts in crime that have occurred over the past several decades remain unclear.

In addition to possible changes in self-control, two other motivating conditions that have been emphasized as relevant to contemporary crime trends are changes in levels of institutional legitimacy and interpersonal trust and changes in economic conditions such as employment rates, wages, GDP, consumer sentiment, and inflation. Roth (2010) and LaFree (1998, 1999) link shifts in perceptions of governmental legitimacy and interpersonal trust to homicide rates through several implied mechanisms, including social control, but also to heightened frustration and anger arising from these feelings that may serve as an impetus to violence. Changes in economic conditions have been linked to involvement in criminal behavior through each of the three general causal mechanisms highlighted in **Table 1**, in some cases in contrasting directions (Cantor & Land 1985). Prominent pathways for enhanced motivation for crime arise from frustrations about limited economic opportunities, bleak future prospects, or perceptions that pursuing economic rewards through illicit means is justified (e.g., Rosenfeld & Fornango 2007, Rosenfeld et al. 2013).

We regard both motivational explanations as promising, but they imply parallel changes in proximate causal mechanisms (e.g., goal frustration, diminished trust) that have not been adequately addressed in empirical research on crime trends. Had greater attention been directed to the causal processes themselves and not simply to their origins in criminogenic political or economic conditions, we would know more than we currently do about how aggregate changes in criminal motivations—as distinct from or in interaction with changes in social controls and criminal opportunities—affect crime trends.

**Changes in criminogenic settings and situations.** The crime trends literature suggests that contemporary reductions in crime may have occurred in part because of changes in certain social and physical settings. Again, the emphasis has been on the distinct factors (see **Table 1**) rather than the common pathway through which they may have affected crime trends.

Some scholars have emphasized the stabilization of illicit markets as a key component of reductions in crime, especially during the 1990s and 2000s. This argument includes the calming of urban crack markets in the United States (Blumstein & Wallman 2006) and changes in secondary markets for stolen goods, e.g., the contraction of such markets because of reduced demand and the declining presence of cash in those settings (Felson & Clarke 1998, Rosenfeld & Fornango 2007, Rosenfeld & Levin 2016, Wright et al. 2014). In both cases, the emphasis is on how transactions in street markets have changed in ways that are less conducive to property crime and interpersonal violence.

Other scholars have argued that a myriad of factors, including changes in policing (e.g., larger police forces, targeted enforcement) and the increased use of various devices and measures (e.g., closed-circuit television, antitheft innovations for cars and homes, theft-reduction policies adopted in retail outlets, and mobile phones) have served to reduce the degree to which offenders view opportunities in certain settings for crime as enticing or costly (Cook & MacDonald 2011, Farrell et al. 2011, Weisburd et al. 2017). The explanatory factors emphasized differ notably, but each is posited to affect crime through changes in target hardening and perceived benefits and risks, a commonality that is rarely acknowledged in the crime trends literature. Indeed, in a comprehensive review of the many explanations that have been offered, Farrell et al. (2014) consider the impact of antitheft measures and policies as forming a security hypothesis that they treat as conceptually distinct from shifts in law enforcement efforts and other factors that presumably also enhance the security of potential crime targets. Although identifying the most efficient ways to alter opportunity structures and offender perceptions is valuable for informing crime prevention efforts, for the purposes of making theoretical sense of contemporary crime trends, considering a broader range of security-enhancing conditions as sharing common conceptual ground may be more productive.

A similar critique can be leveled at arguments that emphasize the importance of selected shifts in technology and routine activities for the crime drop. For instance, Farrell et al. (2014) suggest that the increased use of personal computers and the rise of the internet may be associated with the crime drop because they have shifted the locus of leisure time increasingly away from the public sphere and into the home, which according to routine activities theory should yield reductions in both property crime and violence (Cohen & Felson 1979).

This underlying argument implies reductions in crime that stem from changes in the location of routine activities that limit exposure to offenders and enhance the guardianship of homes, yet the relevant empirical research has focused on distal indicators of the technological innovations rather than the proximate factors that may link them to reductions in crime (Baumer & Wolff 2014b, Klick et al. 2012, Orrick & Piquero 2015). Perhaps because of this, we know very little about whether changes in computing technology have translated into shifts in how or where people spend their time or whether such shifts may be relevant to crime trends.

## Moving Forward

The conceptual framework advanced here does not offer a clear bottom line explaining why crime rates have fallen significantly over the past several decades. That type of clarity is not likely to emerge without significant growth in the volume of research directed at understanding temporal variation in crime that is more coherently organized around theoretically informed research questions: Do contemporary reductions in crime rates reflect enhancements in the social controls to which individuals are exposed, reductions in criminal propensities and motivations, and/or reductions in the exposure of individuals to physical or social settings with extensive criminal opportunities? By directing attention to these questions, we seek to place the study of crime trends at the center of criminological inquiry.

There may be disagreements about our alignment of selected factors with their implied causal mechanism(s), but such debate is unlikely to affect the two overarching lessons that we hope are drawn from the exercise. First, our discussion suggests that many of the factors emphasized in previous research on crime trends share a common causal pathway. Given this, studies that emphasize one of the shared causal factors to the exclusion of others or treat them as competing explanations are likely to yield misleading conclusions about the underlying causes. Second, the picture that emerges through the lens of the proposed conceptual framework is that although the crime trends literature has identified and assessed the impact of many distal variables, the proximate processes through which they may impact crime are not always explicitly described and are rarely considered in empirical assessments of changes in crime rates. This insight reveals several questions that have yet to be explored with respect to changes in levels of self-control, the feelings and beliefs associated with political and economic conditions, and perceived risks and rewards associated with offending decisions. These questions should interest not only the small number of scholars currently engaged in crime trends research but also those who study related topics in the etiology of crime and have not yet considered them or their implications for explaining temporal variation in crime rates.

## **A BLUEPRINT FOR FUTURE ASSESSMENTS OF AMERICAN CRIME TRENDS**

The vast majority of studies directed at assessing the causes of contemporary crime changes have relied on annual aggregate-level data. These studies use data on nonlethal crimes as recorded in the UCR and data on homicide as recorded in the UCR, SHRs, and National Vital Statistics System (NVSS). Such studies often include as explanatory variables a variety of social, demographic, and economic attributes, along with data on policing and imprisonment, drawn from various sources [e.g., the US Census Bureau, the Bureau of Labor Statistics, and the Bureau of Justice Statistics (BJS)]. Methodological approaches vary somewhat in their specific form, but the overarching strategy has been to analyze correlations between changes in the aforementioned explanatory factors and changes in crime rates using time-series or panel-regression techniques.

This standard approach has yielded valuable insights about factors that may be relevant to understanding changes in contemporary crime rates, but it also is limited in several ways. Scholars have criticized this literature's heavy reliance on officially recorded indicators of crime (Lauritsen et al. 2016), its lack of uniformity in empirical specifications (Baumer 2008), and its limited attention to key sources of estimation bias, such as spuriousness and endogeneity (see Greenberg 2014, Marvell & Moody 1996, Spelman 2013, Travis et al. 2014). Additionally, the standard approach is not well-suited to evaluate many of the arguments implied in our conceptual framework because the aggregate data it employs do not contain direct measures of many of the implied proximate causal conditions (e.g., changes in perceived risks associated with offending, levels of self-control, routine activities, and situational attributes). Additional research using the standard approach could prove valuable, especially if coupled with effective strategies for addressing the aforementioned methodological critiques (e.g., Johnson & Raphael 2012, Spelman 2013). It would be worthwhile to extend these analyses to incorporate emerging multi-city, neighborhood-level panel data on crime and other factors (Krivo et al. 2014) as well as parallel data on street segments in additional cities (Weisburd et al. 2004). Nonetheless, we must recognize the confines of the standard approach and seek alternatives that can complement it. We highlight alternative methodological approaches with existing data sources that could advance knowledge if pursued to a greater extent and then outline urgent new data collection needs. Collectively, these suggestions coalesce into a blueprint for future assessments of American crime trends.

## Expanding the Methods Used to Study Crime Trends

Broadening the methodological approaches used to study crime trends beyond analyzing aggregate-level data with econometric techniques is important for providing the type of triangulated empirical evidence that is often needed to draw strong conclusions from observational data (Denzin 1970). Recent developments that use individual-level data to explain changes in crime over time are especially promising expansions, as such approaches are optimally suited for unpacking crime outcomes by key demographic characteristics such as race, ethnicity, and gender and for capturing the mechanisms that underlie aggregate crime changes. For instance, Lauritsen et al. (2017) use person-level data from the NCVS to show that despite important declines in victimization, there was little change in racial and ethnic gaps in nonlethal victimization trends over the past several decades. Beyond the substantive importance of this finding, this research is instructive for thinking about how the NCVS can be used to evaluate the empirical validity of some of the proximate conditions thought to be relevant to contemporary crime changes. For example, future work could link NCVS data to changes in policing, levels of incarceration, and other potentially relevant community conditions to assess their impact on victimization trends. Additionally, the utility of the NCVS for explaining observed trends could be enhanced if new items are added to the survey that measure relevant proximate attributes.

A similar opportunity exists for using existing individual-level offending data to study temporal variation in crime over the past few decades. For example, Berg et al. (2016) reconstructed panel data from the Pittsburgh Youth Survey (PYS) to create two synthetic, repeated cross-sectional cohorts of 17–18 year olds, one of which was surveyed as the 1990s crime drop was just getting underway and the other was surveyed at the end of the decade when crime rates had fallen considerably for several years. Consistent with data from the UCR and NCVS, the latter group exhibited much lower levels of involvement in violent and property crime. More importantly, their analysis revealed that the observed decrease in violence was mainly the result of a decline in offending prevalence, whereas the decline in property crime was driven by reductions in both prevalence and incidence. This distinction between prevalence and incidence has potentially important implications for understanding why crime rates declined during the 1990s, and it cannot be evaluated with the aggregate-level data used in most crime trends research.

The analysis of PYS data by Berg et al. (2016) could be meaningfully expanded to consider the capacity for a variety of explanatory variables to account for the significantly lower levels of criminal involvement observed for youth in the late 1990s compared to youth in the early 1990s, including many factors that align closely with the conceptual framework outlined earlier. Additionally, similar strategies could be applied to other existing data sources. Some research demonstrates the utility of analyzing data from Monitoring the Future (MTF) to understand the proximate mechanisms relevant to trends in youth offending (Baumer & Cundiff 2017). Parallel strategies could be pursued by reconfiguring commonly used panel data (e.g., the Denver Youth Survey, the National Longitudinal Surveys of Youth, and the National Educational Longitudinal Studies) to support assessments of offending over time.

Other recent research has demonstrated the utility of experimental methods for understanding an important source of changing crime rates: the altering of criminogenic situations and settings. Rosenfeld et al. (2014) assessed the impact of a hot-spots policing intervention over nine months to explain drops in firearm violence in St. Louis. They found that hot-spots policing that encompasses enhancements in both directed patrol and self-initiated activity by officers yields significant reductions in firearm-related assaults. Weisburd et al. (2017) used an experimental design to assess how changing the volume and nature of hot-spots policing may be relevant to the volume of crime in an area and, by implication, trends in crime. They developed an agent-based model to estimate

the impact of hot-spots policing on robbery levels, finding evidence for significant reductions in robbery both in the microlocations where hot-spots policing strategies are deployed and in the larger urban area in which those locations are situated. Extrapolating their findings, they suggest that the expansion of hot-spots policing during the 1990s and 2000s could have played a meaningful role in observed crime reductions in America over this period. Both papers reveal how experiments, if expanded, could be used to assess more fully a theoretically informed conceptual framework for explaining changes in crime rates.

Given the importance of understanding the causal processes that undergird substantial shifts in levels of crime, we think qualitative methods are valuable as well. Rich qualitative assessments of communities offer significant insights about the social and cultural sources of high levels of crime (e.g., Anderson 1999; Carr 2003, 2005; Contreras 2012; Duck 2016; Harding 2010; Small 2002; Vargas 2016; Wright & Decker 1994, 1997). Some of the qualitative research conducted over the past few decades has integrated time in a central way, illuminating the value of this approach for thinking about shifting crime rates. For example, Carr (2003; see also Carr 2005) studied how the process of informal social control evolves by conducting five years of field work in a working-class Chicago neighborhood. His study reveals that although traditional forms of informal social control such as the direct supervision of youth were depleted, a hybrid version termed new parochialism had evolved partly because of the introduction of a community policing program. Similarly, Small (2002) used archival data from 1970 to 1990 and two years of field work to better understand why community participation declined in Villa Victoria, a poor Puerto Rican housing project in Boston. He concluded that the decline in local participation in the housing project was driven by changes in how different generations of residents viewed their neighborhood, which has important implications for understanding the influence of cohort effects on crime trends. Additional longitudinal (or repeated) qualitative research that builds on approaches such as those implemented by Carr and Small could offer a unique vantage point to capture social and cultural changes that may be important for understanding crime trends.

In summary, supplementing the typical time-series and panel-modeling approaches to studying crime trends with other methodological approaches, such as analyses of individual-level survey data, longitudinal qualitative data, and meaningful experiments, could increase participation in the scientific enterprise directed at studying why substantial changes in crime levels occur and would likely yield a richer body of evidence from which to draw conclusions about possible explanations. Making greater use of selected existing data resources could support small steps toward methodological expansion. However, the prospects of generating a highly impactful body of research on crime trends would be bolstered with an enhanced data infrastructure.

## Gaps in the Data Infrastructure

The current data infrastructure for studying crime trends supports meaningful descriptions of changes in the overall volume of crime for the nation and selected subnational units (i.e., states, regions, counties, and cities) and, to a limited degree, the types of criminal activity that are (or are not) driving such changes. When combined with available data on criminal justice practices and social, economic, and demographic conditions, this infrastructure also supports assessments of how some of the key distal factors emphasized in explanations have covaried temporally with crime rates. However, the current data infrastructure also has significant limitations for both documenting and evaluating explanations of crime trends.

**Limits for documenting crime trends.** The available national-level data do not support a timely description of changes in levels of crime. As of this writing in the second quarter of 2017, there has

been much speculation and growing concern about substantial increases in violence that may have occurred during the previous year. But although journalists, researchers, and local policy makers have assembled data from a selection of cities to inform federal agencies and public discourse on the matter (Rosenfeld 2015, 2016; Major Cities Chiefs Assoc. 2017), none of the existing national-level sources designed to measure crime yields timely estimates, and thus they are not equipped to weigh in on the nature of emerging national trends or the breadth of the reported increases. Estimated levels of offending and victimization from these sources for 2016 will not be released until the final quarter of 2017 at the earliest. More timely centralized data on changes in crime in the United States would facilitate informed descriptions of emerging crime patterns and not simply of past trends, and also may help to support efforts to develop short-term forecasts of future trends.

The current data infrastructure is also limited in the level of detail it provides about the nature of major shifts in crime. The MTF and Youth Risk Behavioral Surveillance System (YRBSS) provide estimates only for the overall frequency of selected forms of offending and victimization experienced by American youth. The NCVS provides important details about youth and adult victims of nonlethal crimes, the nature of the crimes they experience, and their perceptions of the demographic attributes of the offender, but it lacks other critical information about the victim and the setting in which the crime occurred. The SHR component of the UCR provides limited information about homicide incidents, including demographic data on offenders and victims, but for other crimes the UCR only provides summary counts of the total number of incidents. The National Incident-Based Reporting System (NIBRS) provides incident-level detail on crimes other than homicide, but to date NIBRS covers well under half of the US population. Further, although the UCR and SHRs yield data on crime trends for cities, counties, and states (in addition to national estimates), none of the national-level sources currently provides information about crime trends for local neighborhoods. Many police departments publish some forms of data that can be connected to the neighborhood, but they are often calls for service rather than crime data, they are not necessarily comparable across jurisdictions, and they are not subject to the quality controls imposed by the UCR. The nation lacks a centralized ongoing collection of neighborhood-level crime data.

Enhancing the nation's ongoing crime data collection systems would improve our capacity to document important changes in the level and nature of crime. It is promising to see significant efforts directed toward doing so, including the work of the Committee on National Statistics (CNSTAT) Panel on Modernizing the Nation's Crime Statistics, organized by the National Research Council (NRC) (Lauritsen & Cork 2016), the BJS estimation of subnational crime rates over time from the NCVS (Fay & Diallo 2015), and the Department of Justice's development of the National Crime Statistics Exchange (NCS-X) (Snyder 2013). The NCVS subnational estimation program offers the capacity to assess disaggregated victimization trends for states and selected metropolitan levels that are independent of changes in citizen crime reporting and police crime recording. The NCS-X will update and expand NIBRS for purposes of yielding nationally representative detailed crime incident data. That effort could prove especially valuable for describing and explaining the nature of emerging trends in crime, especially if it is produced in a timely fashion and includes geographic indicators of local neighborhoods (e.g., census tracts) within the cities that are represented.

**Limits for assessing explanations of crime trends.** The current data infrastructure is highly incomplete for purposes of evaluating explanations of changes in crime rates. The principal aggregate-level police (UCR, SHRs) and public health sources (NVSS) can address some of the proposed explanations when linked with data on imprisonment levels for states and counties,

indicators of police force size and arrest patterns for cities, and data on a variety of social, economic, and demographic attributes for each of the aforementioned geographic entities. The data needed to do so have been assembled as part of a Crime Trends Data Archive (CTDA) (Baumer et al. 2012). Parallel efforts are underway to develop a similar database for neighborhoods across America with the second wave of the National Neighborhood Crime Study (Krive et al. 2014). These sources provide valuable information about trends in crime and many of the distal community-level factors highlighted in proposed explanations, but by design they omit the most proximate individual-level attributes that appear to be prominent in those explanations. For example, these data collection efforts cannot address whether there have been meaningful changes in levels of perceived risk or informal social control, criminal propensities, or the nature of settings and situations that may be relevant to shifts in crime rates.

The three individual-level survey data sources available for studying contemporary crime trends at the national level—the NCVS, MTF, and YRBSS—are similarly incomplete for purposes of evaluating most of the proposed explanations from our conceptual model. When coupled with information on the residential locations of respondents, the person- and household-level data from the NCVS can provide valuable insights about the influence of community structural conditions and policy responses on crime trends (e.g., Xie et al. 2012). However, even when expanded in this way, the NCVS contains few details about respondents' activities or the situation in which reported crimes occurred, which limits its relevance for assessing explanations of crime trends. A similar assessment applies to the MTF and YRBSS. These sources are useful for documenting trends in youth offending (e.g., Goodkind et al. 2009, Kann et al. 2016), but they are limited in their capacity to assess the role of the mechanisms that may account for such trends.

In summary, there are many gaps in the extant data infrastructure that thwart our capacity to describe developing trends thoroughly and in a timely fashion. They also provide limited means of assessing the proximate causal mechanisms emphasized in the conceptual framework outlined earlier, leaving conclusions about why crime rates change over time tentative at best. Building on models of tracking and explaining other phenomena (e.g., shifts in labor market and health outcomes for individuals and communities), we believe that an important foundational feature of an improved data infrastructure advancing understanding of crime trends is a centralized collection of relevant data across multiple levels of analysis, including individuals, neighborhoods, and cities.

## **An Enhanced Data Infrastructure**

Developing a more comprehensive and targeted data infrastructure that can provide timely information about emerging crime trends and the capacity to evaluate the reasons for them can be accomplished in a variety of ways, but we urge that it include at least the following elements:

1. Ongoing quarterly or semiannual survey data collection on offending and other high-risk behaviors, victimization experiences, and attributes associated with these outcomes (e.g., indicators of social controls, propensity, and criminogenic situations/settings) from a sample of demographically diverse youth and adults selected from a diverse and representative set of cities and neighborhoods. Sample sizes should be sufficient to describe and evaluate trends in offending and victimization for different demographic groups.
2. Quarterly or semiannual crime data collection from police agencies for a sample of street segments and census tracts drawn from a representative sample of cities that encompasses, but is not limited to, the areas represented in paragraph 1 above. This effort should be integrated with, or supplemented by, additional data collection from areas affected by randomized policing initiatives and other crime reduction and prevention efforts.

3. Annual data on criminal justice responses, socioeconomic conditions, and other administrative data for the communities sampled in paragraphs 1 and 2.
4. Ongoing annual or biannual qualitative assessments of selected sampled communities that have experienced differential trends in crime or that have experienced events (e.g., manufacturing plant closings, housing changes, new drug markets) that may have important implications for subsequent crime trends.

These additions to the data infrastructure are feasible and, with suitable new funding, could be developed and implemented by BJS, the statistical agency of the Department of Justice.

## CONCLUSION

There have been substantial shifts in crime in the United States and other nations over the past several decades that have profound implications for social and economic functioning. Criminology was not well positioned to quickly document these changes as they occurred, nor has it been able to identify in retrospect scientifically grounded evidence about why the observed reductions took place. We identified several possible reasons for this state of affairs, including the absence of a coherent conceptual framework to guide empirical inquiry and organize findings, a myopic methodological approach, and an insufficient data infrastructure.

An overarching theme of this review is that our capacity to document and explain significant shifts in crime would be bolstered if the study of crime trends were situated more centrally within the contours of existing etiological research on crime. Doing so would sharpen the focus of research efforts and may help to grow the community of scholars dedicated to studying crime trends. Toward that end, we advanced a conceptual model for understanding changes in crime that integrates core criminological thinking. We used the resulting framework to illuminate questions about social change that are central to several core issues within criminology. We also highlighted the need for methodological breadth in research on crime trends, and we outlined a blueprint for future data collection efforts that would yield the right kinds of data on a timely basis to document and explain crime trends.

We recognize that the new data collection we suggest is ambitious and will require a significant marshaling of human and financial resources. But without that investment, the questions of how and why crime rates change over time will be left to speculation. Additionally, “the information void” that this allows is likely to be filled by the press or advocacy organizations with “data of uncertain reliability” (Rosenfeld 2016, p. 24), and absent more timely and more comprehensive data, well-intentioned policy makers may be in the position of formulating and implementing the wrong solutions to a misunderstood problem. Investing now in an expanded data infrastructure will provide the public, criminal justice practitioners, and policy makers the information they need to make sense of emerging crime trends, such as the recent homicide rise. Finally, it would arm researchers with the tools they need to develop sound, data-driven explanations for such changes, which in turn would provide greater clarity for the most suitable ways to achieve crime reduction. Just as we inform economic policy with timely and reliable data and analytical resources, it is no less urgent to base crime control policy on the best possible evidence regarding change in crime rates over time.

## DISCLOSURE STATEMENT

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