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Guide to Preparing Manuscripts

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- Strengthen the role of research in the development of criminal justice policy and practice
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- Advance the relationship between criminological research and criminal justice policy and practice

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Criminology & Public Policy (Print ISSN #1538-6473/On-line ISSN #1745-9133) is published quarterly on behalf of the American Society of Criminology, 1314 Kinnear Road, Suite 212, Columbus, OH 43212 by Wiley Subscription Services, Inc., a Wiley Company, 111 River St., Hoboken, NJ 07030-5774.

Information for subscribers. *Criminology & Public Policy* is published in four issues per year. Institutional print and on-line subscription prices for 2012 are: US$309 (U.S.), US$380 (rest of world), €243 (Europe), £194 (U.K.). Prices are exclusive of tax. Asia-Pacific GST, Canadian GST, and European VAT will be applied at the appropriate rates. For more information on current tax rates, please visit www.wileyonlinelibrary.com/tax-vat. The price includes on-line access to the current and all on-line back issues to January 1, 2008 (where available). For other pricing options, including access information and terms and conditions, please visit www.wileyonlinelibrary.com/access. A subscription to *Criminology & Public Policy* also includes 4 issues of *Criminology.*

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ISSN 1538-6473 (Print)
ISSN 1745-9133 (Online)

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Printed in the USA by The Sheridan Group.

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Criminology & Public Policy (CPP) relies on the expertise and judgment of our blind peer reviewers in identifying manuscripts for publication. We would like to take this opportunity to extend our sincere appreciation to our colleagues for their contributions that have assisted us in producing our fifth volume of CPP. Each of the reviewers listed below returned at least one review during the period from June 2011 to July 2012.

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EDITORIAL INTRODUCTION

RACE, PLACE, AND DRUG ENFORCEMENT

Race, Policing, and Equity

Stephen D. Mastrofski
George Mason University

As the issue of racial bias in policing captured center stage in America's public arena more than four decades ago, Egon Bittner (1991: 38) wrote[1]:

> The ecological distribution of police work at the level of departmentally determined concentrations of deployment, as well as in terms of the orientations of individual police officers, reflects a whole range of public prejudices. That is, the police are more likely to be found in places where certain people live or congregate than in other parts of the city. Though this pattern of manpower allocation is ordinarily justified by reference to experientially established needs for police service, it inevitably entails the consequence that some persons will receive the dubious benefit of extensive police scrutiny merely on account of their membership in those social groupings which invidious social comparisons locate at the bottom of the heap. Accordingly, it is not a paranoid distortion to say that police activity is as much directed to who a person is as to what he does.

Bittner's essay goes on to discuss the racially divisive effects of this pattern, as one of the "character traits" of American police not easily changed, not only because of the officers' personal biases but also because of the public's wishes. Concern about racism in policing has not abated in the years since his essay was first published. It is a policy matter as profoundly important today as it was then, and it is as intensely debated among scholars, policy analysts, and commentators.[2] And large portions of the American public perceive it as a problem, not surprisingly, a view dominant among racial and ethnic minority groups

Direct correspondence to Stephen D. Mastrofski, Criminology, Law and Society, George Mason University, 4400 University Drive, Fairfax, VA 22030 (e-mail: smastrof@gmu.edu).

1. This text was published originally as *The Functions of the Police in Modern Society: A Review of Background Factors, Current Practices, and Possible Role Models*. Rockville, MD: National Institute of Mental Health, 1970.
2. Compare, for example, MacDonald (2003) and Alexander (2010).

DOI:10.1111/j.1745-9133.2012.00846.x © 2012 American Society of Criminology

(Gallagher, Maguire, Mastrofski, and Reisig, 2001; Reitzel and Piquero, 2006; Weitzer and Tuch, 2002).

Over the years, researchers have attempted to bring scientific evidence to bear on the extent to which racial bias enters into police practice in a wide range of settings and, in particular, the extent and causes of racial disparity in the enforcement of the criminal laws. Engel, Smith, and Cullen (2012, this issue) seek to test the robustness of prior research findings on racial disparities in Seattle Police Department's drug enforcement, not only to illuminate the extent and causes of such disparities in that city but also to improve on the ways that researchers go about establishing criteria for judging the underlying forces that may drive those disparities. The prior body of research has, for the most part, yielded assessments that the findings are mixed about racially differentiated law enforcement (Rosich, 2007; Skogan and Frydl, 2004; Spohn, 2011), albeit a recent meta-analysis of incident-level studies offers a clear and predominant pattern of race effects on the arrest practices of police officers (Kochel, Wilson, and Mastrofski, 2011). Many analysts, however, expect that racial differences will be most profound in the enforcement of drug offenses, in no small part a result of heightened fear and loathing of the use of crack cocaine (Tonry and Melewski, 2008).

Engel et al. (2012) take as their point of departure the research in Seattle conducted by Beckett, Nyrop, and Pfingst (2006) and Beckett, Nyrop, Pfingst, and Bowen (2005), which found "Blacks were significantly over represented in drug arrests compared with those violating drug laws and that the Seattle Police Department's (SPD) focus on crack cocaine was the fundamental cause of this disparity" (Beckett, 2012 this issue). Engel et al.'s principal motivations for reexamining racial disparities in Seattle are to make improvements on the methods employed by Beckett and colleagues, determine whether the results differed from the earlier Seattle studies, and hence, to learn whether the results so obtained are more consistent with a structural, "deployment" explanation than other theories of racial bias. They depart methodologically in two ways:

(1) They benchmark drug arrests using the more frequent calls for service for drug-related offenses instead of nonemergency citizen complaints of suspicious or unusual activity (Narcotics Activity Reports), arguing that calls for service are the more influential source of police deployment practices.
(2) They use smaller geographic areas (1–2-block areas instead of much larger census tracts) to attempt to capture the greater variation in offender and police activity occurring at that level.

Another important difference is that Engel et al.'s (2012) study was based on data gathered at a different time than Beckett and colleagues' study (2005, 2006). In their analysis of the same two drug markets studied by Beckett and colleagues, Engel et al. find that Blacks are about equally represented or underrepresented among those arrested for drug crimes, using calls for service as the benchmark. A citywide analysis of small geographic

spaces (statistical reporting areas) shows moderate-to-strong relationships between calls for service and reported crime on the one hand and drug arrests on the other hand. In this, they find support for the "deployment hypothesis," which states that deployment structures, policies, and practices send the most police where greatest harm is concentrated in the form of crime and disorder. They note the central contribution of *citizens'* requests in this process, and this leads them to conclude that an in-harm's-way structural explanation for drug arrest patterns was in Seattle more likely than racial animus and officer bias, and that researchers' attention might be fruitfully directed toward determining the extent of racial bias in *citizens'* decisions to request police interventions. Briefly, they contemplate the extent to which Black citizens themselves may play a role in the observed patterns. Reflecting on the larger policy issue raised, they ask whether police allocations based on citizen complaints provide an equitable foundation for police service delivery when minorities are arrested at a higher rate compared with their representation in the population and among drug users. They conclude with a call for engagement of what constitutes equity and a search for alternatives if the present state of affairs is found wanting.

Given the topic and findings, readers might be unsurprised to find that the policy responses to Engel et al.'s (2012) study are quite varied. Klinger (2012, this issue) offers a wholeheartedly positive assessment of the research, one that features the value of an active, well-developed sense of scientific skepticism about claims of causal relationships, such as between racial motivations on the part of the police and their drug arrest practices. His essay cautions us to be wary of the human tendency to accept with less scrutiny those findings that confirm our views while submitting to greater inspection those views that are at odds with ours. His practical recommendation is for policy makers and practitioners not to make too much haste to accept findings asserting causality as gospel truth but rather to submit them to intense and sustained examination. Of course, the scientific process of validation is virtually unending, and so it is fruitless for public officials to wait for the "final" word from science. The challenge in the practical world of police policy is to acquaint oneself with the limitations of the research and carefully weigh the risks and benefits of acting on those findings.

At the opposite end of the spectrum is Beckett's (2012, this issue) response. In a sense, she takes up Klinger's challenge and applies a great deal of skepticism to the methods, findings, and implications of Engel et al. (2012). Her critique covers broad conceptual matters, measurement, and interpretation issues. At the conceptual level, she argues that the study's selection of offenders at risk of arrest is a benchmark that includes a great deal of *police* influence on who is targeted in the arrest process and, hence, does not take into account any racial influences in the process that determines who is "at risk." She argues for the superiority of multiple benchmarks that try to identify the offender population as a whole, not those at risk of arrest. She contends that at the time of her original studies, SPD did not use calls for service in their drug enforcement allocation decisions, hence rendering them suspect as a benchmark then and introducing the possibility that departments vary in

the criteria they employ to make such choices. She further questions the value of calls for service as a measure of arrest risk when so few (less than 5%) result in an arrest. She offers several methodology and data criticisms, questioning the representativeness of the sample of calls for service used, the absence of control variables in assessing the relationship between calls/crimes and drug arrests, and not dealing with the possibilities of reciprocal causality between calls and drug arrests and of spurious relationships involving calls. She takes issue with their assumptions about indoor and outdoor drug markets and the exclusion from the benchmark construction of other forms of citizen complaints than calls for service (Narcotic Activity Reports). And she raises a series of concerns about the coding and sorting of SPD call and arrest data and the lack of specificity in type of drug offense (e.g., failure to distinguish crack cocaine from other offenses, which in her research showed the strongest race effects). She suspects that cumulatively, these measurement choices inflated the comparability of call patterns with arrest patterns by race. Finally, she takes issue with Engel et al.'s (2012) policy discussion, arguing in effect that citizens' calls for service cannot in and of themselves legitimate practices that produce the overrepresentation of minorities in the actual drug offender population. She concludes with the contention that policing drugs can and should involve more than aggressive enforcement that feeds a punitive justice system; police can divert offenders to social services that remedy more effectively the sources of the problems that manifest themselves in drug offending.

A third perspective is offered by Venkatesh (2012, this issue). He acknowledges the contribution of Engel et al.'s (2012) creative analysis, one of "modest, precise social scientific reasoning that hews to the data at hand," and he embraces the call for better data. But he argues that the analysis is of limited utility in coming to grips with the central policy problem of race-based inequities in dealing with drug crime. In contrast to Klinger (2012), Venkatesh begins with the assumption that Seattle Blacks have not been treated fairly and questions whether it will ever be possible to sort out in purely statistical terms the extent to which that is so. Instead, he invites our attention to an "elegant social machinery" that incorporates numerous people and institutions where complex interactions make it hard to identify manifest racism, but that nonetheless grind it out. He commends to us a line of research that illuminates the division of labor in that elegant social machinery. We should look to a much broader web of institutional relationships that include the police, but also politicians, other government agencies, private sector organizations, and interest groups. Separately, they may seem blameless, but their interrelationships line the pathway to racism and reveal it. In this context, he calls for a close examination of institutional decision making, suggesting the approach of the New Jim Crow researchers.[3] For those interested in the police contribution to this camouflaged system of racism, he throws down the gauntlet to the evidence-based criminology movement that encourages rigorous examination of data

3. This suggestion is intriguing, but as with the invisible rabbit who was Jimmy Stewart's companion in the movie, *Harvey*, it remains to be shown how to demonstrate convincingly whether it exists.

to evaluate police policies and practices. In his view, the police are encouraged to examine the wrong data, focusing on "conventional public safety indices" when they might instead worry about the consequences of their efforts for more powerful pathways to crime prevention, such as collective efficacy. He concludes with a call for a reinvigorated examination of the distribution of municipal resources to understand more clearly how the processes of the "elegant social machinery" yield their outcomes.

Researchers should fully engage and be stimulated by the research issues suggested in these essays, but I can imagine that policy makers eager for guidance will be frustrated by the lack of convergence among them. Debates on the minutiae of research methods and data details may make for glazed police and mayoral eyes, but if nothing else, these contributions show that the methodological details are consequential for how one analyzes the nature of a vexing social problem and the conclusions one may draw. Similarly, the essays differ on the fundamental principles for designing and justifying police responses to drug problems. I suspect that more public discourse on the merits of these competing principles would help to focus future empirical policy research. So, although the contributions do not settle the matter by any means, they do cast some light on pathways to address more clearly a hot-button topic on which emotions often overpower reason and evidence.

What does emerge from this empirical examination of race and policing in Seattle and reactions to it is the need for a more sophisticated analysis of the situation. It is standard academic operating procedure to call for more research, but beyond this, the growing body of evidence suggests that simple assertions of the validity of one explanation over another may fail to capture the complexity of the phenomenon. The rapidly growing sophistication of evidence on crime and place also is enlarging to add the element of "justice," one that too often remains an afterthought in the research literature about crime policy. The findings of this budding literature on the justice of crime control practices suggest that more complex explanations are required regarding race effects. This topic has emerged in recent research on the downgrading of crime classifications by police officers responding to calls, a phenomenon found in both wealthier and higher proportion Black neighborhoods of a city not unlike Seattle (Lum, 2011a). Also in Seattle, there is recent evidence based on advanced spatial analytic methods illustrating the power of social disorganization of an area in predicting drug and violent offending, not the racial composition of the territory (Lum, 2011b). Perhaps most relevant to the issue at hand is a recently reported study of stop-and-search patterns in Portland, OR, finding support for *both* "deployment" and "race out of place,"[4] while finding inconsistencies in a "social conditioning"[5] explanation, being

4. That is, whether the race of the person stopped was consistent with the racial profile of the neighborhood in which he or she was stopped. Citizens whose race does not fit the profile are "out of place."

5. It argues that police unconsciously associate public safety threats (e.g., drugs and violence) with certain social groups, resulting in the increased likelihood of their being subjected to stop and search. This would seem to fall within the ambit of the "elegant social machinery" explanation.

significant for Black stop-and-search rates, but not for other races (Renauer, 2012). Sorting all this out should be on the agenda of researchers and policy actors interested in this issue.

Despite the differences of viewpoint found among the researchers and essayists presented in this volume, as a group they conjure what may be a growing uneasiness or ambivalence about the potential for problems in the current "you call we haul" system of allocating police resources, whether it is considered a sort of inequitable "collateral damage" of the war on drugs or the deleterious consequences of an "elegant social machinery." Added to the unease of those concerned about inequities in this system are the pleas for change from reformers wanting to free police from the "tyranny of 911" and instead engage in community and problem-oriented policing, reforms that are effective only insofar as a neighborhood has the ability to organize and act collectively (Mastrofski, 2006; Skogan, 2004). Arrayed against those seeking to dismantle the 911 system are reformers arguing to revamp it substantially to promote more "hot spots" policing, an approach that would change it by making the police response mechanism much more *selective*—by concentrating police resources in the small areas (addresses and blocks) where problems are most frequently reported by the public (Braga and Weisburd, 2010). This could converge police even more intensively on minority and low-income areas (Rosenbaum, 2006).[6] These three different reform streams (racial equity, community/problem-oriented policing, and hot spots policing) represent a sort of uncoordinated offensive (perhaps some would call a "perfect storm") against what has proven to be a remarkably reliable and resilient system for allocating the lion's share of police resources, one that has sustained high levels of American police legitimacy for the last half-century or so (Mastrofski and Willis, 2010: 85). Whether local public officials are willing to dismantle or revise something that the American public has so strongly and consistently wanted is an interesting academic question. Whether they should is an even more interesting one for policy makers and the public. Perhaps it is a good time to add the criterion of equity to the commonly used criterion of efficiency in public dialogue regarding how we should deploy our police.

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6. However, it would also bring police enforcement to bear on the hot spots that blossom in majority White and better-off neighborhoods as well (Groff, Weisburd, and Morris, 2009; Groff, Weisburd, and Yang, 2010). It would be informative to compare the styles of policing engaged between sites located in neighborhoods of such strikingly different character.

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Stephen D. Mastrofski is a university professor in the Department of Criminology, Law and Society and director of the Center for Justice Leadership and Management at George Mason University. His research interests include police discretion, police organizations and their reform, and systematic field observation methods in criminology. He has received the O.W. Wilson Award from the Academy of Criminal Justice Sciences for education, research, and service on policing. He served on the National Academy of Sciences panel on Police Services and Practices that published the 2004 book, *Fairness and Effectiveness in Policing: The Evidence*. He and his co-authors received the Law and Society Association's article prize for their research on Compstat's implementation as a police reform. He is a fellow of the American Society of Criminology.

RACE, PLACE, AND DRUG ENFORCEMENT

Overview of: "Race, Place, and Drug Enforcement: Reconsidering the Impact of Citizen Complaints and Crime Rates on Drug Arrests"

Robin S. Engel
University of Cincinnati

Michael R. Smith
Georgia Southern University

Francis T. Cullen
University of Cincinnati

Research Summary
Influential research has reported racial disparities in drug arrests in Seattle, Washington, that could not be explained by race-neutral factors such as crime rates or community complaints. Based on new data, measures, and methods, we reexamine racial disparities in drug arrests in Seattle and find contradictory evidence. Our analysis, using drug-related calls for service (CFS) as a benchmark, indicates that African Americans and Hispanics are either evenly represented or underrepresented among those arrested on drug charges in two drug markets examined. Similarly, this analysis reveals a moderate-to-strong association among drug arrests, drug-related CFS, and crime. These results provide support for the "deployment hypothesis," which argues that as a result of differential police deployment patterns, officers are likely to have increased contact with minority citizens and thus have more opportunities to detect criminal conduct. Our findings demonstrate the importance of selecting an appropriate and conceptually sound benchmark to measure racial disparities in criminal justice outcomes and the importance of selecting an appropriate unit of analysis.

DOI:10.1111/j.1745-9133.2012.00837.x © 2012 American Society of Criminology

Policy Implications

Our study cautions against the ready attribution of police practices to racial motives and shows the need for more research, across contexts, into this ongoing policy issue. These findings suggest that racial disparities in drug arrests seem to be more structural in nature rather than based on racial animus and individual police bias. It is, therefore, unlikely that these disparities can be eliminated by popular interventions such as police training in cultural sensitivity or by efforts to monitor and punish officers. This result leads to a consideration of whether focusing police resources based on citizen complaints and reported crimes represents equitable policing and, if not, what would constitute a realistic policy alternative.

Keywords

race, *drugs*, *police*, *arrest*, *disparity*

Race, Place, and Drug Enforcement

Reconsidering the Impact of Citizen Complaints and Crime Rates on Drug Arrests

Robin S. Engel
University of Cincinnati

Michael R. Smith
Georgia Southern University

Francis T. Cullen
University of Cincinnati

The disproportionate incarceration of African American males drawn from inner cities has created grave concerns about the equity of the criminal justice system (Clear, 2007; Tonry, 2011). Special worry has been voiced about the so-called war on drugs that has privileged the aggressive targeting of drug offenders at the street level, profiling of drug traffickers, and increased rates of incarceration and lengths of sentences among drug offenders (Alexander, 2012; Harris, 1999; Scalia, 2001). Recently, scholars have described the disproportionate mass incarceration of Black males, and the accompanying loss of rights and permanent stigma associated with felony convictions, as the *New Jim Crow* (Alexander, 2012; Boyd, 2002; Buckman and Lamberth, 1999; Forman, 2012). As the first contact point with offenders, police have come under increased scrutiny as the potential sources in producing unjust racial disparities in the criminal justice system, particularly through arrests for drug offenses.

Research on police bias has a long history and often is marked by conflicting findings (Engel and Swartz, in press; Skogan and Frydl, 2004). Most recently, scholars have

This research was supported by funding from the city of Seattle, and data were provided by the Seattle Police Department. The findings within this report are those of the authors and do not necessarily represent the official positions of the city of Seattle or the Seattle Police Department. We are grateful for the thoughtful comments about our work provided by John MacDonald and Jennifer Cherkauskas. Direct correspondence to Robin S. Engel, School of Criminal Justice, University of Cincinnati, P.O. Box 210389, Cincinnati, OH 45221 (e-mail: robin.engel@uc.edu).

DOI:10.1111/j.1745-9133.2012.00841.x © 2012 American Society of Criminology

demonstrated consistent findings across studies regarding the significant impact of citizens' race over police arrest decisions (Kochel, Wilson, and Mastrofski, 2011). Relevant to our concern, however, is that studies addressing specifically local police drug enforcement and racial bias are limited, and those without methodological problems are rare. Many consider Beckett, Nyrop, and Pfingst's (2006) comprehensive investigation of racial/ethnic disparities in drug arrests conducted in Seattle, Washington, a notable exception. This study reported that the racial disparities found in drug arrests could not be explained by race-neutral factors such as crime rates or community complaints. Instead, these authors argued that police organizational practices, such as a focus on crack cocaine enforcement, outdoor drug sales, and the failure to treat similar drug markets alike, were responsible for the overrepresentation of Blacks among those arrested for drug sales in Seattle. The authors concluded that implicit racial bias was the most likely cause of the drug enforcement policies that allegedly differentially impacted minority drug sellers. In a related article (Beckett, Nyrop, Pfingst, and Bowen, 2005: 436), the authors also reported an overrepresentation of minorities among drug *users* arrested in Seattle and identified "a racialized conception" of the drug problem as the likely explanation. Beckett et al.'s work confirms a persistent concern about racial/ethnic disparities in all types of police behavior (e.g., see Fagan and Davies, 2000).

Given its criminological and policy significance, racial disparity in drug arrests—and Becket et al.'s (2005, 2006) investigations specifically—warrants further study. No matter how rigorous, single studies are open to methodological limitations and to idiosyncratic findings. Even in medical research and in social science studies conducted in controlled conditions in laboratories, findings are not always replicated (Lehrer, 2010). When classic studies are scrutinized with better data, they also can be shown to have produced erroneous conclusions (Lewis et al., 2011).

One concern is that the original work in Seattle underestimated the important role of police deployment strategies in understanding these disparities. Police deployment patterns frequently involve the saturation of police patrols in crime-prone areas, which often leads to more encounters with minority citizens compared with Whites. Tomaskovic-Devey, Mason, and Zingraff (2004) argued that this type of bias is "unintentional" by individual officers but may result in differential enforcement patterns across racial/ethnic groups. Although it is widely acknowledged as a potential explanation for racial/ethnic disparities in traffic stops and arrests, the deployment hypothesis has not received much empirical attention.

In addition, previous research has limited analyses of racial/ethnic disparities in arrests to the census tract or precinct level (e.g., Beckett et al., 2005, 2006; Fagan and Davies, 2000; Fagan, Geller, Davies, and West, 2010). It has been convincingly demonstrated, however, that census tract level and other larger aggregations do not adequately account for variations in racial composition and crime patterns (e.g., Roncek, 1981; Shihadeh and Shrum, 2004; Taylor, 1997). Unfortunately, the complicated issues surrounding

the appropriate use of comparison data and levels of aggregation in analyses have been obscured, and as a result, the conclusions reached by previous research may be called into question.

In this regard, the opportunity emerged for us to reexamine the racial and ethnic disparities in drug arrests within the city of Seattle in the analyses to follow.[1] Our research strategy involves two prongs. First, based on the deployment hypothesis, we argue that a more appropriate benchmark available for comparison to Seattle Police Department (SPD) drug arrests is citizens' calls for service (CFS) about drug activity. Although the use of citizen CFS data has been called into question as an accurate measure of crime (see Klinger and Bridges, 1997), our use of CFS data is to make comparisons with drug arrests. We argue that CFS data constitute a more accurate measure of citizens' drug complaints than the data previously used by Beckett and her colleagues. Second, following Beckett et al. (2005, 2006), we also compare drug arrests to reported crimes using a smaller geographic unit of analysis and a more recent time frame.

Notably, if our findings converge with those of Beckett et al. (2005, 2006), they will lend added credence to the view that racial bias is a core source of disparity in arrest. Our methodology provides a more direct test of the deployment model and thus is more fully specified. Alternatively, if our findings diverge from Beckett et al., then the importance of using alternative methods and measures to understand the nature of drug arrest disparity will be illuminated. As we note subsequently, our reexamination of drug arrests in Seattle does, in fact, produce different results that are more consistent with the deployment model. We conclude with a discussion of policy implications, including the importance of acknowledging that citizens bear at least partial responsibility for the "racially conceptualized drug problem" described by Beckett et al. (2006) and the resulting law enforcement efforts to address it.

1. Two of the three authors were hired as consultants by the city of Seattle to examine the Seattle Police Department's drug arrest practices. We examined Beckett et al.'s work and conducted our own research to determine whether, in fact, racial disparities existed among Seattle drug arrestees and, if so, whether those disparities could be attributed to racially biased policies or practices in the SPD. As part of this examination, we requested and received data from the Seattle Police Department. Concern has been raised by an anonymous reviewer regarding potential researcher bias, based on the funding source for this study. We did not receive any pressure from Seattle officials regarding our work, nor have we altered any findings based on the funding source. The two authors hired by the city of Seattle (Engel and Smith) have collected primary data and conducted analyses regarding racial disparities for numerous jurisdictions other than Seattle, including Baltimore, Maryland; Cleveland, Ohio; Cincinnati, Ohio; Metro-Dade, Florida; Richmond, Virginia; Los Angeles, California; state of Arizona; state of Ohio; state of Pennsylvania; and state of Nebraska. These analyses have been funded by federal and state grants, local municipalities, police departments, and civil rights groups. In addition, we have analyzed secondary data sources, including systematic observation data of police and national citizen survey data. In every study conducted, we have found and reported some level of racial/ethnic disparities in outcomes including traffic stops, arrests, citations, searches, and uses of force. In addition, our third author (Cullen) was not hired by the city of Seattle to examine these data or write reports. He also has reported racial disparities in public opinion about criminal justice policies in several recent publications.

Theoretical Perspectives on Police Bias

Three theoretical perspectives are used most prominently to explain racial bias by the police: racial threat hypothesis, social conditioning model, and police deployment theories. First, based on conflict theory, the racial threat model asserts that the relative power of a given social group dictates social order (Blalock, 1967). From this perspective, police are used to suppress and control any segment of society—most notably, racial minorities—that poses a threat to the status quo (Dahrendorf, 1959; Quinney, 1970; Turk, 1969; Vold, 1958). Tests of racial threat theory have been conducted using neighborhoods, cities, and counties as the units of analysis. Some studies have demonstrated initial support for the racial threat hypothesis (e.g., Green, 1970; Liska, Lawrence, and Benson, 1981; McCarthy, 1991), whereas others have reported limited or no support (e.g., Parker and Maggard, 2005; Petrocelli, Piquero, and Smith, 2003; Stolzenberg, D'Alessio, and Eitle, 2004). Although we do not purport to test the racial threat hypothesis in this article, the theory suggests that we should find (a) higher drug arrest rates for Blacks and possibly other minorities in areas of Seattle (or particular drug markets) where minorities are populous enough to be perceived as threatening and (b) arrest rates that are more racially balanced in areas that are predominately or exclusively White.

Second, derived from social psychology, the social conditioning model explains racial bias at the individual officer level as primarily an unconscious function of social conditioning and stereotyping (Smith and Alpert, 2007). Collectively, the research on stereotype formation suggests that attitudes, beliefs, and stereotypes are most likely to develop when police have repetitive contacts of a similar type with persons from the same group. Moreover, stereotypes act as organizational scripts for social memory and thus guide perceptions of future encounters (Noseworthy and Lott, 1984). If police repeatedly encounter Whites and minorities under differential conditions of criminality, they likely will begin to develop cognitive scripts that reflect this experiential reality. This, in turn, makes it more likely that the police will process new situations through the filter of existing schemas, which can result in an ecological fallacy (Robinson, 1950) as perceived group generalizations are applied to individuals regardless of their individual characteristics (Grant and Holmes, 1981). The result can be biased decision making. Like racial threat theory, the social-psychological perspective on racial bias is not tested directly in the current analysis, but it does offer a glimpse into what may be found. Based on this perspective, we anticipate that racial groups will be treated differently by police according to neighborhood or drug market context. Through differential contacts, officers may develop stereotypical scripts that could result in bias against any racial group that comprises a significant majority of drug offenders in a particular area, including Whites. Accordingly, we would expect to observe disproportionate arrests of the racially dominant group in a given drug market resulting from officers' latent biases that operate at an unconscious level (Smith and Alpert, 2007).

Third, the deployment model differs from other explanations in that it does not link police discretion to group or personal bias (Tomaskovic-Devey et al., 2004). Rather, if

discrimination exists, then it is structural and not caused by animus. In this approach, police patrols are deployed more heavily in crime-prone areas marked by high calls for service. Given their presence in inner-city neighborhoods, officers are likely to have increased contact with minority citizens and thus have more opportunities to detect untoward conduct. Similar to the routine activity theory of victimization (Cohen and Felson, 1979), African American men who frequent public spaces are more vulnerable to arrest because of their differential exposure to law enforcement patrols. This type of deployment may result in differential enforcement patterns across racial/ethnic groups that are unintentional by individual officers (Warren, Tomaskovic-Devey, Smith, Zingraff, and Mason, 2006).

Although widely recognized by practitioners as an important explanation of police behavior, the importance of workload as measured by calls for service has been underused in criminal justice research (Skogan and Frydl, 2004). In 1941, O. W. Wilson developed the first systematic workload formula for police deployment based on requests for service and reported crimes (Wilson, 1941; also see Leonard and More, 1993). Most police agencies across the country rely on workload formulas to determine the number and location of patrols throughout their jurisdiction, based on the now empirically demonstrated premise that (a) CFS and criminal activity are not distributed evenly across geographic areas and (b) focusing on "hot spots" of criminal activity can reduce crime (e.g., see Braga et al., 1999; Sherman, Gartin, and Buerger, 1989; Weisburd and Green, 1995). These findings have led police administrators to focus even more heavily on adequate deployment and directed policing practices in high-crime areas. Crime analysts within police agencies now are employed routinely to identify high-crime areas (based on crime reports and calls for service data) and to incorporate this information into a managerial oversight mechanism for rapid and focused deployment of personnel and resources (Weisburd, Mastrofski, McNally, Greenspan, and Willis, 2003; Willis, Mastrofski, and Weisburd, 2004).

Although the need for temporal and geographic differences in police deployment patterns across jurisdictions is obvious, the differential impact that these deployment patterns have on risks of criminal apprehension by race/ethnicity is less understood. Some research has suggested that policing styles in high-crime areas tend to be more proactive and aggressive compared with policing styles in other lower crime areas (Smith, 1986; Smith, Visher, and Davidson, 1984; for a review, see Skogan and Frydl, 2004). Racial/ethnic segregation in many urban areas has resulted in minorities disproportionately residing in high-crime, low-income areas (Logan and Messner, 1987; Massey and Denton, 1993; Shihadeh and Flynn, 1996). Therefore, individuals in these communities have an elevated risk of criminal apprehension based strictly on their residence. If the deployment theory is accurate, then one would expect racial/ethnic disparities in police activity across geographical areas but not within them (Tomaskovic-Devey et al., 2004). The deployment hypothesis represents an important, yet routinely underused, explanation for reported racial and ethnic disparities in police behavior.

Police Discretion and Racial Bias

The impact of citizens' race/ethnicity on police decision making has been the subject of research for nearly 60 years. Early research focused on the arrest decision and examined whether suspects' race, among other legal and extralegal factors, influenced arrest (e.g., Black, 1971; Black and Reiss, 1970; Smith and Visher, 1981). Findings from this literature often were mixed and indicated that both legal factors (e.g., criminal involvement or crime seriousness) *and* suspects' race played a role in police decision making (Black, 1971; Hindelang, 1978; Visher, 1983). Arrest studies, however, diverge on the strength of the race effect or on whether suspects' race, net of legal factors, predicts an arrest outcome (Skogan and Frydl, 2004). Studies using multivariate statistical models generally demonstrate that legal factors have a much stronger influence over police arrest behavior compared with suspects' race and other extralegal factors (e.g., Brooks, 2005; Klinger, 1994; Skogan and Frydl, 2004).

Most recently, however, Kochel et al. (2011) challenged the conclusions of executive summaries regarding the impact of race on police decision making, suggesting that "mixed findings" is not the most appropriate description of this body of research. Based on findings from their meta-analysis of 40 arrest studies using 23 different data sets, Kochel et al. (2011) asserted boldly that "race matters" for arrest decisions. They noted that although previous panels of policing experts have described the collective research findings as "mixed" regarding the effects of race, their comprehensive analyses showed otherwise. Their assessment of the available research, however, was limited necessarily by the quality of the individual studies reviewed. Therefore, their analyses could not explain systematically why, how, and when race matters in arrest decisions, only that it does.

Based on concerns of racial profiling and the resulting collection of official data during traffic and pedestrian stops, a parallel body of research has recently emerged that focuses specifically on measuring racial/ethnic disparities in both police stops and stop outcomes, including searches, citations, or arrests. Although it is fraught with methodological limitations, generally this body of research has demonstrated a relatively consistent trend of racial/ethnic disparities in traffic and pedestrian stops and the outcomes citizens receive (Engel and Johnson, 2006; Tillyer, Engel, and Wooldredge, 2008; Warren et al., 2006). Unlike the larger body of research examining police discretion, findings from these traffic stop studies have been remarkably consistent in reporting racial and ethnic disparities in police behavior, likely in part as a result of limitations of measuring the factors known to influence officer decision making with official data (Engel, Calnon, and Bernard, 2002; Smith and Alpert, 2002).

Currently, minorities (and especially Blacks) are still arrested at much higher rates than their representation in the general population. This racial/ethnic disparity in arrests is especially large for drug arrests. According to the 2010 Census, Blacks accounted for 13.6% of the population; however, during the same year, they represented nearly 32% of drug arrests in the United States (Federal Bureau of Investigation, 2010; Rastogi, Johnson,

Hoeffel, and Drewery, 2011). The following question, however, remains: What is the cause of these racial disparities in arrests—and in particular, drug arrests?

Research that specifically addresses local police drug enforcement and racial bias is relatively rare. One example was an early effort to examine racial differences (and others as well) among marijuana arrestees by comparing self-reported marijuana use to marijuana arrest data obtained from local police agencies (Johnson, Petersen, and Wells, 1977). Because they did not have information on the probability of outdoor marijuana use or possession by each racial group (a substantial risk factor for arrest), the authors of the study could not conclude that selective enforcement by police was responsible for the racial arrest disparities observed. Their findings highlight the need for comparative methods that account for the possible differential probabilities of detection and arrest among racial groups whose arrest rates are sought to be compared. Additional evidence of the need to account for this differential risk of arrest comes from Ramchand, Pacula, and Iguchi's (2006) analysis of the 2002 National Survey on Drug Use and Health Data, in which they found that African American drug purchasing patterns put them at significantly increased risk for marijuana arrests when compared with Whites.[2]

Another analysis of outdoor marijuana arrests compared the percentage by race of persons arrested for outdoor marijuana use in 2000 with the Census-measured racial composition of New York City and found that Blacks and Hispanics were overrepresented among arrestees, whereas Whites were underrepresented (Golub, Johnson, and Dunlap, 2007). The use of Census population figures as a benchmark in this analysis is fraught with potential error, which the authors acknowledge when they observe correctly (but understatedly) that Census data may not represent accurately the racial composition of those at risk for arrest. Furthermore, comparing arrest rates exclusively across the entire breadth of New York City masks the influence that police deployment patterns may have on the number of minorities arrested for drug offenses, especially if the police deploy officers where crime and calls for service occur disproportionately (Lawton, Taylor, and Luongo, 2005; Weisburd and Eck, 2004).

In fact, the confounding relationship between racial disparities in police decision making and neighborhood demography is highlighted in the work of scholars such as Smith (1986) and Terrill and Reisig (2003), who found that neighborhood context can have an important influence on police behavior. Other things being equal, their research suggests that poor and minority neighborhoods experience more arrests and more force than other kinds of neighborhoods. Their findings also highlight the need for a theoretical explanation of police discretion that takes into account geographic context.

2. Specifically, Ramchand et al. (2006) found that African Americans were twice as likely as Whites to buy marijuana outdoors, three times more likely to buy from a stranger, and 50% more likely to buy marijuana away from their homes.

Similarly, Fagan and Davies (2000), and more recently Fagan et al. (2010), examined racial/ethnic disparities in pedestrian ("street") stops in New York City. Comparing stop rates with crime rates, these studies demonstrated that differences in crime rates across police precincts could not explain the racial/ethnic disparities reported in pedestrian stops. Using arrest as a measure of a successful pedestrian stop (or a "hit rate"), Fagan et al. (2010) also reported that racial/ethnic disparities in pedestrian stops persisted even after considering subsequent arrests and that street stops continued to be disproportionately concentrated in economically deprived neighborhoods.

Based on these findings, evidence shows that racial disparity exists in both drug arrests and as a function of neighborhood context. But as a result of methodological limitations inherent in the extant research, it is unclear how much disparity exists and for what reasons. More research on this crucial issue is needed, and Beckett et al.'s (2005, 2006) research in Seattle presents an excellent point of departure for future study.

Racial Disparities in Drug Arrests in Seattle

As noted, one of the most recent and comprehensive examinations of racial/ethnic disparities in drug arrests was conducted in Seattle, Washington (Beckett et al., 2005, 2006). This examination of racial and ethnic disparities in Seattle drug arrests relied primarily on the following two sources of information regarding the racial and ethnic composition of low-level drug dealers (Beckett et al., 2006: 109):

1. A needle exchange survey
2. An "ethnographic" observation of two outdoor drug markets in Seattle

When these benchmark data were then compared with SPD drug arrest records, the authors found statistically significant racial/ethnic disparities. Beckett and her colleagues considered several alternative explanations of these disparities, including (a) differential access to private space, (b) police focus on sales of crack cocaine, (c) citizen complaints, and (d) crime levels. After assessing each of these possibilities, they concluded that "race shapes perceptions of who and what constitutes Seattle's drug problem, as well as the organizational response to that problem" (Beckett et al., 2005: 105).

To assess whether complaints about drug activity might explain the observed racial/ethnic disparities in drug arrests, Beckett and her colleagues also compared Narcotic Activity Reports (NAR) collected by the SPD with drug arrests. NAR are written complaints of drug activity that citizens in Seattle typically make at their local police precincts. They are generally nonemergency reports that can be initiated by citizens or police officers (R. Rasmussen, personal communication, September 2007; Bob Scales, personal communication, August 12, 2005). According to Beckett et al. (2006), the distribution of NAR did not explain the observed racial/ethnic disparities in drug arrests. They then examined crime reports and found that reported crimes did not correspond with the level of drug arrest activity within census tracts.

In summary, two major findings emerged based on this prominent research. First, Beckett et al. (2005, 2006) reported that SPD drug arrests of minorities were disproportionate when compared with various benchmarks designed to measure minorities' involvement in the drug market. Second, these reported racial and ethnic disparities in arrests could not be explained by police deployment patterns based on citizen complaints or reported crimes. Phrased differently, their research suggests that police bias—whether the result of perceived racial threat or of officer stereotyping—is the likely source of why minorities are more likely to be arrested for drug offenses. This finding is compelling, which implies that despite advances in civil rights, lawsuits, and police training, racial animus was a salient source of disparity in Seattle.

In this context, it is perhaps not surprising that Beckett et al.'s (2006) research is being cited in prominent works on race and crime—and cited often as well (more than 100 times according to Google Scholar). In *Punishing Race*, for example, Tonry (2011: 66) referred to their work as constituting "the most extensive and fine-grained studies of street-level drug markets and police arrest policies." Similarly, in their section on "prevailing racial stereotypes" within their *A Theory of African American Offending*, Unnever and Gabbidon (2011: 91) cited Beckett et al. as observing that the image of the "*criminal/Blackman* has embedded within it the portrayal of young African American males as 'dangerous black crack offenders'" (emphasis in the original).

And to supply just a third example, Eitle and Monahan (2009: 532) reference Beckett et al. (2006) as arguing that drug arrests are not caused by, among other things, "drug activity" or "community complaints about drug activity." This research shows instead that "the disparity is best understood as reflective of a racialized conception of the drug problem: the drug problem is largely seen as a crack problem and is thus generally associated with danger and criminality."

Given the import of Beckett et al.'s (2005, 2006) research and its associated findings, we reexamine the racial and ethnic disparities in drug arrests within the city of Seattle in the analyses to follow. Specifically, we examine two of the four alternative explanations of racial disparities noted by Beckett and her colleagues:

1. Citizen complaints
2. Reported crimes

Although these two alternative hypotheses were considered and dismissed as possible explanations for the reported racial disparities in drug arrests in Seattle, we believe they warrant further examination.

First, we argue that a more appropriate benchmark for comparison with SPD drug arrests to determine the impact of citizens' complaints is citizens' CFS about drug activity. The CFS data represent a more accurate measure of citizens' drug complaints than the NAR data previously used by Beckett and her colleagues (2005, 2006). Far fewer NAR are completed compared with drug-related CFS. For example, between January 2004 and

October 2007, SPD recorded 5.5 times more drug-related CFS compared with NAR (drug-related CFS = 23,653 complaints vs. NAR = 4,305 complaints). According to Seattle officials, NAR are typically based on suspicious or unusual activity around residences or businesses, and SPD districts reportedly differ in the emphasis they place on completing and using NAR. Furthermore, SPD officers confirmed that much of the information captured on NAR is not sufficient for follow-up law enforcement activities (R. Rasmussen, personal communication, September 2007; Bob Scales, personal communication, August 12, 2005). In contrast, citizens' CFS are generally made by citizens observing ongoing drug activity and who are requesting immediate police assistance. These calls are handled routinely and uniformly across SPD districts. In addition, CFS are the primary source used by the SPD to measure community requests for services (R. Rasmussen, personal communication, September 2007; Bob Scales, personal communication, August 12, 2005). Therefore, relying on NAR as a data source does not provide a rigorous examination of whether police narcotics enforcement resources are concentrated where drug-related complaints are most prevalent.

Also following Beckett and colleagues (2005, 2006), we compare drug arrests with reported crimes using a more recent time frame but alter the unit of analysis. Whereas they relied on census tracts, we analyze the data at smaller geographic units (statistical reporting areas [SRAs]). Taylor (1997) argued convincingly that city blocks are the key organizational structures of urban life and function as their own behavioral settings. In some cities, census-tract level aggregations do not account adequately for variation in racial composition between blocks, and tracts frequently cut across natural neighborhood boundaries (Shihadeh and Shrum, 2004). In addition, Roncek (1981) showed that analyzing crime patterns at the census tract level can mask the variation (sometimes extreme) in crime that occurs across city blocks. For all of these reasons, disaggregating crime, arrest, and calls for service data to the SRA level is preferable to analyzing these data by census tract. Our findings lead to a reconsideration of the importance of the deployment hypothesis and a discussion about the importance of these findings as related to policing policies and practices.

Data and Methods

As background, the city of Seattle has more than 608,000 residents: 66.3% are White (non-Hispanic), 7.9% are Black, 13.8% are Asian, and 6.6% are Hispanic (U.S. Census Bureau, 2012). The SPD is a nationally accredited police agency with more than 1,200 sworn officers charged with the mission of preventing crime, enforcing laws, and promoting public safety (Seattle Police Department, 2012). The SPD is divided into five geographic areas (precincts) and 17 smaller geographic areas within precincts (sectors).

To examine the possible existence of racial and ethnic disparities in Seattle drug arrests, the following three separate data sources were obtained from the SPD:

1. Drug arrests
2. Drug-related citizen calls for service
3. Reported crimes

Statistical analyses examining these data sources are conducted at multiple units of analysis, including citywide, neighborhood, census tract, and SRAs. Beckett et al.'s (2005, 2006) work in Seattle focused specifically on open-air drug markets in two neighborhoods within the city of Seattle: Downtown and Capitol Hill. Our work also focuses specifically on these two areas. The Downtown area covers the Pike and Pine Street corridors between First and Fourth Avenues and is heavily urbanized. It is best described as a business district with many high-rise office buildings, bars, restaurants, and dense vehicular and pedestrian traffic during the daytime and sometimes into the early morning hours (weekends) as well. The Capitol Hill area in east Seattle stretches along Broadway and is bounded roughly by Denny Way and Mercer Street. Broadway is a street of storefront shops and restaurants that has broad sidewalks and significant numbers of pedestrians. It is an area well known for its Bohemian culture.

Following Beckett and her colleagues (2005), SPD arrest data are analyzed initially using the census tract as the unit of analysis. Unlike Beckett's research, however, we add analyses using SRAs as the unit of analysis and compare results across these geographic units. SRAs are small geographic areas used by the SPD for record keeping and crime analysis purposes.[3] In both the Downtown and Capitol Hill areas, SRAs that bordered (physically touched) at least one street or intersection that encompassed Beckett et al.'s (2005, 2006) original observation areas are included in our analysis. Although together they represent only one census tract, nine SRAs comprise the observed area in Capitol Hill. Likewise, the single census tract in the observed Downtown area includes or serves as a border for 18 different SRAs. Therefore, for the purpose of examining the relationship between drug arrests and reported crime and calls for service, the use of SRAs as the geographic unit of analysis provides for much greater precision than the use of census tracts.

Drug Arrests

Information on drug arrests was obtained from the SPD through a data extraction process from the department's records management system (RMS).[4] For comparisons with the CFS data reported subsequently, all arrests from January 1, 2004 through September 1, 2007

3. The city of Seattle contains 1,233 SRAs, which typically range from one to several square blocks in size.
4. Although the most complete and official record of every incident recorded by the SPD is the original paper document, the RMS captures most of this information in electronic format. To analyze these data, however, several separate files were merged and aggregated to different levels. The RMS was originally designed to support the gathering of data for purposes of reporting to the FBI's Uniform Crime Reports (UCR) Program and maintaining a centralized individual criminal record file (R. Rasmussen, personal communication, 2007). This system was not designed to be paperless, and as a result, some of the information requested for our analyses simply did not exist in electronic format (e.g., indoor/outdoor location, quantity of drugs, etc.) and, therefore, could not be included in our analyses.

TABLE 1

Summary of Drug-Related Arrest Data, January 2004 to September 2007

	Citywide ($n = 13{,}269$)		Downtown ($n = 1{,}509$)		Capitol Hill ($n = 294$)	
Arrestee Characteristics	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Male	0.787	0.410	0.810	0.396	0.837	0.370
Age (in years)	34.341	11.269	31.523	12.351	32.541	8.917
White	0.336	0.472	0.249	0.433	0.803	0.399
Black	0.533	0.499	0.654	0.476	0.143	0.351
Hispanic	0.044	0.205	0.035	0.184	0.170	0.130
Asian	0.060	0.237	0.017	0.130	0.007	0.082
Native American	0.024	0.152	0.041	0.198	0.031	0.173
Unknown race	0.003	0.053	0.003	0.057	0.000	0.000

Note. SD = standard deviation.

were examined. During this 44-month time period, there were 101,429 arrests, with 13.1% ($n = 13{,}269$) that had at least one associated drug-related charge. The analyses that follow are based on these 13,269 drug arrests aggregated to different geographic units of analysis.[5]

The drug arrestees during this time period were predominately male (78.7%) and ranged in age from 12 to 80 years old, with an average age of 34.3 years. More than half (53.3%) of the drug arrestees were Black, followed by 33.6% White, 6.0% Asian, 4.4% Hispanic, 2.4% Native American, and 0.3% unknown.[6] More than 21% of the arrestees had multiple drug charges originating from the same in-custody arrest. The racial composition of drug arrestees is included in Table 1, where the percentages are reported citywide and further broken down by the Downtown and Capitol Hill areas specifically identified by Beckett et al. (2005, 2006).

5. Information was gathered initially based on all police-related incidents (i.e., all situations that would require an officer to complete an incident report, including crime reports, traffic stops, and arrests). Incidents involving an arrest may appear multiple times within the database if there were multiple charges based on that single arrest. Initially, a charge level database was constructed, which was then aggregated to the individual arrest level. Thus, the data set may include individuals with multiple in-custody arrests that occurred at different times.

6. As noted by Beckett et al. (2005, 2006), the SPD data do not include arrestees' ethnic origin; race is only captured as White, Black, Asian, Native American, or unknown. To examine drug arrests among Latinos, a Hispanic surname analysis was conducted. Using Word and Perkins (1996) as a guide, based on surnames, we assigned a value to each arrestee derived from the U.S. Census representing the percentage of individuals with that surname who indicated they were of Hispanic origin in the 1990 U.S. Census. Of the 13,269 arrestees with drug charges, 4.4% were classified as Hispanic (i.e., heavily, generally, or moderately Hispanic). This percentage of Hispanic arrestees differs significantly from the previously reported 14.1% of Seattle drug arrestees coded as Hispanic by Beckett et al. (2006). Following Word and Perkins (1996), "Hispanic" was defined as a surname with a value of 0.25 or higher (heavily, generally, or moderately Hispanic). For a full description of the Hispanic coding within this data set, see Smith and Engel (2008). Also note that the methodology we had to use to identify Hispanic arrestees may add to the measurement error when determining racial disparities in drug arrests.

Drug-Related CFS

Given the known limitations of observation data for benchmarking purposes (see Ridgeway and MacDonald, 2010), CFS data provide an important (but underused) comparison with drug-related arrests. Emergency line (911) calls reporting drug activity generally are made by citizens who observe ongoing drug activity and who want an immediate police response. Information from 911 calls is captured by SPD's computer-aided dispatch (CAD) system and is maintained in an electronic database. Data from these calls, including the event narratives and the callers' descriptions of suspects' race and ethnicity, can be extracted from the CAD system for analysis and provide an excellent, contemporaneous source for comparison with SPD drug arrests.

To make these comparisons, data for drug-related CFS to the SPD were obtained from January 1, 2004 through September 1, 2007. Calls made to 911 in Seattle are classified by call-takers into more than 200 event codes. Among the codes are those that identify a call as "drug related." Initially, 23,653 drug-related CFS were obtained from the SPD, each of which included the date and location of the complaint and a brief narrative from the call-taker describing the suspect and the nature of the complaint. Usually, the 911 caller could provide a physical description of the person about whom the caller was complaining, and most often, the description included the race or ethnicity of the suspect(s). These call-taker narratives were read by trained graduate assistant coders, and the race of the suspects about whom citizens complained were coded as Black, White, Hispanic, or "other." Of the 23,653 narcotics-related CFS received during the 44-month period, 17,365 (73.4%) included a description of the suspect(s)' race.[7] In cases where multiple suspects were identified and all were of the same race, the case was coded as such. If a drug transaction was recorded where the seller was of one race and the buyer was of another, then the race of the seller was coded.[8] Finally, if a caller reported a group of persons involved in a drug transaction that was of multiple races (e.g., "group of Hispanic and Black males selling drugs"), then these cases were excluded from the analyses ($n = 3{,}129$). The remaining 14,236 narcotics-related CFS served as the primary benchmark against which SPD drug arrests were compared.

Reported Crimes

The analyses that follow also compare the racial composition of drug arrestees with reported crime. From January 2004 to September 2007, there were 389,013 crimes reported to the SPD. Less than 1% of these reported crimes ($n = 336$) had no corresponding geographic information and were eliminated from the analyses reported subsequently. Approximately

7. Of the 1,078 SRAs that recorded a drug complaint, 897 (83%) contained cases where the race of the suspect was missing from at least one case. Because these 897 SRAs are scattered throughout the city, there does not seem to be a systematic geographic pattern to the missing data. We cannot rule out other sources of systematic bias in the missing data, however, which remains a limitation to the study.

8. There were only 96 of these cases—less than 1% of cases with suspect descriptions. We also coded these cases according to the race of the buyer, but our substantive findings did not change.

8.7% ($n = 33{,}775$) were coded as violent crimes and 14.9% ($n = 57{,}772$) as minor incivilities or disorders.[9] These types of crimes have historically been linked to open-air drug markets (Goldstein, 1985; Weisburd and Mazerolle, 2000). During the same time period, the SPD made 13,269 drug arrests, of which 3.3% ($n = 432$) were eliminated from the analyses because they lacked geographic information. In summary, these three data sources—drug arrests, drug-related calls for service, and reported crimes—serve as the basis for the analyses reported in the next section.

Analyses

The density of drug-related CFS in the two drug markets initially identified by Beckett et al. (2005, 2006) is assessed to determine whether any differences exist between them. This analysis allows for a comparison of how much each drug market contributes to citizens' perceptions of the "drug problem" in Seattle and thus how police resource deployment may be affected. Second, the racial composition of reported drug suspects is compared with SPD drug arrests in the two drug market areas. This analysis allows for the determination of whether minority drug arrestees were overrepresented relative to the proportion of minority drug suspects reported by citizens in 911 calls. Finally, a series of analyses examined the police deployment hypothesis by comparing the number of drug arrests within specific areas with the number of drug-related CFS and reported crimes within those areas.

Density of Drug-Related Calls for Service

As noted, the density of citizens' CFS is compared across the two drug markets to assess the demand for narcotics-related police services generated by each area. The Downtown drug market generated 1,071 narcotics-related CFS (with suspect race information) during the 44-month time frame, which accounted for 13% of all such calls recorded in the West Precinct. In contrast, the Capitol Hill drug market in the East Precinct generated only 434 narcotics-related CFS during the same time frame; this figure is less than half of the calls generated by the Downtown market and accounts for only 6% of the narcotics-related calls in the East precinct. Within each precinct, drug-related citizen complaints are more highly concentrated in the Downtown Pike/Pine Street corridor than they are in the Capitol Hill area along Broadway. In comparative terms, the number of drug-related CFS in the Downtown drug market was two and half times higher than the number of calls in the Capitol Hill drug market. This pattern of drug-related CFS suggests that if police are responsive to citizen concerns, then enforcement activity *should* be concentrated more heavily in the Downtown area in part because the Capitol Hill observation area generates a

9. Violent crimes included assault, murder, rape, and robbery. Disorder included gambling, gang-related crimes, harassment, liquor violations, littering, menacing, mentally disordered, obstruction, graffiti, property damage, prostitution, SODA (stay out of drug area) violations, trespassing, and weapons offenses (concealed, discharged, disposal, possession, and drive-by).

substantially lower concentration of citizen concern over drug activity, at least as measured by drug-related calls for service.

Drug Arrests Compared with Narcotics-Related Calls for Service

Typically, several different statistical methods are used to compare police action with benchmark data (Engel and Calnon, 2004; Ridgeway and MacDonald, 2010; Tillyer et al., 2008). Benchmark comparisons are typically used when the total population at risk for apprehension is unknown, but researchers are attempting to determine whether racial/ethnic disparities in coercive police outcomes (e.g., traffic stops and drug arrests) exist. In the analyses that follow, the data are analyzed first using a difference of proportions test to determine significant differences between the expected outcome (e.g., based on the calls for service benchmark) and the observed outcome (e.g., arrests). An important limitation of any statistical test, however, is that even if a statistically significant difference is produced, the magnitude of actual disparity could be substantively small.[10] The second part of the analysis addresses this limitation with disparity indices. Many traffic stop studies now use disparity (i.e., disproportionality) indices and/or disparity ratios routinely to estimate the level of racial/ethnic disparity in police actions (Fridell, 2004; Tillyer et al., 2008).

Drug-related CFS are a source of comparison data that likely represent a better benchmark for drug arrest data because they are not biased by the police—although they may reflect citizen bias. Citizens' complaints about drugs also allow for an assessment of the concentration of police resources because police departments routinely allocate more officers to troubled areas with high CFS demands. Figure 1 displays the racial composition of drug arrests compared with the racial composition of citizens' drug-related CFS across the two drug markets. Whereas Beckett et al. (2005, 2006) found an overrepresentation of Blacks and an underrepresentation of Whites among arrestees citywide (for most drug types) when compared with their chosen benchmark populations,[11] we found only small and statistically insignificant differences within the two drug markets themselves. These findings reinforce the importance of neighborhood context when examining drug arrest disparities and emphasize that the type of benchmark used can dramatically affect the outcome of an arrest disparity analysis.

To illustrate how the choice of a benchmark and the geographic level of analysis can shift the results for a racial disparity analysis in this context, disparity ratios have been created and are displayed in Table 2. Using drug arrest data as the numerator and a benchmark as the denominator, a "disparity" index can be created. A disparity index is simply a fraction

10. Numerous other associated concerns have been documented by using statistical testing to interpret racial/ethnic disparities when comparing arrests rates with benchmarks (see Tillyer et al., 2008).

11. In their article on arrests of drug users, Beckett et al. (2005: 428) compared the racial composition of SPD arrests with (a) public drug treatment data and (b) information derived from a survey of Seattle needle exchange site users. In their article on arrests of drug sellers, Beckett et al. (2006: 119) compared arrestees only with the needle exchange survey results.

FIGURE 1

Racial/Ethnic Comparisons of Drug Arrests to Drug-Related CFS, 2004–2007

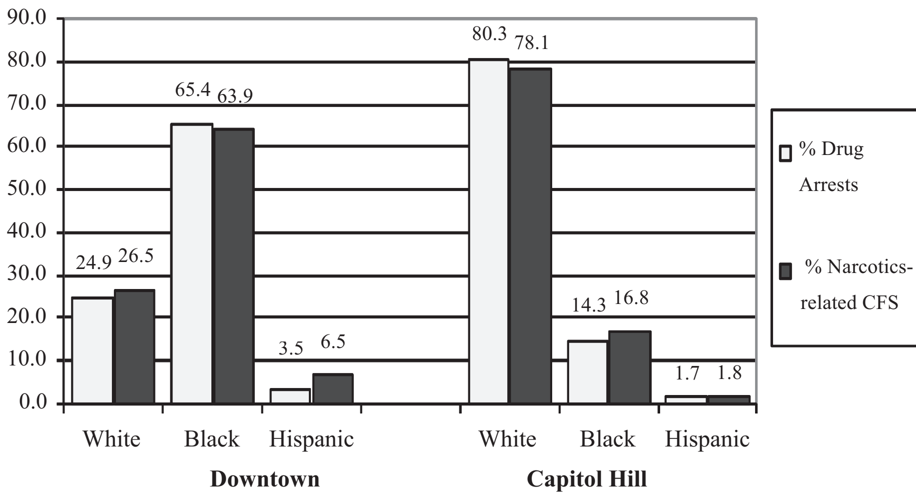


TABLE 2

Ratios of Drug Arrests to Drug-Related CFS for Blacks and Hispanics, January 2004 to September 2007

			Whites			Blacks				Hispanics			
Geographic Area	# of Arrests	# of Calls for Service	% Arrests	% CFS	Disp. Index	% Arrests	% CFS	Disp. Index	Disp. Ratio	% Arrests	% CFS	Disp. Index	Disp. Ratio
Citywide	13,269	14,236	33.6	27.4	1.23	53.3	64.5	0.83	0.68	4.4	5.1	0.86	0.70
Downtown	1,509	1,061	24.9	26.5	0.94	65.4	63.9	1.02	1.09	3.5	6.5	0.54	0.58
Capitol Hill	294	434	80.3	78.1	1.03	14.3	16.8	0.85	0.83	1.7	1.8	0.94	0.91

that represents the "actual" to "expected" rates of police actions for different demographic groups (e.g., Blumstein, 1983; Langan, 1985; Rojek, Rosenfeld, and Decker, 2004). In the current analyses, the numerator is the drug arrest data, and the denominator is the CFS data. The disparity ratio is calculated by dividing the minority disparity index by the majority disparity index.[12]

12. Several methodological and statistical concerns are raised with the use of disparity ratios. First, not all benchmarks are of equal validity, and the validity of benchmark data cannot be tested directly. Second, the stability of the disparity indices is based in part on the size of the denominator. This is especially a concern when observational data are used to estimate the expected rate of arrests. A small number of

The first three columns of Table 2 report information to calculate the White disparity index, which is used as the benchmark for minorities to calculate the disparity ratio (e.g., minorities/Whites). The next four columns provide the following data for Blacks: percent arrested for drug offenses, percent represented in drug-related CFS, the disparity index (arrests divided by calls), and the disparity ratio. The last group of four columns shows the same data for Hispanics. As these findings illustrate, Blacks and Hispanics are not overrepresented among drug arrestees in the city of Seattle when compared with CFS data.

Across the city, Blacks and Hispanics were 1.5 and 1.4 times *less* likely to be arrested compared with Whites, respectively, based on comparisons with citizen complaints of drug activity.[13] In contrast, Whites were 1.2 times *more* likely to be arrested for drug offenses across the city compared with their representation in drug-related CFS. In the Downtown area specifically, Blacks and Whites were both arrested at rates nearly identical to what would be expected based on citizen complaints about drug activity, whereas Hispanics were 1.4 times *less* likely to be arrested compared with citizens' CFS. In the Capitol Hill area, both Blacks and Hispanics were 1.2 and 1.1 times *less* likely to be arrested compared with their representation in drug-related CFS. Based on these benchmark comparisons, minorities in Downtown and Capitol Hill were not shown to be significantly more likely to be arrested for drug offenses compared with Whites.

Police Resource Deployment

Having explored the racial composition of SPD drug arrests and citizen complaints in the Downtown and Capitol Hill drug markets, we now turn to a broader examination of drug arrests across the city. Police resource deployment in large American cities often is driven by citizen complaints (typically measured by CFS data) and reported crime. Although other factors also may play a role in determining how many and how aggressively police are deployed, these two facets historically have influenced everything from the size of patrol beats to the number of officers assigned to police precincts (Coe and Wiesel, 2001; Cordner, 1979; Wilson, 1941). To examine the association between drug arrests and reported crimes, on the one hand, and drug arrests and drug-related CFS, on the other, we conducted a series of ordinary least squares regression analyses at the SRA and census block levels.

After examining the relationship between (a) drug arrest rates and (b) reported property and violent crimes rates at the census tract level, Beckett and her colleagues concluded: "[T]he available evidence indicates that the allocation of enforcement resources is not explicable in terms of either crime rates or community complaints" (2006: 128). Note,

arrests could artificially inflate the disparity index if the racial composition of any one group in the benchmark data is small. Finally, there is no scientifically accepted standard for the interpretation of the size of disparity ratios. Despite these limitations, disproportionality ratios provide a substantive assessment of the level of disparities reported with statistical testing.

13. Disparity ratios less than one are divided into one to determine the odds less likely (e.g., 1/0.75 = 1.3).

TABLE 3

Descriptive Statistics

	SRA ($n = 1{,}312$)				Census Tract ($n = 153$)			
	Min	**Max**	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**
Drug arrests	0	335	9.78	25.74	0	2,410	80.63	234.45
Violent crime	0	378	25.73	37.29	0	2,282	222.15	295.40
Minor crimes and disorders	0	604	44.03	57.49	0	2,832	380.12	413.23
Drug-related CFS	0	742	18.03	45.12	0	2,296	154.60	318.40

Note. Max = maximum; Min = minimum; SD = standard deviation.

however, that their analyses were based on census tracts (also note the use of police precincts as the unit of analysis by Fagan and Davies, 2000; Fagan et al., 2010). As described, the use of smaller units of aggregation is critical for a better understanding of crime and police deployments patterns (Taylor, 1997). For example, in the Downtown area, four Census tracts incorporate or border Beckett et al.'s observation area, but 18 different SRAs are located within these four tracts. The levels of crime, disorder, and arrests vary greatly within these 18 areas. Likewise, the Capitol Hill area includes or borders four census tracts, but nine separate SRAs are included within this area, some of which differ substantially from one another.

In Seattle, drug activity, crime, and disorder can vary dramatically from one block to another. For example, one SRA in the Downtown area (SRA = 2,294) was the site of 331 drug-related arrests and 162 drug-related CFS from 2004 to 2007, whereas an adjacent SRA (2,286) recorded only 24 drug-related arrests and 34 drug-related CFS during the same time period. Both of these SRAs are included within the same census tract (81); however, conducting analyses at the census tract level would mask the obvious differences across these two blocks (Roncek, 1981; Taylor, 1997). Thus, analyzing crime, arrest, and CFS data at the SRA level adds much depth to the statistical analysis and avoids reaching faulty conclusions based on the lumping together of dissimilar city blocks. To compare our findings directly with those of Beckett et al. (2005), however, the analyses provided subsequently also report the associations between drug arrests and reported crimes at the census tract level.

As shown in the descriptive statistics reported in Table 3, the dependent variable (number of drug arrests) varied dramatically across both units of analysis (SRA and Census tract). Within the 1,312 SRAs, there was an average of 9.8 drug arrests during this time period, ranging from 0 to 335. Within census tracts, arrests ranged from 0 to 2,410, with an average of 80.6 drug arrests.[14]

14. Given the distribution of the data, the natural logarithm transformation of the dependent variable (number of drug arrests) was created. Analyses using the natural log did not differ significantly.

TABLE 4

Crime and Calls for Service as Predictors of Drug Arrests

	SRA Models			Census Tract Models		
	B	p	R^2	B	p	R^2
Model 1						
Drug-related CFS	0.408	0	0.510	0.659	0	0.750
Model 2						
Violent crimes	0.389	0	0.318	0.674	0	0.716
Model 3						
Disorder offenses	0.236	0	0.279	0.452	0	0.631

Drug-Related CFS and Drug Arrests

Between January 2004 and September 2007, citizen CFS about drug activity were recorded in 87.4% ($N = 1{,}078$) of the 1,233 SRA in Seattle. During the same time period, the SPD made at least one drug arrest in 957 SRA (77.6%). Some SRA generated complaints but no arrests, whereas other SRA were the sites of at least one drug arrest but recorded no citizen complaints. To understand better the association between drug arrests and drug complaints, the number of arrests at the SRA level was regressed on the number of drug-related CFS.

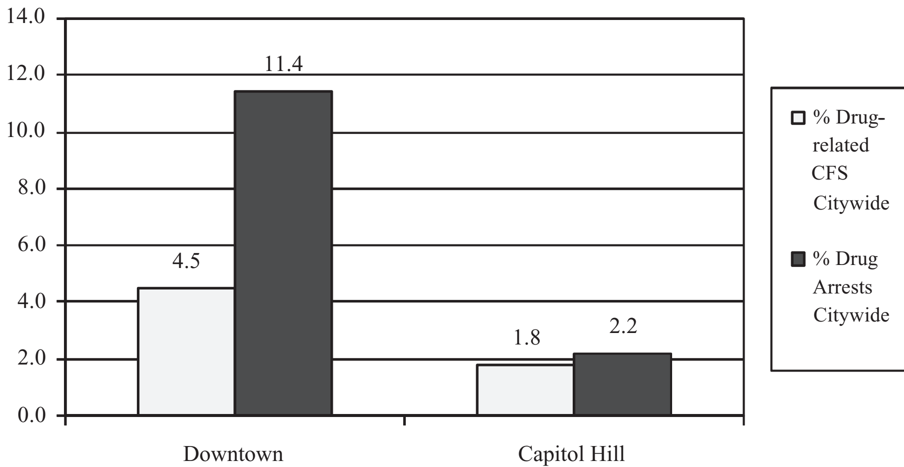
The Pearson's r correlation coefficient shows a strong relationship between drug arrests and drug-related CFS at the SRA level ($r = 0.713$). In fact, the ordinary least squares regression model (see Table 4, Model 1) demonstrates that more than 50% of the variance in arrests is explained by CFS alone. Thus, when drug-related CFS are used as a measure of citizen complaints at the SRA unit of analysis, a different picture emerges than Beckett et al.'s (2006) finding that the distribution of narcotics arrests was inconsistent with citizen complaints.

To compare our findings more readily with those reported by Beckett and colleagues, we also performed these analyses at the census tract level. Yet even when comparing similar units of analysis, our findings do not reflect those reported by Beckett et al. (2006) using earlier data. At the census tract level, drug-related CFS and drug arrests are correlated at 0.866. The ordinary least squares (OLS) model (Table 4, Model 1) shows that 75% of the variance in drug arrests at the census tract level can be explained by CFS alone.

Despite the strong association between drug arrests and CFS, some evidence suggests that SPD drug enforcement activity in the Downtown area is higher than one might expect based on citizens' requests for services. As demonstrated in Figure 2, the Downtown area has more than twice the number of drug arrests as expected from the drug-related CFS. In contrast, the Capitol Hill area has relatively equivalent percentages of CFS and drug arrests. Although a positive relationship between drug arrests and CFS is clear, more drug enforcement activity is observed in the Downtown area than one would expect based on citizens' CFS alone.

FIGURE 2

Comparisons of Narcotics-Related CFS and Drug Arrests, 2004–2007



It is possible that nonracial factors play a role in the arrest disparities observed in Downtown, including violent or other crimes and social disorder associated with drug transactions in this area. To understand these possibilities better, it is important to consider the relationship between the concentration of drug enforcement and crime rates.

Reported Crimes and Drug Arrests

As with CFS, some geographic areas generated no incidents of violence or disorders but recorded drug arrests, whereas other geographic areas were the sites of at least one violent crime or disorder but recorded no drug arrests. To understand the relationship between drug arrests and reported violent crimes and disorder, the number of drug arrests from January 2004 to September 2007 was regressed on the number of reported violent crimes and disorder-related offenses during the same time period at the two different units of analysis—census tract and SRA. Again, OLS regression models were estimated; as shown in Table 3, the descriptive statistics for the dependent variable (number of drug arrests) varied across units of analysis (SRAs and census tracts).

As with the previous analyses involving citizen complaints, the correlation coefficient shows a strong association between drug arrests and reports of violent crime and disorder at the census tract level; also, a moderately strong association among these variables at the SRA level is observed. Specifically, the number of violent crimes reported and the number of drug arrests are correlated at 0.70 across census tracts and 0.56 across SRAs. The OLS regression analysis at the census tract level demonstrates that 72% of the variance in drug

arrests is explained by reports of violent crime alone, and within SRAs, 32% of the variance in drug arrests is explained by violent crimes (see Table 4, Model 2).[15]

Similar findings are demonstrated for reports of minor incivilities and disorders. The number of reported disorder-related crimes and drug arrests are strongly correlated at both the census tract and SRA levels (correlation coefficients = 0.85 and 0.79, respectively). The OLS analysis at the census tract level reveals that 63% of the variance in drug arrests can be explained by reports of minor disorders and incivilities (Table 4, Model 3). Likewise, minor disorders and incivilities also are predictors of drug arrests within SRA.[16] In summary, SPD drug enforcement is targeted within the areas of the city that also are responsible for violent crimes, incivilities, and other disorders that often accompany open-air drug markets.[17]

These results differ significantly from Beckett et al. (2006), who reported little association between reported crimes and drug arrests. Specifically, these authors reported that when Census Tract 81 (encompassing Downtown) is removed from their analyses, the percentage of variation in drug arrests explained by "crimes known to police" (*R*-squared) decreased from 0.48 to 0.16. Furthermore, they noted that the "results are nearly identical if property and violent crimes are analyzed separately" (Beckett et al., 2006: 127). In our analyses at the census tract level, we find an *R*-squared value of 0.716 when the number of drug arrests was regressed on the number of reported violent crimes. Furthermore, when Census Tract 81 is removed from the regression analysis predicting drug arrests by the number of violent crimes reported, the *R*-squared value decreases only moderately (*R*-squared = 0.716 when Census Tract 81 is included, and = 0.636 when removed).

Furthermore, based on the data available, Census Tract 81 includes at least one violent crime reported for 89 different SRAs. The correlation coefficient demonstrating the association between drug arrests and reports of violent crime in the Downtown corridor (18 SRA) was very strong (Pearson's $r = 0.84$); the association between drug arrests and reported disorders was even stronger (Pearson's $r = 0.94$). This finding suggests that the SPD is indeed focusing its drug enforcement activity where violent crimes and disorders are occurring. Although the city of Seattle enjoys a relatively low violent crime rate compared with other cities its size, the violent crime that does exist seems to be concentrated in similar geographic areas as SPD drug arrests and citizen complaints about drug activity.

15. Poisson regression models also were estimated because drug arrests had a non-negative, skewed distribution (for details regarding this technique, see Berk and MacDonald, 2008; McCullagh and Nelder, 1983). The Poisson regression models also were statistically significant, demonstrating that the expected log count for a one-unit increase in violent crime within an SRA = 0.013; that is, there are 1.3 drug arrests for every additional violent crime within SRA. The expect log count for a one-unit increase in minor disorders and incivilities is 0.008. At the census tract level, the expect log count for a one-unit increase in both violent crime and disorders is 0.002.

16. Poisson models also were estimated at the census tract level, again with statistically significant findings. The expect log count for a one-unit increase in both violent crime and disorders is 0.002.

17. These analyses demonstrate consistent findings with spatial analyses (not shown) using geographic information system mapping techniques and are available from the authors upon request.

Discussion

A Tale of Two Studies

This project was undertaken in an attempt to revisit Beckett et al.'s (2005, 2006) findings of police production of disparities in drug arrests in Seattle. Although Beckett et al. (2006: 129) concluded that "the concentration of enforcement activity. . . does not appear to be a function of either citizen complaints or crime rates," we find that, in fact, drug arrests can be explained at least partially by both of these factors. Why did this divergence in finding between Beckett et al.'s and the current investigation occur? The most likely explanation is a difference in methods and measurements.

First, we note similarities in our findings. Like Beckett et al. (2006), we found a larger proportion of drug arrests overall in the Downtown drug market compared with Capitol Hill, and this proportion is greater than what would be expected based on CFS comparisons of drug activity alone. Thus, results from both analyses suggest that SPD drug enforcement is concentrated more heavily in the Downtown area. In our analyses, the ratio of drug arrests to drug-related CFS in the Downtown area was 2.5:1 compared with 1.2:1 in Capitol Hill. Although our findings do not demonstrate racial/ethnic disparities in arrests within the Downtown market as did Beckett et al., the net impact is still a larger number of Black arrestees compared with Whites.

The greater than expected concentration of drug-related arrests Downtown can be explained by several reasons, many of which may be race neutral. The Downtown area of Seattle is a unique tourism draw and attracts many visitors to the waterfront, markets, various shopping venues, three major sports venues, a convention center, street markets, and a port used by cruise ships. Also, it has the largest concentration of office space in the city. Because open-air drug markets are accompanied often by other types of crimes and disorder that make people feel vulnerable, police officials across the country recognize the need to reduce crime and disorder in high-tourism areas for public safety and to promote economic development and growth within the urban core (Pizam, Tarlow, and Bloom, 1997). Seattle is no different in this regard, and SPD officials acknowledge a different level of police presence in the Downtown area compared with some residential areas of the city (R. Rasmussen, personal communication, January 2008; Weisburd, Bushway, Lum, and Yang, 2004).[18]

The remainder of our findings demonstrate a significant departure from Beckett et al.'s (2005, 2006) findings. The differences reported regarding Black and Hispanic drug

18. Although SPD officials confirmed that the Downtown area was a primary focus point and received additional police attention (R. Rasmussen, personal communication, 2007), measuring SPD's precise deployment activities across the multiple years of this study was beyond the scope of our current research. Furthermore, it is unknown whether this varying level of police presence is based on political and economic interests that are more effectively organized in the Downtown area compared with the interests in residential neighborhoods that are perhaps less effectively mobilized to gain police attention and resources.

arrest disparities between the two studies are likely a function of the chosen benchmark used to examine citizen complaints. Initially, Beckett et al. used two different benchmarks—a survey of intravenous drug users and observations of drug transactions—both of which we believe are problematic (see Smith and Engel, 2008). Most relevant in this study, however, is their subsequent use of NAR data to examine the possibility that citizen complaints about drug activity might partially explain the alleged racial disparities in SPD drug arrests. Using these data as an alternative benchmark, the authors indicated that citizen complaints did not explain the reported racial disparities. Beckett et al. (2006) acknowledged, however, that their conclusion regarding the geographic distribution of drug arrests might have been different had they used citizens' CFS as a benchmark rather than the NAR.

Scholars have noted the importance of identifying a conceptually sound and appropriately derived benchmark for comparison with police arrest data (Engel and Calnon, 2004; Ridgeway and MacDonald, 2010). We used citizen complaints of drug suspects derived from emergency CFS data as our benchmark. These data undoubtedly contain some observation and perceptual errors on the part of citizen callers (probably unsystematic), as well as call-takers' data entry mistakes. Also, they are biased toward outdoor drug activities that can be observed by, and reported about, citizens. As a result, drug-related CFS data most closely approximate the population at risk for outdoor, rather than indoor, drug arrests. Yet this bias is likely appropriate for comparisons with drug arrests. A limitation to the electronic arrest data we obtained from the SPD is that they do not indicate whether the arrests were made indoors or outdoors. According to Beckett et al. (2005), however, 72% of SPD drug possession arrests and 92.4% of serious drug delivery arrests that they coded occurred outdoors (Beckett et al., 2006).[19] Thus, even if CFS complaints about drug suspects reflect mostly outdoor activities, a significant majority of police drug arrests occurs outdoors as well.

It should be noted also that we do not assume that citizens' calls for service result directly in the drug arrests that we analyze. In fact, it is likely that many of these calls for service do not result in immediate arrests for drug offenses. Often when dispatched patrol officers arrive on the scene of a drug-related call for service, illegal drug activity is discontinued quickly, groups disperse, or the drug transaction has already occurred, leaving officers with no immediate evidence of illegal activity. Accordingly, we would expect only on rare occasion that an arrest would occur immediately based on citizens' complaints about drug activity. Rather, our argument is that citizen calls for service and reported crimes are factors that police administrators take into account when deploying officers and targeting geographic areas for drug enforcement operations. Making drug cases against offenders often involves prior planning and the use of undercover officers or informants; where

19. The electronic arrest data do not reliably capture (a) whether the criminal activity was conducted indoors or outdoors, and (b) the type of drug involved in the incident. The inability to examine type of drug and location of arrest is a limitation of the current study.

this work is focused, we argue, is highly correlated with citizen complaints about drug activities and reported crimes. Indeed, the Seattle Police Department reports using hot-spot analyses—including repeat calls for service and crime patterns—when making deployment decisions (R. Rasmussen, personal communication, January 2008). Therefore, despite their numerous limitations, drug-related CFS data seem to be a more reasonable benchmark for SPD drug arrests compared with any others available.[20]

The differences between our conclusions and that by Beckett et al. (2006) regarding the relationship between crime and SPD drug arrests are more difficult to assess. We found a robust association between reported crimes and drug arrests at the census tract level and a moderate association when we examined a smaller geographic unit of analysis (SRA) to provide greater precision. Comparing our results at the census tract level with Beckett et al.'s (2006) findings demonstrates dramatic differences. In our analyses, the *R*-squared value between reported crimes of violence and drug arrests (*R*-squared = 0.72) was almost 50% greater than that (*R*-squared = 0.49) reported by Beckett et al. (2006: 127) and remained high (*R*-squared = 0.63) even when the Downtown census tract was removed. Likewise, the correlation between drug arrests and drug-related CFS also was quite robust (*R*-squared = 0.51).

A possible explanation for the differences may simply be temporal—our analyses were conducted with data from 2004 to 2007, whereas Beckett et al.'s (2005, 2006) were conducted with data from January 1999 to April 2001. We find this explanation unlikely, however, based on our conversations with SPD officials, during which we could not identify any significant differences in policing patterns and practices related to drug enforcement. Also, it is possible that varying measures of crime might account for the differences. Beckett et al. reported conducting a regression analysis on crime and drug arrests at the census tract level, but they did not state what crime data they used for this analysis or where the data were obtained (2006: 127). They only noted that "the results are nearly identical when property crime and violent crime are analyzed separately" (2006: 127). Without additional information about the crime data used in their analysis, we cannot speculate about the source of the differences between their findings and ours.[21]

Ultimately, our findings show strong support for the deployment hypothesis. Drug arrests in Seattle are highly correlated with reported violent crime, reported incivilities and minor disorders, and citizens' calls for service regarding drug activity. In contrast to Beckett et al.'s (2005, 2006) conclusion that racial disparities in Seattle drug arrests cannot be explained by race-neutral factors such as crime rates and citizen complaints, we find these

20. In other work, we conducted observations of Seattle drug markets. However, we again find significant differences between our work and that reported by Beckett and her colleagues (Smith and Engel, 2008). Furthermore, we provide a substantial critique of the collection and use of a needle exchange survey as an appropriate benchmark.

21. Additional details regarding the source of her data were unavailable from the lead author.

disparities can be explained at least partially by race-neutral factors, if these factors are properly measured and analyzed. In short, our findings suggest that drug arrests in Seattle are occurring in locations where both police and residents believe they are needed.

At this juncture, we need to add one more qualification and, in doing so, outline a potentially vital area for future research. Advocates of racial threat theory might argue that even if police deployment is a response to calls for service, then citizens' propensity to call law enforcement is itself a function of perceived or feared racial threat. A growing literature shows that members of the majority group's animus toward minorities—whether feelings of prejudice or typifications of the outgroup as the "dangerous other"—fosters support for punitive crime control policies (Unnever and Cullen, 2010; Unnever, Cullen, and Jonson, 2008). In this context, calls for service might be transformed from a race-neutral measure of suspect behavior into a measure of citizen sensitivity to and intolerance of the conduct of minority group members. To explore this possibility, it would be necessary to undertake individual-level studies of the social psychology of citizens' making calls for service. In the current project, the use of smaller units of analysis makes it more likely that calls to the police were intraracial. As such, this lessens the likelihood that citizens in predominantly African American neighborhoods were motivated to call the police because of any supposed dominant group membership and experience of racial threat. If anything, it might be argued that these residents might be reluctant to ask for police service because of feelings of "state threat" (Unnever et al., 2008)—the belief that the state might be unresponsive to or use force toward them (see, e.g., Weitzer and Tuch, 2004).

Policy Implications

Support for the deployment hypothesis, however, provides both good and bad news. Disparities in drug arrests seem to be more structural in nature rather than based on racial animus and individual police bias. They are unlikely to be eliminated by interventions such as police training in cultural sensitivity or by efforts to monitor and punish officers to deter racially biased enforcement. Beckett et al. (2005, 2006), along with others (e.g., Duster, 1997; Goode, 2002; Tonry, 1995), have discussed the important findings regarding the increased police enforcement of outdoor versus indoor drug activity and a particular enforcement focus on crack cocaine versus other drugs. These specific practices undoubtedly lead to larger racial/ethnic disparities in drug arrests. Yet, although scholars have routinely implicated law enforcement officials as leading—or at a minimum, heavily contributing to—this racialized conception of the drug problem, perhaps we have overlooked the important role that citizens play in driving this conception. In a thoughtful critique of the *New Jim Crow* writers, Forman (2012) reminded us of the important role that citizens—including Black citizens—have played in the mass incarceration movement by supporting punitive crime policies. Using Washington, DC, as an example, Forman (2012) compared the nation's only majority-Black jurisdiction that locally controls sentencing policy (and where 65% of the police force is African American) with several other cities. He reported that local

elected officials in Washington, DC, actually sought tougher criminal penalties and the city had higher rates of arrests and incarceration, compared with several others. Forman noted further: “Just as the [Jim Crow] analogy fails to explain why a majority-black jurisdiction would lock up so many of its own, it says little about blacks who embrace a tough-on-crime position as a matter of racial justice” (2012: 121).

The larger policy question revisited by our findings is whether focusing police resources based on citizens’ complaints and reported crimes represents *equitable* policing. This issue obviously expands beyond drug arrests and could be applied to understandings of arrests for other criminal offenses. Although not inherently biased on its face, the increased deployment of police resources in high-crime, predominately minority neighborhoods increases the number of minorities arrested. Yet, does a viable alternative exist? Legitimacy in policing also demands fairness in the distribution of police services. Research has generally demonstrated “relative racial and income equality in the distribution of police services, once crime and other need factors are taken into account” (Skogan and Frydl, 2004: 315). If police resources are distributed equally across jurisdictions without regard to patterns of crime and calls for service, then those same minority communities would be less likely to receive desperately needed police services. To be sure, a risk exists that a strong police presence in inner-city neighborhoods is a first step leading to the disquieting level of imprisonment experienced by African American males (Clear, 2007). But Rengert (1989: 546) has warned of the opposite risk: The failure to allocate criminal justice resources to high-crime areas may increase the residents’ victimization and thus result in “spatial injustice.”

Beckett et al. (2005, 2006), among others (e.g., Fellner, 2009; Harris, 2002; Tonry, 1995), implied that racial differences in drug *arrest* statistics that do not directly mirror racial differences in drug *use* statistics demonstrate inequitable policing. They note further that enforcement of the drug trade that occurs in public versus private space, and the heavy emphasis of crack cocaine drug markets in particular, only exacerbates the racial differences in drug arrests. Yet these discussions obscure the more difficult policy issues by equating the *drug problem* with *problems of drug markets*. Local law enforcement agencies like the SPD are typically charged with reducing the problems associated with open-air drug markets, not with addressing the larger drug use problem in our society.[22] Open-air drug markets cause the most concern for neighborhood residents because they are associated often with violent crimes and disorders that make these neighborhoods undesirable (Weisburd and Mazerolle,

22. Given the complexity of issues surrounding the use and abuse of drugs in our society, along with the ambitious yet relatively ineffective approaches used by law enforcement to address the demand for drugs (e.g., Drug Abuse Resistance Education [D.A.R.E.]), typically law enforcement agencies have focused on tactics aimed at reducing the drug supply. Focusing on reducing the supply of drugs, however, remains a daunting task for law enforcement. Typically, law enforcement agencies reserve drug interdiction aimed at middle- and high-level drug traffickers for multijurisdictional task forces and federal policing agencies (Chaiken, Chaiken, and Karchemer, 1990). Local law enforcement agencies focus more specifically on responding to citizen calls for service and on handling reported crimes that often are linked to the drug trade.

2000). Many municipal police agencies now use problem-oriented policing strategies that focus specifically on closing open-air drug markets because of the crimes and disorders that accompany these markets, which are of great concern to neighborhood residents (Braga, 2003; Corsaro, Brunson and McGarrell, 2010; Corsaro, Hunt, Hipple, and McGarrell, 2012; Harocopos and Hough, 2005).

Consistent with this approach, it seems that in Seattle, complaints from the residents of these affected communities (including Black residents) and reported crimes are driving police engagement. As a result, minorities are arrested at higher rates compared with their representation in the population (and their representation among drug users). Therefore, focusing on the problems with drug markets produces disproportionate minority drug arrests, even in the absence of racial bias by officers or "racialized" enforcement policies by police agencies. These disparities also extend to arrests for crimes other than drug offenses. As police agencies across the country are encouraged (a) to be more data driven and (b) to embrace evidence-based strategies that focus on repeat offenders, repeat victims, repeat offenses, and repeat locations, it is likely that racial disparities in policing will continue. We believe it is time to refocus the discussion on whether this approach represents equitable policing and, if not, then what reasonable alternatives exist?

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Robin S. Engel is an associate professor of criminal justice and director of the Institute of Crime Science at the University of Cincinnati. Her research includes empirical assessments of police behavior, police/minority relations, police supervision/management, criminal justice policies, criminal gangs, and violence reduction strategies.

Michael R. Smith is a professor and vice provost at Georgia Southern University. His research centers on critical issues in policing, including the use of force by police and especially the intersection of policing and race.

Francis T. Cullen is a distinguished research professor of criminal justice and sociology at the University of Cincinnati. His research interests include correctional policy, communities and crime, and the organization of criminological knowledge. He is a past president of the Academy of Criminal Justice Sciences and of the American Society of Criminology.

POLICY ESSAY

RACE, PLACE, AND DRUG ENFORCEMENT

Back to Basics

Some Thoughts on the Importance of Organized Skepticism in Criminology and Public Policy

David A. Klinger
University of Missouri—St. Louis

Engel, Smith, and Cullen's article (2012, this issue) is a fine paper about what drives specific aspects of policing practices in Seattle that demonstrates, in the authors' words, "the importance of selecting an appropriate and conceptually sound benchmark to measure racial disparities in criminal justice outcomes and the importance of selecting an appropriate unit of analysis" when empirically examining the possibility that racial bias is motivating the actions of police officers. But it is much more than that. For at its core, by taking on the conclusions of widely cited research on the role of bias against minority citizens in police work (Beckett, Nyrop, and Pfingst, 2006; Beckett, Nyrop, Pfingst, and Bowen, 2005), it is a paper about the proper execution of science and the threats that come to sound knowledge when a field pays too much mind to particular theoretical/ideological expectations and not enough to the basics of causal inference.

The three criteria of causation that must be met before one can claim with confidence that a cause-and-effect relationship exists are well established (e.g., Cook and Campbell, 1979) and (at least hopefully) taught in every introductory research methods course in every scientific discipline. The notions that one must establish an association between two variables, that the purported cause must precede the purported effect in time, and that the observed association between variables not be due to some third factor are well understood in criminology (see, e.g., Maxfield and Babbie, 2011). That these criteria be taken seriously is deeply rooted in a core ethos of science that researchers always be skeptical of causal claims and never accept them without substantial scrutiny; an orientation that Merton (1979) calls "organized skepticism."

Direct correspondence to David A. Klinger, Department of Criminology & Criminal Justice, University of Missouri—St. Louis, 340B Lucas Hall, St. Louis, MO 63121-4499 (e-mail: klingerd@umsl.edu).

DOI:10.1111/j.1745-9133.2012.00843.x
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Despite the common criminological understanding that causal claims have a large hurdle to overcome and that the proper scientific stance about causal claims is to be skeptical of them, however, researchers often do not approach their craft with a firm commitment to exploring all of the ramifications of the criteria of causation; especially the third. As a result, scholars sometimes reach conclusions without comprehensively considering the threats to the validity of said conclusions posed by factors that have not been adequately accounted for in the analysis.

Where the operation of the justice system is concerned, for example, arguments that biases against minorities are a major force driving the actions of agents and institutions of formal social control have been a prominent feature of criminological thought since at least the dawn of labeling and conflict theories in the 1960s (e.g., Becker, 1963; Chambliss, 1964). The prominence of this perspective has led some in the field to forget that the mere fact that there are differences in how minorities and non-minorities are treated does not prove bias. That the work of Beckett and colleagues (2005, 2006) was so quickly accepted as dispositive and cited so many times in the short time since publication is evidence of this tendency. Against this trend are scholars such as Tittle (1980) who have offered words of caution about uncritically accepting findings of bias and have reminded their peers that, "it is important to remember that [reports of extralegal effects] are of evidentiary value only if relationships can be shown not to be due to some intervening variable such as the amount or seriousness of actual rule breaking" (p. 252).

Engel et al. (2012) conducted their analysis because they believed that the findings presented in an initial assessment of racial disparities in Seattle Police drug enforcement practices reported by Beckett et al. (2005, 2006) might be a result of factors that had not been appropriately accounted for. In the current controversy about the source of minority overrepresentation in Seattle drug arrest statistics, the potential source of spuriousness is not criminal conduct on the part of arrestees per se but, rather, citizen desire for police attention to illicit drug activity. Engel et al. have shown that when citizen desire is operationalized with calls for service (CFS) data and controlled for, minority status is not associated with an increased risk of arrest.[1]

This finding demonstrates the importance of taking the skeptical stance of actively trying to disprove a relationship, for Beckett et al. (2005, 2006) were by no means inattentive to the need to take into account citizens' desires for police services when considering whether bias was the source of minority overrepresentation in Seattle drug arrest statistics. Indeed, they included in their analysis a measure of citizen complaints—Narcotic Activity Reports (NARs)—as a means to address the possibility that citizen desire for police service was driving the arrest patterns observed. The initial findings of minority overrepresentation held after taking NARs into account, so they reported what they found. But it seems now

1. I leave aside the equally important matter of the appropriate unit of analysis, which is also critical to both the substantive and analytical issues at hand.

that NARs do not provide the best indicator of citizen complaints. Only by being skeptical, by not blithely accepting the results like so many others did, and by pressing on to consider empirically what would happen to the reported minority effects when an alternative measure of citizen desire for police service was included in analytic models, did Engel et al. (2012) show the superiority of CFS and uncover the spurious nature of Beckett et al.'s (2005, 2006) findings.

Engel et al.'s (2012) study should be viewed as a stark reminder that criminologists should take seriously their scientific calling to be skeptical. Doing so will not only permit the discipline to hew more closely to the scientific ethos of organized skepticism that Merton (1979) wrote of, but it will also permit the field to enhance its relevancy beyond the academy. Being appropriately skeptical will permit scholars to provide policy makers with better information about what is and is not known about what is going on in the realms where they must make decisions about how best to address critical public policy issues. If the discipline continues to be satisfied with stopping short of seeking to control comprehensively for factors that could explain observed relationships and then strongly proclaim causative effects because they fit with some theoretical/ideological supposition, then the field will remain poorer and it will fail to fulfill its role as a fair arbiter of intellectual disputes about policy relevant issues.

The implications of the call for increased criminological skepticism are legion, but here I will limit my attention to the policy realm and will close with a brief discussion of three issues residing at three distinct levels of policy interest. Where the immediate question of bias in drug enforcement goes, Engel et al.'s (2012) work indicates that any police chief, mayor, city council member, or other civic leader who is informed that research has shown that their police officers are enforcing (or have enforced) drug laws in a biased fashion should not blindly accept such conclusions. Rather, they should adopt a skeptical stance and keep in mind that even sophisticated analyses may fail to disclose that observed race/ethnicity–drug-arrest associations are spurious before they make any judgments about drug enforcement policy changes. More generally, policy makers should keep their skeptic's hat on when assessing other claims of bias against minorities in other arenas of police behavior—such as arrests in general, *Terry* stops, and the use of force—because the same fundamental caution about possible spurious associations holds across the entire spectrum of police behavior. And finally, beyond policing, policy makers should bring their skeptic's eye to research about possible bias in all other realms of the justice system. The basics of causal inference are universal, which means that any finding of bias in any corner of the justice system could be spurious. Therefore, it would behoove policy makers who are interested in research to join in the push for a more skeptical criminology. By doing so, they could help strengthen the ethos of organized skepticism in the discipline—a move that would enhance criminology and thus improve the base of knowledge available for public officials to draw on as they seek to set sound policy.

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David A. Klinger, PhD, is an associate professor of criminology and criminal justice at the University of Missouri–St. Louis. His research interests include the ecology of social control, the use of force by police officers, and risk management in crisis situations. Prior to pursuing an academic career, he served as a street cop with the Los Angeles and Redmond, Washington, police departments.

POLICY ESSAY

RACE, PLACE, AND DRUG ENFORCEMENT

Race, Drugs, and Law Enforcement

Toward Equitable Policing

Katherine Beckett
University of Washington

Across the United States, racial disparities in drug law enforcement concern many, and this problem has been especially pronounced in Seattle. In 2006, for example, Seattle's Black drug arrest rate was 13.6 times higher than its White drug arrest rate; for drug delivery arrests, the Black arrest rate was 21 times higher (Table 10 in Beckett, 2008: 56). Of the 40 midsized cities for which data are available, only one had a higher Black-to-White drug arrest rate ratio than Seattle.[1]

In 2003, I embarked on what became a series of studies on this topic. Two main questions animated these studies: First, how does the racial composition of those who use and deliver illicit drugs compare with the composition of those who are arrested for doing so? What practices or patterns explain any such disparities? My findings showed that Blacks were significantly overrepresented in drug arrests compared with those violating drug laws and that the Seattle Police Department's (SPD's) focus on crack cocaine was the fundamental cause of this disparity.[2]

Engel, Smith, and Cullen (2012, this issue) do not dispute these findings or seek to explain why racial disparity is especially pronounced in Seattle. Rather, they argue that researchers interested in these topics should answer a different set of questions: Are the police deploying resources on the basis of narcotics-related 911 calls and/or crime patterns? How do arrest outcomes compare with the racial composition of drug offenders who are

Many thanks to Todd Clear, Lisa Daugaard, Jeff Fagan, Steve Herbert, and Bruce Western for constructive comments and suggestions. Direct correspondence to Katherine Beckett, Box 353340, University of Washington, Seattle, WA 98115 (e-mail: kbeckett@uw.edu).

1. Seattle's Black-to-White arrest ratio was also higher than that found in the nine large cities that reported 2006 data to the FBI's Uniform Crime Reporting Program (Beckett, 2008: 56–57).
2. I did not find evidence that Latinos were overrepresented among drug delivery arrestees (Beckett, 2004; Beckett, Nyrop, and Pfingst, 2006), although they appeared to be slightly overrepresented among possession arrestees (Beckett, Nyrop, Pfingst, and Bowen, 2005).

DOI:10.1111/j.1745-9133.2012.00844.x © 2012 American Society of Criminology

"at risk of arrest"? The research strategy they advocate primarily involves comparing arrest patterns with 911 calls for service (CFS) data, which is used as both a source of information about drug offenders who are "at risk of arrest" as well as a proxy for resource deployment. Engel et al. conclude that there is a high degree of geographic and racial congruity between drug-related 911 calls and drug arrests and, therefore, that the SPD is engaged in equitable rather than biased policing. Indeed, they suggest that the SPD (and, by implication, other police agencies) could not alter deployment and arrest patterns without leaving communities of color under-policed.

The idea that researchers can compare drug arrest outcomes meaningfully against a single benchmark is an attractive one. Unfortunately, the approach advocated by Engel et al. (2012) is limited in ways that undermine the reliability of their findings and the validity of their policy conclusions. For example, this approach relies on limited data sources and focuses on organizational practices that are not the primary driver of racial disparity in drug law enforcement. As a result, it does not address the fundamental cause of the overrepresentation of Blacks in Seattle drug arrests. In addition, the SPD by its own account has not consistently used 911 call data to allocate narcotics enforcement resources[3]; police organizations' deployment practices are thus more varied than suggested by Engel et al., and this variability renders the use of CFS as a universal "benchmark" questionable. In addition, their analysis does not convincingly show a high degree of racial congruity between the drug suspects identified by all civilian complainants and those who are arrested. But even if this congruity were established, such findings would simply suggest that Blacks are overrepresented in both civilian complaints *and* drug arrests relative to those who actually use and deliver illicit drugs.

Engel et al.'s (2012) policy conclusions also are questionable. The claim that altering deployment and arrest patterns would be unjust because it would leave Seattle's communities of color underpoliced is mistaken, at least in the case of Seattle, where most Black drug arrests occur in predominantly White and gentrifying downtown neighborhoods.[4] Moreover, *how* the police respond to community concerns about drugs is an institutional and political choice; viable policy alternatives to aggressive and racially disparate drug law enforcement exist. Ironically, the SPD itself is now an active participant in the implementation of one such alternative. Even if the correlation between drug-related calls for service and drug arrests were a perfect one, it would not follow that more humane, effective, and racially just policing strategies could not, and should not, be pursued.

3. For example, in 2001, SPD Legal Counsel Leo Poort signed a discovery agreement indicating that the SPD would provide defense attorneys with all available information regarding civilian complaints about drug activity possessed by the SPD, no matter how those complaints were memorialized. The SPD did not provide any records of 911 calls regarding suspected narcotics activity in the course of this litigation. A copy of this discovery agreement is on file with the author.

4. My co-authors and I—as well as Engel et al. (2012)—found that narcotics arrests are concentrated downtown; census data indicate that only 1 in 10 downtown residents are Black (see footnote 19).

Background

My work on this topic began in 2003 when attorneys from Seattle's Racial Disparity Project asked me to conduct research on Seattle drug markets and drug arrests. At the time, it was evident that most of those arrested for drug offenses were Black. This pattern is especially striking in Seattle, home to a relatively small Black population and a significant, and largely White, heroin problem.[5] In an effort to address this state of affairs, attorneys at the Racial Disparity Project mounted a selective enforcement challenge on behalf of a group of 19 criminal defendants. All the defendants were Black and/or Latino, and all had been arrested for delivering drugs. Many were addicts who sold small amounts of drugs to support their habit. As a group, the defendants were alleged to have delivered narcotics weighing the equivalent of six plain M&Ms. Collectively, they faced the prospect of more than 100 years in prison.

The attorneys submitted my initial (Beckett, 2004) report in this case (*State of Washington v. Johnson et al.*), but the research project took on something of a life of its own. Ultimately, my co-authors and I conducted three studies on this topic. The first focused on drug delivery arrests that involved "serious drugs" and took place from January 1999 to April 2001 (Beckett, 2004; Beckett et al., 2006).[6] The second focused on all drug possession arrests that occurred during this same time period (Beckett et al., 2005). And the third analyzed a sample of delivery arrests involving "serious drugs" from 2005 to 2006 (Beckett, 2008).[7]

In these studies, we sought to answer three distinct questions about race and drug law enforcement in Seattle. The first was as follows: *How does the racial and ethnic composition of those who engage in illicit drug activity compare with the composition of Seattle drug arrestees?* To answer this question, we analyzed a variety of data sources that shed light on drug use and delivery patterns, including the following: public drug treatment data, household survey data, emergency room admission data, public school survey data, mortality statistics, ethnographic studies of drug use and acquisition patterns, observations of outdoor drug market activity, and a city-wide syringe exchange survey. This pluralistic approach rested on the idea that all data sources about illicit behavior have strengths and weaknesses; estimates are thus optimally based on a wide range of data sources.

Through this process, many important features of Seattle's drug markets and drug law enforcement became evident. For example, King County is home to an estimated 15,000 to 18,000 regular injection drug users, approximately 80% of whom live in Seattle, 75% to

5. Engel et al. (2012) report that the Seattle city population is 13.1% Black. This is incorrect: According to 2010 census data, Seattle's population was 8% Black in 2010, a slight decline from the year 2000, when the city population was reported to be 8.4% Black (see quickfacts.census.gov/qfd/states/53/5363000.html; Beckett, 2004).
6. These included powder and crack cocaine, heroin, methamphetamine, and ecstasy (MDMA).
7. In the 2008 study, I analyzed arrests involving all drugs other than marijuana.

TABLE 1

Black Share of Arrestees by Locale and Type of Drug

	Outdoor	Indoor	Downtown	Not Downtown	Crack	Not Crack
Delivery arrests, 1999–2001	66.0%	51.9%	64.5%	67.4%	79.0%	28.2%
Possession arrests, 1999–2001	49.9%	38.5%	48.8%	44.9%	63.1%	18.4%
Delivery arrests, 2005–2006	70.5%	52.3%	85.3%	61.3%	74.6%	19.4%

Sources: Beckett, 2008; Beckett et al., 2005, 2006; unpublished possession arrest data.
Note. In this table, "downtown" refers to the West Precinct, and "not downtown" includes all other precincts.

80% of whom primarily use heroin, and many of whom obtain their drugs outdoors. On the other hand, Seattle drug arrests overwhelmingly involve crack cocaine. Similarly, most of those who use and sell illicit drugs in Seattle are White, but most arrestees are Black.

My second research question was as follows: *If disparities exist, what patterns or practices explain them?* To answer this question, I analyzed drug arrests by offense type, locale, drug, and type of operation. In my initial study of drug delivery arrests, I concluded that Black overrepresentation stemmed primarily from the SPD's concentration on those who delivered crack cocaine.[8] I also identified the SPD's focus on the downtown area and outdoor drug markets as contributing factors (Beckett, 2004; Beckett et al., 2006). I then used counterfactual reasoning to assess the relative importance of these organizational practices. That is, I analyzed the degree to which altering these practices would, holding all other factors constant, reduce the overrepresentation of Blacks among drug arrestees.

The results indicate that the focus on crack is the primary driver of the overrepresentation of Blacks among Seattle drug arrestees (see especially Beckett, 2008). For example, analysis of arrest data from 2005–2006 shows that if the SPD conducted only indoor drug arrests and all other practices and priorities remained unchanged, then the Black share of Seattle drug delivery arrestees would decline slightly, from 67% to 52% (see Table 1), but the Black drug delivery arrest rate would still be more than 16 times higher than the White drug delivery arrest rate. Similarly, even if no drug delivery arrests took place in the precinct that encompasses the downtown area, we would expect that 61.3% of those arrested for delivering serious drugs would be Black. In this hypothetical scenario, the Black drug delivery arrest rate would be 17 rather than 21 times higher than the White drug arrest rate. On

8. It is difficult to determine whether the SPD was targeting Blacks and, therefore mostly arresting those involved in the crack market, or was targeting crack, and therefore mostly arresting Blacks. However, the evidence suggested that the SPD generally focuses on crack cocaine, although this may or may not be intentional. For example, in 2005–2006, 55.6% of the *White* delivery arrestees were arrested for delivering crack. These findings are unexpected given evidence that Whites in Seattle are more likely to be users and deliverers of heroin, powder cocaine, ecstasy, and methamphetamine than of crack cocaine. For this reason, and for the sake of caution, I assumed that the SPD focuses on crack cocaine and, therefore, disproportionately arrests Blacks, rather than vice versa.

the other hand, if the SPD were to stop arresting people for delivering crack cocaine and all other practices remained constant, then the Black share of drug delivery arrests would decline dramatically, from 67% to 19%, and the Black/White drug arrest ratio would drop dramatically, from 21 to 2.8. Clearly, the focus on crack is the most important driver of racial disparity in Seattle drug arrests.

My third research question was as follows: *Are the practices that produce racial disparity a function of race-neutral considerations*? In my initial study of drug delivery arrests, I considered whether any of the three SPD foci—on crack, on outdoor markets, and on the downtown area—were explicable in terms of public health and safety concerns, crime patterns, or *any civilian complaints about drug activity that were deemed relevant by the Seattle Police Department at the time of the study*.[9] After reviewing several data sources on these issues, I concluded that these organizational practices were not a function of public health or safety concerns, crime patterns, or civilian complaints about drugs. For example, I found that crack arrestees were far less likely to have a weapon in their possession than were other drug arrestees.[10] Similarly, whereas crack use poses certain health risks, mortality and hospital admission data suggest that heroin and other opiates create even greater public health challenges.[11]

In my analyses of drug possession arrests, and in the follow-up study of drug delivery arrests, I focused attention on the main cause of racial disparity—the focus on crack cocaine—and again found that this pattern could not be explained in terms of public safety, public health, or civilian complaints. In one article, we theorized that the focus on crack seemed to reflect a racialized conception of the drug problem, one that had much to do with popular discourse and imagery surrounding crack cocaine (Beckett et al., 2005; on racialized perceptions more generally, see Sampson and Raudenbush, 2004).[12]

Reframing the Research Question

Engel et al. (2012) advocate a very different approach to this set of issues and, hence, arrive at a different set of findings. Most critically, they do not ask how the composition of the drug-involved population compares with the composition of drug arrestees. Nor do they seek to identify the practices that contribute any disparities between these. Rather, they ask

9. At the time, the SPD stipulated that it did not use, and could not access, 911 call data, but that Narcotics Activity Reports (NARs) *did* influence the allocation of narcotics enforcement resources. Engel et al. (2012) nonetheless claim that the SPD does use CFS data for this purpose. I address this issue in more detail in the subsequent discussion.

10. For example, I found that 2.3% of the crack arrestees, but 25.9% of the heroin arrestees, had a gun in their possession at the time of arrest (Beckett, 2004: 83).

11. For example, from 1999 to April 2001, the Office of the King County Medical Examiner attributed 493 narcotics overdose deaths to heroin or other opiates and 213 to (some form of) cocaine (Beckett, 2004: 85).

12. I contrasted this interpretation with the idea that individual police officers were motivated by racial animus or bias (see Beckett et al., 2005: 420–421).

two different questions. The first of these is as follows: *How does the geographic distribution of 911 calls for service (CFS) and crimes known to the police compare with the geographic distribution of drug arrests*? To answer this question, they assess the degree of correlation between CFS and drug arrests at the SRA and tract levels in bivariate regression analyses, and interpret the results as evidence that the police concentrate drug enforcement resources in areas with more narcotics-related CFS. However, they also find evidence that drug arrests are concentrated downtown to a significantly greater degree than one would predict on the basis of CFS data. They then offer a second bivariate regression analysis, one that ostensibly shows a high degree of correlation between the geographic distribution of crimes and drug arrests. They interpret the results of these bivariate regressions as evidence that the SPD deploys narcotics resources on the basis of drug-related CFS and crime. They further suggest that it would be unjust to alter these organizational practices because to do so would lead communities of color to be underpoliced.

In my assessment, numerous methodological, empirical, and conceptual limitations undermine confidence in these analyses and conclusions. For example, Engel et al. (2012) used a nonrandom sample of 911 calls but did not take steps to control for sample bias in their models. Nor did they include any control variables in their models, a serious omission that likely overestimates the influence of CFS and crime on drug arrests.[13] Also, their models do not allow us to draw any inference regarding causal direction; it is likely that what Engel et al. treat as the dependent variable (drug arrests) reciprocally and simultaneously influences the independent variables, namely, drug-related CFS and crimes known to the police. For example, the concentration of narcotics enforcement resources downtown may heighten police awareness of other crimes (especially those related to disorder)—and hence the number of crimes known to the police—in that area. Similarly, drug arrests may heighten residents' fear of or concern about crime, escalating their propensity to call 911.[14] It also is conceivable that the reported correlations are spurious. For example, gentrification may influence residents' propensity to call 911 to report perceived drug activity and, separately, influence the deployment of narcotics enforcement resources. Because their models do not include any control variables, Engel et al.'s analysis provides no means to adjudicate between these competing interpretations.

These and other methodological limitations limit confidence in Engel et al.'s (2012) findings regarding the concentration of drug enforcement resources downtown. But the most important point is: Even if these findings were reliable, their analysis fails to explain racial disparity in drug arrests because *wherever SPD resources are deployed—whether in areas with few or many CFS, in indoor and outdoor arrests—the overrepresentation of Blacks among arrestees is pronounced*. Altering the geographic distribution of Seattle narcotics arrests would

13. For an alternative methodological approach that includes appropriate controls and situates tract level data in the context of precincts, see Gelman, Fagan, and Kiss (2007).

14. Indeed, evidence suggests that arrests increase Seattle residents' fear of crime (Fernandes, 2011).

therefore have little effect on the racial composition of arrestees (see Table 1). In short, Engel et al. devote much of their analysis to establishing that the *geographic distribution* of arrests is based on valid inputs. Even if this were true, it is not germane for those of us seeking to understand and remedy *racial disparity* in Seattle drug arrests.

Engel et al.'s (2012) second question is as follows: *How does the racial composition of the suspected drug law violators identified by 911 callers compare with the composition of those arrested by the SPD*? This approach hinges on two assertions: that arrest outcomes should be compared only with information about drug law violators who are at risk of arrest (rather than all drug law violators) and that 911 calls are the best available measure of who is "at risk of arrest." It is unclear why 911 calls are thought to be the best measure of those "at risk of arrest"; as Engel et al. acknowledge, few drug-related 911 calls result directly in arrest. Rather, the idea seems to be that 911 calls and arrests both tend to involve people who violate drugs in relatively visible ways. Relatedly, in their policy discussion, Engel et al. assert that local police agencies do, and should, focus on outdoor drug markets because of the particular harms those markets produce.

These claims are debatable, for several reasons. Conceptually, the idea that researchers need only collect data about those who are "at risk of arrest" is questionable because where the police go, who they set up in buy–bust operations, and who they train their binoculars on shapes who is "at risk of arrest." Limiting our attention to those "at risk of arrest" thus potentially takes these and other deployment decisions off the table. In addition, although Engel et al. (2012) suggest that 911 callers primarily report outdoor drug activity, they do not show this empirically. Moreover, SPD officials state that they view indoor and outdoor drug activity as equally serious. Indeed, Captain Steve Brown, who is the former commander of the SPD narcotics unit and West Precinct commander during the period studied by both myself and Engel et al., testified in 2007 that the SPD considers indoor and outdoor drug market activity to be of equal significance and priority for enforcement.[15] In theory, this should mean that people who possess or deliver drugs indoors also are "at risk of arrest."

More generally, the idea that law enforcement should focus solely on outdoor drug venues is debatable. Outdoor markets can significantly reduce residents' quality of life and sense of security; so, however, can indoor drug activity. Moreover, in Seattle, officers seize more drugs, weapons, and cash per officer hour in indoor narcotics arrests (see Beckett et al., 2005: 121; and footnote 114 in Beckett, 2008: 87). To the extent that removing weapons and narcotics from circulation are rationales for local drug law enforcement, there are strong arguments for focusing attention on indoor locales.

For all of these reasons, I am not persuaded that researchers should limit their attention to persons who are "at risk of arrest." Nor is it clear that 911 call data should be recognized as a valid source of information about such drug law violators. But even if we set these

15. Interview of Capt. Steven Brown, *State of Washington v. Richard Nelson,* King County Superior Court No. 06–1–07031–0, May 30, 2007, at pp. 14–15. Interview on file with the author.

fundamental issues aside, several other problems further undermine confidence in Engel et al.'s (2012) finding that Blacks are not overrepresented in drug arrests relative to civilian complaints about drug activity.

Data and Measurement Issues

Ignoring Some Civilian Complaints about Drugs

Given their claim that contemporary police organizations are complaint driven, it is puzzling that Engel et al. (2012) ignore readily available community complaints about drug-related activity other than those memorialized in 911 calls. In a discovery order signed by the SPD in 2001, and again in Captain Brown's 2007 testimony, SPD officials identified NARs as one of the inputs that guide the allocation of narcotics enforcement resources. Engel et al. claim that 911 calls are the best benchmark because they influence the deployment of narcotics resources. By this same logic, NARs should have been included in their analysis of civilian complaints about drugs. Engel et al. justify ignoring NARs by pointing out that there were, at the time of their study, more drug-related 911 calls than NARs. However, this does not mean that NARs should be excluded from the analysis altogether. The omission of NARs is especially troubling because these civilian complaints tend to focus on indoor drug activity in residential neighborhoods away from the downtown core, as Engel et al. note. The inclusion of NARs in a composite measure of civilian complaints would therefore reduce the reported association between civilian complaints and drug arrests, particularly in the downtown area.

Ignoring the role of the SPD in generating narcotics-related 911 calls. Perhaps the most fundamental of Engel et al.'s (2012) assumptions is that police organizations deploy enforcement resources on the basis of CFS. Although this may be the case in some jurisdictions, the SPD consistently claimed that although it did use NARs, it did *not* allocate drug enforcement resources on the basis of 911 call data and could not even make such data available to attorneys or researchers, during the time period covered in my initial research (e.g., Beckett, 2004; Beckett et al., 2005, 2005). For example, the SPD stipulated in a 2002 discovery order, "The State and the S.P.D. represent (and will warrant by certificate) that the only form of citizen narcotics complaints that can be readily compiled are the Narcotics Activity Reports (NARs)."[16] The fact that the SPD did not use CFS to allocate resources stemmed, in part, from the fact that those data could not be extracted and analyzed at that time. It seems that police organizations' use of CFS data is far more varied than Engel et al. acknowledge. Importantly, their generalization does not apply to Seattle during the period from which the data in my original study were drawn.

Several years later, the SPD unveiled a new data compilation tool called NARCSTAT. In community meetings in which NARCSTAT was unveiled, SPD command staff and

16. Order on file with the author.

officers encouraged attending Seattle residents to call 911 to report ongoing drug activity.[17] From this point forward, the SPD indicated that it did deploy enforcement resources on the basis, in part, of 911 calls. Although little information about NARCSTAT is now publicly available, it seems to have been presented to community groups in a geographically uneven manner. Captain Brown reported that such meetings took place in the West Precinct, where drug arrests were already concentrated, but it is unclear whether it also took place in other precincts and neighborhoods. The central role of the SPD in encouraging (some) concerned residents to report suspected drug activity via 911 means that CFS and arrest data are endogenous rather than exogenous to drug enforcement, as Engel et al.'s (2012) analysis assumes.

Problems with extracting narcotics-related call data from CAD. The process by which Engel et al. (2012) extracted drug-related calls for service also raises several concerns. First, the CAD database from which CFS data were drawn includes entries from police officers as well as civilians. In my experience, more than one fourth (28%) of all CAD entries were initiated by SPD officers rather than by civilians (Beckett, 2008). The authors do not appear to have excluded these SPD-initiated CAD entries. That is, their analysis seems to include SPD "on-views" and arrests in the very benchmark against which they compare arrests. If so, then this is a serious problem, one that would significantly inflate the reported correlation between CFS and drug arrests.

Second, many CAD entries that are initially classified by dispatchers as narcotics related are not, according to either callers or police officers, drug related. That is, our careful coding of CAD entries revealed that in a significant number of ostensibly drug-related CAD entries provided by SPD data analysts, drugs are *not* mentioned in the caller's narrative, and the police officer involved did *not* clear the call with a MIR code indicating that either narcotics were involved in the situation or that they made a drug arrest. Engel et al. (2012) do not indicate that they screened the call records to make sure that either callers or officers identified the incidents as drug related. As a result, they seem to be including many calls that were not, in fact, narcotics related in their "benchmark."

A third set of problems has to do with the measurement of race and ethnicity in 911 calls. Engel et al. (2012) indicate that 911 callers identified the race/ethnicity of the subject(s) roughly three quarters of the time; calls in which the perceived race/ethnicity of a single suspect was not identified and calls that referred to heterogeneous groups of people were excluded from their analysis. All told, 40% of the ostensibly drug-related 911 calls were omitted from their sample. Yet the authors did not consider the sample biases these exclusions may introduce. It seems likely that in Seattle, where nearly 70% of the population is White and 8% is Black, White people are less likely to be defined in racial terms because

17. In presentations of NARCSTAT, SPD officials presented data and maps that purportedly showed the geographic overlap between 911 calls and drug arrests. Listeners were encouraged to call 911 to report ongoing drug activity to increase deployments in the area.

whiteness is the norm. In short, there is no reason to assume that the sample of CFS data Engel et al. analyze is representative, but their analysis does not acknowledge or address this issue.

Limited information about drug arrests. Engel et al.'s (2012) information about drug arrests also is limited. In my research, information about drug arrests was based on individual coding of all narcotics-related Incident Reports (IRs). IRs are completed by officers when they make a stop or arrest, and include detailed information about these incidents. The coding scheme allowed for the analysis of drug arrests by type of violation (e.g., possession, delivery, etc.), type of drug, nature of the police investigation, and many other relevant factors. By contrast, Engel et al. extracted arrest data from the SPD's records management system. The records generated by this system do not identify the type of drug offense but rather combine drug traffic loitering (a misdemeanor offense), drug possession, possession with intent to deliver, delivery, and other offenses as a single "drug arrest" category.[18] Nor do these records provide information about the type of drug(s) involved in the arrest.

This lack of specificity is problematic for several reasons. First, because our coding scheme included information about charges, we could omit arrests that involved both drug and nondrug charges. It is not clear whether drug arrests that also involved nondrug charges were excluded from Engel et al.'s (2012) analysis; they do not speak to this issue. If they did not do so, then their results significantly overstate the association between drug arrests and crimes known to the police. In addition, because we analyzed narcotics arrests by type of drug, we discovered that the main cause of racial disparity in Seattle drug arrests is the SPD's focus on crack. Because Engel et al.'s source of information about drug arrests does not include information about the drug involved, their analysis fails to identify and address the primary driver of racial disproportionality.

The Bigger Picture: Implications for Policy and Practice

Studying drug markets and drug law enforcement is an inherently tricky enterprise, and there is undoubtedly room for constructive conversation about how best to tackle these difficult topics. Unfortunately, the approach advocated by Engel et al. (2012) does not, in my view, significantly advance this conversation. The argument that 911 calls are the best benchmark against which researchers should assess drug arrest outcomes rests on several untested assumptions: that researchers should limit their attention to drug law violators who are "at risk of arrest" and that 911 calls are the best source of information about this population—even where officials report that they do not use 911 calls to allocate narcotics enforcement resources, and even though fewer than 5% of all drug-related 911 calls result in a drug arrest (Beckett, 2008). Moreover, even if the geographic distribution of drug arrests were strictly a function of 911 calls, crime rates, and other ostensibly "legitimate" factors,

18. On the importance of treating drug use/possession and drug delivery as analytically and empirically distinct aspects of drug markets, see Saxe et al. (2001).

massive racial inequities in Seattle drug arrests remain unexplained. That is, the approach advocated by Engel et al. does not explain why, no matter which part of town arrests take place in, drug arrestees are disproportionately Black, or why levels of disparity in Seattle drug arrests are among the highest in the nation.

In the end, there appear to be two possibilities. Either Blacks are overrepresented among Seattle drug arrestees relative to the population that violates drug laws *and* relative to 911 calls, or Blacks are overrepresented relative to the population that violates drug laws *but not* relative to 911 calls. In their concluding discussion, Engel et al. (2012) acknowledge that Blacks may be overrepresented in drug-related 911 calls compared with the actual offender population. From their perspective, the overrepresentation of people of color in drug arrests relative to the drug-involved population is not problematic if drug arrests mirror 911 calls because such a pattern would signify that drug offenders of color are a particular problem for communities of color; deploying resources on the basis of 911 calls ensures "equitable" rather than "biased" policing because altering deployment patterns would leave communities of color without adequate police protection.

Yet racially disparate arrest outcomes do not only occur in communities of color. Indeed, Seattle's drug arrests—and arrests of Black drug suspects in particular—are concentrated in the gentrifying downtown area, where most of the residential population is White, and only 1 of 10 residents is Black.[19] To the extent that racially disparate arrest patterns are found in predominantly White neighborhoods, reallocating police resources may actually help to remedy underenforcement in predominantly Black and Latino neighborhoods.

More importantly, it is a mistake to assume that police organizations can only respond to drug activity through aggressive and racially skewed drug law enforcement. Drug law enforcement involves institutional practices over which police officials have much discretion; alternatives to aggressive enforcement exist. Ironically, the Seattle Police Department is now a case in point. Since 2011, the SPD has been actively engaged in an innovative new program that is intended to reduce dramatically the neighborhood and individual-level harm associated with Seattle's drug and sex markets—while simultaneously redressing the harm caused by racially disparate enforcement. The Law Enforcement Assisted Diversion (LEAD) program is the first prebooking diversion program in the United States. Under this program, officers who might otherwise make a drug or prostitution arrest instead transport clients to a social services intake facility where their basic needs are assessed and addressed. Because it responds to the needs of people who are involved in drug and sex markets—as well as of those of their residential neighbors—LEAD has garnered the support of influential

19. According the 2010 census, Seattle's downtown residential population is 10.7% Black, 5.9% Latino, 21.1% Asian, and 57% White (see seattle.gov/dpd/cms/groups/pan/@pan/documents/web_informational/dpdp022059.pdf).

neighborhood associations and organizations ranging from the American Civil Liberties Union to the Downtown Seattle Association and the King County Prosecutor's Office.[20]

In short, alternative law enforcement responses to drug markets such as LEAD exist, and these programs remind us that police practices are institutional and political choices rather than structurally determined outputs. They also provide important clues about what equitable policing might really look like. Although city authorities must respond to bothersome drug market activity, alternatives to the aggressive tactics associated with the war on drugs offer a more promising means of reducing the harm associated with both drug use and drug markets. Innovative programs such as LEAD also have the potential to ameliorate the harms associated with the war on drugs itself, harms that have been imposed so very disproportionately on people of color. Even if racially disparate arrest outcomes were driven solely by civilian complaints, the perpetuation of ineffective, racially disparate, and harmful patterns of practice would constitute neither equitable nor wise policing.

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Katherine Beckett is a professor in the Law, Societies & Justice Program and the Department of Sociology, and adjunct professor in the School of Law, at the University of Washington in Seattle. She is the author of three books, including *Making Crime Pay: Law and Order in Contemporary American Politics* (Oxford University Press, 1997) and, most recently, *Banished: The New Social Control in Urban America* (Oxford University Press 2010). She has also published numerous articles on a range of socio-legal topics such as mass incarceration, monetary sanctions, and racial disparities in drug law enforcement

POLICY ESSAY

RACE, PLACE, AND DRUG ENFORCEMENT

The Racial Dilemma in Urban Policing

Sudhir Venkatesh
Columbia University

Engel, Smith, and Cullen (2012, this issue) bring new data to bear on the pressing issue of racial disparities in U.S. policing practices. Drawing on citizen calls for service to the Seattle Police Department, they argue against a racial-bias perspective in which police are presumed to discriminate willfully against ethnic minorities in urban areas. As an alternative, they suggest that a "deployment hypothesis," in which "differential police patterns" are believed to produce greater contact between police and minorities, is more likely the root cause of the increased presence of minorities in criminal arrests.

The primary policy implication of Engel et al.'s (2012) article might be to caution scholars that they should not jump too quickly to allegations of discrimination in criminal justice institutions. "Our findings demonstrate the importance of selecting an appropriate and conceptually sound benchmark to measure racial disparities," Engel et al. write, in reference to the need to use ecologically valid data. (A less innovative, but nonetheless mentionable, finding is that results can shift depending on unit of analysis—census tract, city block—and so researchers should exercise due diligence on this matter as well.) One can hardly dispute their contention that better "benchmarks" are necessary to ensure that we treat appropriately a subject as politically (and ethically) significant as state racism.

Readers who appreciate the need for modest, precise social scientific reasoning that hews to the data at hand will likely enjoy Engel et al.'s (2012) article. The limitations of the article appear in the Discussion section, in which Engel et al. try to move beyond their simple, straightforward, and powerful claim for improved data collection. Their policy discussion is filled mostly with folk sociology about how crime operates in the lives of everyday urbanites—their speculations fail to draw on the bounty of ethnographic and historical research on the subject.

In general, Engel et al. (2012) are struggling with a basic empirical fact that confronts every social scientist who studies criminality: Namely, minorities are given disproportionate

Direct correspondence to Sudhir Venkatesh, Department of Sociology, Columbia University, Knox Hall, 606 West 122nd Street, New York, NY 10027 (e-mail: sv185@columbia.edu).

DOI:10.1111/j.1745-9133.2012.00845.x © 2012 American Society of Criminology

treatment (of both an unfavorable and an amplified nature) by the criminal justice system. In a purely legal sense, we may not have evidence to conclude that Seattle police are racist. However, critics are probably correct in suggesting that the city's law enforcement agencies have not treated minorities fairly. From their own data, Blacks seem to be arrested at higher rates than Whites, and policing practices are the subject of much criticism, although perhaps less so than in other urban regions.

The frustrating beauty of the Seattle case, like so many others, is that we may never be able to disentangle the factors that produce such outcomes with the precision that statistical analysis requires. Here, we turn to the sociologist Eliot Liebow (2003) who analyzed how low-income urban Black males ended up suffering the same poor job prospects as their fathers even though there was no explicit racist organization whose mission was to produce such results. He never mentioned racist employers who were unwilling to hire Blacks except for the most menial jobs in the city. He does not identify racist politicians who sought to keep Blacks disenfranchised. And he does not include discriminatory education officials who wanted to maintain poorly performing schools in minority neighborhoods. Yet, each of these actors—and their respective agencies—played a contributing role in ensuring relatively poor outcomes for inner-city populations.

Liebow might argue that, in Seattle, a similar "elegant social machinery" in which no single person or institution has fault for perpetuating racially problematic outcomes that can be isolated and measured in any systematic way. Yet, politicians, police, philanthropy, and so many other urban institutions in Seattle are complicit—if only because their actions perpetuate the status quo.

Engel et al. (2012) hint at some of these hard-to-pin-down dynamics. For example, they suggest that police are not targeting minorities. No, cops are simply responding to neighborhoods where there are greater calls for assistance. In these areas, there are as many minorities as there are ethnic Whites making such calls. Thus, it would be hard to pin down a racist conspiracy against the city's ethnic minorities. Indeed, if anyone is racist, then it must be African Americans—which by definition, of course, makes no sense at all. With this fancy sleight of hand, the conclusion that cops are racist can easily be shown to be statistically implausible. But, any astute reader knows that citizens of Seattle should not let law enforcement off the hook simply because the analysis came back without a definitive verdict.

Engel et al. (2012) ask, "Is there a viable alternative?" A rational person would probably agree with their conclusion that "legitimacy in policing demands fairness in the distribution of police services." Withholding police assistance to calls for help in minority neighborhoods would only exacerbate the problem, so let us not retrench state services any further.

In the face of an "elegant social machinery," the potency of such statistically driven arguments will always paralyze us. It will almost always be impossible to isolate social factors when the social conditions are produced by a coordinated ballet of multiple institutions, each working independently but aligned to perpetuate the outcomes in question.

A different kind of social analysis is required.

To begin, for Engel et al. (2012) to move beyond their flummoxed state—as evidenced by curious statements like "[s]upport for the deployment hypothesis . . . provides both good and bad news" for policy (I have no idea what they mean by "good" and "bad")—doing so means reconceptualizing "structural racism." Rather than believing that the absence of racial animus must lead us to consider "structural" factors that are "race neutral," we could conclude just as defensibly that racism is alive and well in Seattle. Doing so means altering our understanding of social structure. In the case of Seattle, the agents *cum* perpetrators of law enforcement discrimination are not so easy to identify because the division of labor has been neatly redistributed so that accountability can no longer be measured with blunt instruments of the kind wielded by Engel et al.

To understand how this labor is divided yet coordinated, one approach might be to take into account the kind of research on institutional racism that is discounted by Engel et al. (2012). For example, researchers who argue for a "New Jim Crow" are cited several times by Engel et al. These scholars are trying to reframe our analytic framework so that we can focus on the institutional alignments that reproduce racial disparities even when intent is hard to establish in strict juridical terms. These observers point to factors such as political lobbying for accelerated prison construction, the overloading of courts, the formal obstacles to dismantling racism in our legal system, and differential sentencing that produces racial disparities in crime rates. None of these factors can be given "blame" because they work in conjunction with one another to yield the measured outcomes.

Engel et al. (2012) do not care much for this line of scholarship, and they are right to point out that many "New Jim Crow" adherents rely on the analogy at the expense of systematic empirical review. But they are being equally simplistic when they attack the structural–institutional racism perspective by pointing to the fact that Blacks are more conservative on criminal justice matters.

If they had read Stuart Hall and the three decades of work in cultural studies—or the work of ethnomethodologists and sociolinguists like William Labov, John Ogbu, or Shirley Brice Health—then they might have concluded that Black conservatism is, at one fundamental level, a means of signaling: The cry of the disenfranchised in democratic systems will commonly include vigilant, expressive demands for fair services by the ruling institutions. That most Blacks are as likely as Whites to call the police—and that they support tough penalties even if their own ethnic group is affected unfairly—can be explained easily by their insistence that the institutions designed to "serve and protect" do just that. This is no more evidence of the lack of racism in our system than minorities voting actively in states where the laws unfairly disenfranchise Black voters.

Other forms of sociological analysis will be needed to move forward, in Seattle and around the country, to understand the social reproduction of racial disparities in drug arrests and the overall disproportionate negative impact of law enforcement institutions on U.S. minority groups. We will need more review of institutional decision making, including how

political leaders allocate resources, how evidence and informed advocacy can be routinely ignored or impotent in bringing about social change, and how police officials are hamstrung through the cult of "evidence-based" evaluation. After all, the same drive for "big data" that led to the insights in Engel et al.'s (2012) article is at the root of the pressures placed on risk-averse police commanders who avoid any policing innovation that does not lead to immediate improvements on conventional public safety indices. In this sense, we can look no further than modern criminological theory to observe how difficult these conditions are to change: Even though "collective efficacy" is a far better predictor of crime, few cities are willing to transfer police budgets to services that increase residential trust and social cohesion. Few police officials are going to stand for diversion of funding from their departments. Why? Our attention should turn to this subject.

Some notable examples of such research might illuminate modern-day criminological paradigms. To cite just one, Nicole P. Marwell's (2007) analysis of the allocation of government resources in New York City suggested that the civic sector can play a critical role in reproducing social order (see also, Venkatesh [2007] and Duneier [1999]). Local, community-based organizations are highly involved in the lives of urban residents, providing a host of services that often are given relatively little attention by social scientists, but that are instrumental in family outcomes. These organizations are susceptible to the political winds, which can remove funding as quickly as it is granted. Thus, as these organizations wither, so too are the neighborhoods that seek to transmit values to youth, keep crime down, and so on, at a relative disadvantage. As these disadvantages contribute to increased social isolation of residents, various problems can easily manifest, such as youth delinquency. All of this can drive calls for service by citizens who find that their areas are unsafe.

In this manner, what seems an isolated area of social analysis—municipal resource allocation—can be central to our ability to understand crime. Only with a theoretical orientation that links the two can we start to understand how an "elegant social machinery" produces certain outcomes. It might be productive to examine the distribution of resources in Seattle and how the civic sector's contribution to social order maintenance is affected as a result.

The creative analysis of Engel et al.'s (2012) article will never be outdated, and the authors are right to suggest that many questions are raised by the study's findings. Their call for identifying alternatives—in both research and practice—should not be ignored.

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Sudhir Venkatesh is William B. Ransford Professor of Sociology and the Committee on Global Thought at Columbia University in the City of New York. His most recent book is *Gang Leader for a Day* (2008, Penguin Press).

EDITORIAL INTRODUCTION

N C A A R U L E I N F R A C T I O N S

College Athletes and NCAA Violations

Jason A. Winfree
University of Michigan

Sports are used frequently as a window to examine society. Because of unique data sets, sports allow researchers to test human behavior, and in recent years, sports have been used to show when discrimination, collusion, and cheating are likely to occur. Cullen, Latessa, and Jonson (2012, this issue) use data on National Collegiate Athletic Association (NCAA) infractions to investigate how often and why college athletes break NCAA rules. Cullen et al. categorize these infractions as infractions while they were being recruited by the university and infractions that were committed after they enrolled in college. They find that whereas major NCAA infractions are rare, minor infractions happen somewhat frequently. Their results provide valuable insights into the causes of rule infractions, and the results may be useful in designing policies in a broader context.

The data used in the study enable the researchers to test the frequency as well as possible causes of athlete infractions. Weak evidence exists in favor of a variety of existing theories, but some consistent results are found. If athletes clearly can gain from committing an infraction, if their friends are getting away with committing infractions, and if the moral costs are perceived as being inconsequential, then athletes are more likely to break the rules. In other words, if the benefits clearly outweigh the costs, then the main barrier that stops infractions is the athlete's own moral compass. Furthermore, many athletes do not feel a moral obligation to follow all the rules, and some feel entitled to benefits that are prohibited. Therefore, athletes in large revenue-generating sports, such as football and men's basketball, commit minor infractions regularly.

A somewhat unique aspect of NCAA rules is why they exist. Even the casual observer of college sports knows that college sports have become big business and that revenues have been increasing at a rapid rate over the past couple of decades. Yet, any financial benefits to the athletes are restricted. The NCAA claims that their rules are in place to keep athletes amateurs and that these rules are in the best interest of the athletes. However, as Humphreys (2012, this issue) says, this seems peculiar because these rules prohibit monetary transfers

Direct correspondence to Jason A. Winfree, School of Kinesiology, University of Michigan, Observatory Lodge, 1402 Washington Heights, Ann Arbor, MI 48109 (e-mail: jwinfree@umich.edu).

DOI:10.1111/j.1745-9133.2012.00850.x © 2012 American Society of Criminology

from universities to athletes explicitly, and universities are the ones in charge of the NCAA. I hope that no governing bodies are looking out for my best interest in the same manner as the NCAA.

So naturally, many of the athletes feel a sense of entitlement. Consequently, it does not take long for some college athletes to perceive themselves to be an integral part of a large and growing business, where others receive nearly all the pecuniary rewards. As Piquero (2012, this issue) notes, in other contexts, entitlement has proved to be important in understanding determinants of crime. Clearly, if the student athletes feel entitled to a piece of the financial pie, the moral cost of breaking the rules is mitigated.

This context creates an interesting dilemma. Many economists would argue that some NCAA rules are unnecessary in terms of social welfare and serve only to benefit athletic departments that behave like a cartel or monopsony at the expense of athletes. After all, if universities cannot pay athletes, then they will pay the people or facilities that recruit the athletes, thereby increasing the value of coaches and amenities. Obviously, some would disagree with the economists' assessment, but surely many of the athletes would favor the economists' view. Nonetheless, rules are rules. So although some observers might question the objectives of the policy makers, surely the policy makers want compliance of the rules. This research seems to indicate that athletes often are in violation of minor infractions and rarely are caught for these minor infractions. Also, compliance is largely a function of the athlete's perceptions of the moral authority of the rules, which leads to some interesting questions. How bad is it if athletes break rules that they, and many others, perceive as unfair? Is it more effective to increase punishments or to increase surveillance? Or should we try to convince people of the morality of the rules? Does this mean that rule makers should not or cannot effectively create rules that are not consistent with people's morals? Do rules that are not easily enforced only punish those who are willing to follow the rules? Perhaps these questions may be an interesting line of future research.

It seems that since the study's survey was conducted, the NCAA has gradually loosened up some of its restrictions, giving athletes a slightly bigger share of the pie. Maybe the NCAA has eliminated some rules because many minor violations were occurring with a high frequency anyway, and perhaps minor violations are a gateway to major violations. On the other hand, the NCAA's response could be the result of public pressure to treat athletes better. As Humphreys (2012) notes, the NCAA has a sizeable financial incentive to keep its monopsony intact; perhaps giving some small concessions is a way to preserve their monopsony power.

But this loosening of policies is not what Cullen et al. (2012) suggest. They also are skeptical of increasing punishments to increase compliance. Instead, they explicitly favor intervention with at-risk athletes and athlete education of the rules. Of course, it is possible that compliance with minor infractions is not the main objective of the NCAA, but whatever the case, this study provides an interesting context to these NCAA rule changes.

To what extent the results of Cullen et al. (2012) are generalizable to other segments of society is unclear, although Piquero (2012) indicates that the results are more or less in line with research in other contexts. Hopefully, future research will show us exactly how unique college sports is as a context for breaking rules. Regardless, this study does give us interesting insight into who breaks rules and why.

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Jason A. Winfree is an associate professor in the Department of Sport Management at the University of Michigan. Most of his research is in the area of sports economics and focuses on issues such as demand for sports, league policies, performance enhancing drugs in sports, and antitrust issues in sports. He recently co-authored a textbook, *Sports Finance and Management: Real Estate, Entertainment and the Remaking of the Business* (2011).

Overview of: "Assessing the Extent and Sources of NCAA Rule Infractions: A National Self-Report Study of Student-Athletes"

Francis T. Cullen

Edward J. Latessa
University of Cincinnati

Cheryl Lero Jonson
Northern Kentucky University

Research Summary

Although the popular and academic media often proclaim that rule violations are widespread in college athletics, research assessing the true prevalence and causes of such infractions is in short supply. To address this knowledge gap, we conducted a national survey that asked a random sample of male student-athletes at Division I basketball and football programs about such infractions (n = 648). The results revealed that although six in ten student-athletes did not commit any infractions in the recruitment process, seven in ten respondents reported breaking NCAA rules while in college. Most violations, however, were relatively minor and involved amenities that would enhance the student-athletes' quality of life (free meals, cash payments less than $20). In contrast, serious violations—such as free cars, substantial financial allocations, and academic fraud—were rare, although they did exist. The multivariate analysis revealed that infractions were higher among student-athletes who were highly recruited; who associated with fellow athletes that transgressed NCAA rules or saw nothing inappropriate about breaking these regulations; who personally embraced values defining rule violations as acceptable; who did not have close relationships with their parents; and, in particular, who had a general propensity to be involved in deviant behavior. In contrast, infractions were statistically unrelated to a variety

DOI:10.1111/j.1745-9133.2012.00836.x © 2012 American Society of Criminology

of factors, including most notably economic deprivation, organizational context, and threats of sanctions. A potentially disquieting finding is that a quarter of the respondents admitted to gambling on sporting events, with a small percentage reporting placing bets on games in which they played and three respondents stating that they had "received money from a gambler for not playing well."

Policy Implications

The findings suggest that NCAA infractions have diverse causes and are likely to be an ongoing reality of major college athletics. Such infractions are unlikely to be diminished either by proposals to compensate student-athletes financially or by efforts to punish them more harshly. Instead, a more profitable approach would be to establish programs that (1) intervene with student-athletes at risk for misconduct and (2) that seek to transform "deviant learning environments" that encourage rule infractions by using positive and innovative means to persuade student-athletes that NCAA rules are legitimate and should be followed.

Keywords

NCAA rule infractions, self-report measures, criminological theory, prevention

RESEARCH ARTICLE

NCAA RULE INFRACTIONS

Assessing the Extent and Sources of NCAA Rule Infractions

A National Self-Report Study of Student-Athletes

Francis T. Cullen
Edward J. Latessa
University of Cincinnati

Cheryl Lero Jonson
Northern Kentucky University

In 2010, reports surfaced that six Ohio State University (OSU) football players—including star quarterback Terrelle Pryor—had exchanged team memorabilia for tattoos or cash. Admitting their infractions, they were suspended for five games for the 2011 season. This incident was transformed into a full-fledged scandal when it was revealed that Coach Jim Tressel had been informed in a private e-mail sent by a Columbus lawyer of this memorabilia-for-tattoos scheme nearly a year before but had not disclosed this fact then or even when the players' violations were first detected. Tressel subsequently stepped down as the OSU coach with 4 years remaining on his contract—a contract that paid him $3.5 million annually (Dohrmann, 2011).

The OSU scandal is important for two reasons. First, it triggered a policy discussion of how best to regulate financially oriented NCAA rule infractions. Why should players not be able to sell their property—such as rings for bowl victories—for cash? If a coach is paid $3.5 million, then why should players not be able to profit from their labors? Second, the scandal triggered a discussion of how widespread violations are and why they occur. In this

Funding for this research was provided by the NCAA. The opinions expressed in this report represent the views of the authors. We would like to thank Reneé Kopache, who served as the research assistant on this project, as well as Nancy Hamant and John Widecan, who provided guidance on NCAA compliance issues. We also wish to acknowledge the assistance of scholars who reviewed an earlier version of the survey instrument, including Robert Agnew, Ronald Akers, Michael Benson, Velmer Burton, Mitchell Chamlin, John Cochran, Scott Decker, Bruce Link, Scott Menard, Steven Messner, Raymond Paternoster, Richard Rosenfeld, Christine Sellers, Mark Stafford, Ruth Triplett, Mark Warr, David Whelan, and L. Thomas Winfree. Direct correspondence to Francis T. Cullen, School of Criminal Justice, PO Box 210389, University of Cincinnati, Cincinnati, OH 45221–0389 (e-mail: cullenft@ucmail.uc.edu).

DOI:10.1111/j.1745-9133.2012.00840.x © 2012 American Society of Criminology

instance, it appeared that only six players were involved. But the other reality is that the OSU players' conduct was disclosed only because the U.S. Department of Justice discovered information on the scheme while conducting a drug-trafficking investigation of the tattoo parlor, Fine Line Ink, which they then disclosed to university officials. Indeed, a subsequent exposé by *Sports Illustrated* uncovered that the conduct extended back to 2002, when at least 22 additional OSU players had exchanged memorabilia for tattoos (Dohrmann, 2011).

In short, were the OSU players a few "bad apples" or just the apples that were caught? In this regard, subsequent allegations about payoffs to University of Miami football players suggested that the OSU scandal was not an isolated incident. Nevin Shapiro, a former booster now incarcerated for masterminding a $930 million Ponzi scheme, claimed to have "given millions of dollars in illicit cash and services to more than 70 Hurricane football players over eight years" (Branch, 2011: 82; see also Wolff, 2011). The notion that something was amiss with "big time" sports was, of course, exacerbated by the child-abuse scandal at Penn State and then at Syracuse. As one writer recently commented, "It's a system that enables misconduct to flourish" (Nocera, 2012: 30).

Despite the continuing concern about the violation and enforcement of NCAA regulations, virtually no data exist that assess the scope of the problem—an issue we return to in the subsequent discussion. Understanding why players break rules is in its infancy, with the most speculation involving impoverished players who cannot resist money to afford the standard of living enjoyed by fellow classmates. We propose that criminology has much to bring to this area of antisocial conduct. First, through the self-report survey, criminology has the technology that can be modeled to study the extent of NCAA rule infractions. Second, criminological theories potentially offer rich insights into why players break the rules that govern their status as a student-athlete. Thus, based on a self-report survey of Division I football and basketball male student-athletes, we investigate the extent and the sources of NCAA rule violations. These data then allow for a discussion of policies that might better prevent this conduct. It should be noted that the study was conducted in 1994, which raises the issue of the generalizability of the findings to today's players and context. This potential concern is addressed in the Methods section.

We start with a review of what is known—or not known—about NCAA rule infractions. Before doing so, it is important to note that the current project probes one dimension of this issue: student-athletes' involvement in prohibited conduct. We do not assess rule breaking by coaches or other university personnel, and we do not study the macrolevel issue of how violations vary across athletic departments. Instead, our focus is limited to understanding the extent of violations among student-athletes and why this occurs.

The Dark Side of the Ivory Tower

Research has increasingly revealed that universities are not ivory towers free from the problems of the larger society but rather are domains marked by such waywardness as binge drinking, sexual victimization, and predatory crime (Fisher, Daigle, and Cullen, 2010; Sloan

and Fisher, 2010; Vander Ven, 2011). These antisocial acts, however, are often treated as revelations that surprise and puncture the ivory tower myth. By contrast, citizens have few illusions about the allegiance to the moral order within collegiate athletics—an enterprise they view as constituting the dark side of the ivory tower. Thus, in a national Louis Harris poll initiated by the Knight Commission, more than 80% of the public—and high percentages of legislators as well as college academic and athletic administrators—agreed with the statement: "Serious rule violations by leading college athletic departments have undermined the traditional role of universities as places where young people learn ethics and integrity" (Lederman, 1991: A35). Similar results have been found in other surveys (Dixon, Turner, Pastore, and Mahony, 2003: 59–60).

Certainly, a strong case can be made for renovating various aspects of collegiate athletics—to rein in costs and strengthen academic standards, for example. But the widely accepted conclusion that NCAA rule infractions—"cheating"—are widespread rests on a shaky empirical foundation. To be sure, there are empirical indications that seamy practices exist, perhaps at disquieting levels, in athletic programs. But in each instance, the data being cited are incomplete and potentially influenced by methodological artifacts. We point to five sources of data in this study.

First, the extent of "cheating" might be gauged by the number of institutions on NCAA probation for violating rules, which has, at times, exceeded 25 programs (see, e.g., *Chronicle of Higher Education,* 1989, 1992, 1995). A recent *Wall Street Journal* article, titled "The NCAA's Last Innocents," found that among 120 Bowl Championship Series (BCS) institutions, only four (Boston College, Northwestern, Penn State, and Stanford) had not experienced a major violation in some sport (Everson and Karp, 2011). These figures, however, are not interpreted easily. Probation statistics measure violations by programs, not by student-athletes. Even in programs where cheating has occurred, the infractions may have affected most athletes or perhaps only a handful. In sum, assessing the extent of infractions necessitates going beyond data on detected infractions and establishing infraction rates across the student-athlete population as a whole.

Second, and relatedly, highly publicized scandals—often described in detail by investigative reporters, as was the case with Ohio State University (Dohrmann, 2011)—convey the impression that scratching the surface of any major college sports program will reveal rampant rule infractions. Because these scandals have occurred for many years, cheating seems integral to the collegiate athletic enterprise (see, e.g., Callahan, 1989; Cramer, 1986; Hughes and Shank, 2008; Jenkins, 1967; Lederman, 1987; Looney, 1985; Sanoff, 1980; Steptoe and Swift, 1994; Sullivan and Neff, 1987; Whelan, 1995, 1996). Indeed, Zimbalist (1999: 6–7) notes that collegiate athletics had "inglorious beginnings" in the 1880s—with Yale, for example, having "a $100,000 slush fund to aid football" and luring "tackle James Hogan by offering him free meals and tuition, a suite in Vanderbilt Hall, a trip to Cuba, a monopoly on the sale of game scorecards, and a job as a cigarette agent for the American Tobacco Company." Although these exposés are suggestive of a serious

problem, they do not constitute incontrovertible proof that most athletes break NCAA rules. Again, the risk is that celebrated scandals, which accrue enormous media attention, may distort public opinion. Especially egregious instances of corruption are generalized to college athletics as a whole; a few bad apples are taken to mean that the whole barrel is rotten (see Remington, 1983–1984: 182). The accuracy of this generalization, however, awaits scientific assessment.

Some caution in generalizing beyond the specific incidents found in media reports can be drawn from research conducted by Weber, Sherman, and Tegano (1990: 390), who examined the extent to which faculty members at 18 universities were "pressured to provide academic assistance to student-athletes." They discovered that only 11% of the faculty responded that they had felt pressured to provide preferential treatment to student-athletes and less than 1% stated that this had occurred frequently. "Except for isolated situations of a flagrant nature that are sensationalized by the media," concludes Weber et al. (1990: 389), "the problem seems not to be a major one."

Third, the news media has done much to publicize the criminal activities of college athletes, suggesting that many college athletes are prone to break rules (Lederman, 1995; see also Alpert, Rojek, Hansen, Shannon, and Decker, 2011). In a *Sports Illustrated* report titled "Rap Sheets, Recruits, and Repercussions," Dohrmann and Benedict (2011) examined the number of football players that had "police records" among programs ranked in the preseason Top 25 for 2010. Only one program had no player on its roster without a record. The average number of such players was 8.16, with the University of Pittsburgh having 22. It is not clear, however, how such criminal participation would affect NCAA violations or, more generally, behavior on campus. For example, Penn State—a university with a history of no NCAA violations in any sport (Everson and Karp, 2011)—had 16 of its football players with criminal records. Also relevant is a 1991 study comparing the criminality of approximately 1,000 student-athletes with 10,000 college students. When asked to report crimes that they committed while attending college, the student-athletes' involvement was higher. Despite this fact, the extent of offending was substantively low, with only 2.4% of the student-athletes (versus 1.4% of the nonathletes) self-reporting a criminal act (Wieberg, 1991).

Fourth, a 1987 survey asked head football coaches to estimate the extent to which NCAA regulations were violated (Cullen, Latessa, and Byrne, 1990). The statistics suggested that infractions are not uncommon: The coaches estimated that, on average, more than 30% of programs committed serious violations on a regular basis and that almost half had committed a least one serious violation in the past 5 years. The methodological problems with these data, however, are clear: The data measured only the coaches' "estimation" of infractions. Thus, whereas the study is suggestive—after all, coaches might be expected to have some knowledge in this area—it cannot be determined whether the coaches' perceptions inflated, underestimated, or accurately estimated the true prevalence of rule breaking.

Fifth, in perhaps the best study to date, Sack (1991) studied 1,182 athletes who were current or former National Football League players. Asking the athletes to self-report whether they "had ever accepted financial benefits not allowed by the NCAA," he found that 31% "admitted to accepting improper benefits while they were in college" and almost half reported "knowing athletes at their college who took under-the-table payments" (1991: 4–6). Again, although suggestive, these data may present a misleading picture of infractions: The sample is very selective because only a small percentage of student-athletes enter professional football and those that do are drawn disproportionately from certain programs. Furthermore, it is possible, as Sack points out, that these NFL players "were, by and large, the best and most sought-after athletes in college," and thus were more likely to be the targets for illegal inducements than student-athletes who were not talented enough for professional football (Lederman, 1989: A43). Sack (1991: 13) also notes that his study did little to resolve "the question . . . as to why some athletes accept payments and others had not."

Related to this research, Sack (1988) previously surveyed 644 student-athletes on their views about NCAA regulations. He discovered that "43 percent of the athletes in the sample saw nothing wrong with accepting 'money under the table' for such things as traveling and living expenses" (1988: 5). However, whether the sentiments expressed by Sack's (1988) respondents translate ineluctably into actual rule-breaking behavior remains to be determined.

Research Strategy

When woven together, the threads of research reported previously indicate that NCAA rule infractions may be commonplace. But it is equally clear that the measurement strategies used to assess this waywardness are crude and unable to give a more precise estimate of the extent to which such rule breaking occurs. Although not without its own limitations, criminologists have used self-report surveys with success to probe areas of "hidden delinquency" (Hindelang, Hirschi, and Weis, 1981; Kubrin, Stucky, and Krohn, 2009; O'Brien, 1985). In this context, we undertook a survey of NCAA student-athletes for which we developed two self-report scales: one for infractions during recruiting and one for infractions while in college.

Importantly, self-report surveys also provide a unique opportunity to test causal theories because, of course, items measuring not only crime but also theoretical variables can be included on the same instrument (for a classic example, see Hirschi, 1969). In fact, criminologists rely heavily on self-report research in assessing the relative strength of the field's theories (Kubrin et al., 2009; Pratt, Cullen, Blevins, Daigle, and Madensen, 2006; Weisburd and Piquero, 2008). Accordingly, in the current project, we incorporated into the self-report instrument a range of theoretical measures. In developing these measures, we were guided by the main theories of crime (for more detail, see Lilly, Cullen, and Ball, 2011). Thus, we assessed the extent to which differential involvement in rule infractions might be

explained by economic deprivation or strain, antisocial associations and learning, strength of social bonds, perceived deterrence, opportunity, individual differences, and organizational context. These seven perspectives are relevant because they are viewed as general theories that can explain variation within such behavioral domains as delinquency, deviance, aggression, and antisocial conduct. As will be observed, they have clear explanatory power with regard to NCAA rule infractions. The measures for the key concepts of these theories are presented in the Appendix and are explained in the Methods section.

In general, our research strategy involved the use of criminological measurement technology and theory to illuminate the extent and sources of student-athletes' violation of NCAA rules. As the first study of its kind, it has the potential to serve as an example for future investigations. It also brings data to bear with regard to understanding policies that might be developed to diminish these infractions. Designing policies and associate programs that may combat NCAA rule infractions successfully will depend on targeting those factors that actually place student-athletes at risk of violations. To be sure, much plausible speculation now abounds as to why student-athletes break NCAA regulations: They are economically deprived, they do not believe in the morality of NCAA regulations, they are increasingly drawn from a society where deviance reigns, enforcement of regulations is lax, the emphasis on winning creates structural pressures for rule violations, and so on (see, e.g., Cullen et al., 1990; McManaman, 1992; Sack, 1987, 1988, 1991; Santomier, Howard, Piltz, and Romance, 1980; Wieberg, 1994). But again, virtually no empirical evidence exists that systematically tests these competing views independently or against one another. The current project seeks to fill this void in the research.

Methods

Sample

The design for this research involved surveying a national sample of 2,000 male student-athletes drawn randomly from Division I basketball and football programs. The sample was divided into 1,000 basketball players and 1,000 football players. Male athletes in "revenue-producing" sports were chosen as the sample because these programs are typically identified as being most at risk of rule violations. Research on female student-athletes and participants in other sports is clearly needed. This project was funded by the NCAA, although it had no control over its content.

The first step in constructing a sample was to develop a list of the population of all Division I basketball and football student-athletes from which the sample of 2,000 was to be drawn. Toward this end, we contacted the Sports Information Directors (SIDs) at institutions having Division I basketball and/or football programs. In a letter, which noted the NCAA's sponsoring of this research project, the SIDs were asked to provide a media guide for the 1993–1994 academic year or similar material, which would contain a roster of student-athletes on their institution's teams. Missing rosters were provided to us by the

NCAA. As a result, our sample was drawn from virtually the entire population of student-athletes in Division I basketball and football programs. Once the rosters were received, the student-athletes were entered into two separate lists: one for basketball and one for football. A random numbers table was then used to select 1,000 names from each list, making for the overall sample of 2,000.

In conducting the survey, we employed Dillman's (1978) total design method—a survey methodology that typically secures high response rates. In the spring quarter of the 1993–1994 academic year, the members of the sample were sent an initial questionnaire. Following Dillman (1978), one week later, they received a follow-up reminder urging their participation in the study. Three weeks after the original mailing, the respondents received a letter and a replacement questionnaire. Finally, 7 weeks after the original mailing, another letter and replacement questionnaire were forwarded. The respondents were provided with a phone number that they could call collect if any questions arose regarding the study. To determine who had responded to the survey but also to ensure anonymity, a tracking number was included on the return envelope but not on the questionnaire.

To increase the response rate, we then sent a separate mailing to those nonrespondents whose home addresses were available through the American Student Lists Company. Furthermore, at the very beginning of the following fall semester (1994–1995 academic year), we contacted the NCAA faculty representatives at universities. They were chosen because their identities could be secured and because we anticipated that they would have an interest in advancing knowledge on the topic at hand. We asked them to give a sealed, individually addressed envelope containing the questionnaire to student-athletes at their institution who had not participated in the survey to that point.

In all, 648 usable questionnaires were returned, which is a response rate of 32.4%. The response rate for basketball (33.2%) and football (31.6%) was quite similar. Given the efforts to secure responses, it may be that this population is challenging to survey. Two considerations, however, lessen our concerns about the generalizability of the results. First, as will be discussed subsequently, the findings we report—especially with regard to sources of rule infractions—are consistent with the known predictors of antisocial conduct (Andrews and Bonta, 2010). That is, there is little about the findings that are counterintuitive.

Second, by the spread of the sample across response categories, it appears that the respondents are a diverse group in terms of athletic status, college status, year in college, race, and academic performance (see Table 1). The percentage of student-athletes self-identifying as a religious fundamentalist seems high, but this may reflect a growing trend in college athletics at the time of the study (Blum, 1996; Jordan, 1995). In contrast, on the one hand, the respondents seem to have been drawn disproportionately from families with educated parents. On the other hand, 42.1% to 61.1% of the sample reported not having enough money for various activities during the school year, suggesting a measure of financial strain among the student-athletes. In any case, it is possible that the study underrepresents the most impoverished student-athletes drawn from the nation's "underclass."

TABLE 1

Characteristics of the Respondents, Percentages, and Means Reported ($N = 648$)

Percentage in each sport[a]	
Basketball	51.2
Football	48.8
Percentage on scholarship	
Yes	84.8
No	15.2
Athletic status	
Played on first team	37.1
Top reserve	19.8
Played small amount in games	20.1
Did not play	22.0
Other	1.4
College status	
Transferred from other college	17.9
Did not transfer	82.1
Year in college	
First	21.3
Second	21.0
Third	25.5
Fourth	23.8
Fifth	6.5
Other	2.0
Mean age	20.8
Race	
White	54.6
African American	40.5
Hispanic	1.6
Asian	0.2
Other	3.1
Mother or father graduate from college	
Yes	54.5
No	45.5
Family receiving governmental assistance in the past 12 months	
Received welfare benefits	4.5
Received food stamps	5.3
Public housing	1.4
Unemployment benefits	8.6
Have not had enough money since school started to	
Buy clothes you needed	50.9
Buy something else you needed	59.3
Travel home from college	42.1
Go out with friends to eat	58.8
Go to a movie, concert, or some other event that cost money	61.1

Continued

TABLE 1

Continued

Marital status	
Never	96.0
Currently married	3.7
Separated or divorced	0.4
Academic performance	
Mostly As (3.4 or higher)	8.6
Mostly Bs (∼3.0 average)	38.8
Mostly Cs (more than 2.0 average)	48.0
Have had a hard time staying eligible	4.7
Born again Christian or a fundamentalist believer of another faith	
Yes	47.6
No	52.4

[a] Because of rounding, percentages may not add up to 100.

Timing of the Study

As noted, the data are drawn from 1994. We wrote an extensive report for the NCAA but chose at the time not to seek publication in a journal. In the intervening years, when scandals emerged, we often have been contacted regarding the research. Other studies have not been forthcoming, and thus the data we collected remain the most significant on the topic. Part of our impetus to publish the results now is to broaden their availability and to encourage further research.

At issue is whether the data are still relevant to today's collegiate athletics. Four considerations are relevant to this issue. First, the theories used in this study are long-standing behavioral explanations (Lilly et al., 2011). As general theories, they are intended to have similar effects across time and not to be highly context specific. Second, criminologists regularly rely, without concern, on data drawn from samples in the 1990s and before (see, e.g., Piquero, Farrington, and Blumstein, 2007; Sampson and Laub, 1993; Thornberry and Krohn, 2003; see also Tanner-Smith, Wilson, and Lipsey, 2012) because the main predictors of antisocial behavior show remarkable stability from one time period to the next (Andrews and Bonta, 2010; Gendreau, Little, and Goggin, 1996). Accordingly, the results reported in this study are unlikely to change substantively—all the more so because they are consistent with prior studies of antisocial conduct (Andrews and Bonta, 2010).

Third, the basic structure of "big time" collegiate athletics remains unchanged (Branch, 2011; Zimbalist, 1999). Scandals seem a regular feature of major college sports, which is what inspired this study in the first place. In an article that could have been written in the early 1990s (see *Academe*, 1991), *The Chronicle of Higher Education* (2011: A1) calls the "scandals that have rocked college sports in the last year . . . shocking," and asks, "What the hell has happened to college sports?" Similarly, in 1995, Alexander Wolff authored a public

letter calling for the president of the University of Miami to eliminate its scandal-ridden program; in 2011, he felt compelled to offer similar advice (Wolff, 1995, 2011).

Fourth, certain features of collegiate athletics may nourish or discourage rule infractions in ways that differ from 1994. Thus, although a complex matter (Fulks, 2011), rising revenues, including large salaries for prominent coaches, have prompted a sustained commentary depicting student-athletes as exploited and as deserving greater compensation (Branch, 2011; Huma and Staurowsky, 2011). This message is not new, but if it were internalized more today, then it could lead to an increased willingness to break NCAA rules. Conversely, because so much revenue can be forfeited for an NCAA violation (e.g., excluded from conference and postseason tournaments), universities have ratcheted up compliance activities to ensure evidence of "institutional control" (e.g., use of computer technology, meetings on rules with players, and advising boosters of regulations). Whether this growing concern with compliance impacts student-athletes' conduct remains to be demonstrated. Furthermore, as the NCAA has tightened academic standards (e.g., more core courses taken in high school and requirements to make progress toward a degree), student-athletes might be more likely to have prosocial orientations than had previously been the case. Again, this possibility remains to be assessed.

In short, reasons exist to conclude that the results reported in this article are not time specific but are likely to generalize to today's student-athletes. At the very least, the current study provides a solid foundation on which to conduct replications.

Measuring NCAA Rule Infractions

In the evolution of self-report surveys, criminologists came to realize that an adequate measure would have to cover a wide range of acts that would fall under the rubric of "crime." Thus, whereas early self-report scales included six or seven items that focused on relatively trivial offenses, later scales came to include 20 to 50 items that included offenses ranging from the trivial (e.g., petty theft) to the most serious (e.g., armed robbery and assault with a weapon) (see Elliott, Ageton, Huizinga, Knowles, and Canter, 1983; Hindelang et al., 1981). In measuring NCAA rule infractions, therefore, it was necessary to construct scales that would cover a wide range of acts and thus be capable of detecting violations that may have occurred. Toward this end, we wanted the self-report scale to cover different domains of infractions (violations during the recruitment process and then while the student-athlete was matriculated), different types of acts within those domains (e.g., payoffs, free amenities, and gambling), infractions of differing levels of seriousness (e.g., amount of money given), and violations from different sources (e.g., boosters and coaches).

To construct the self-report measures, we first decided to have two separate scales: one that assessed infractions during the recruiting process and one that assessed infractions during a student-athlete's tenure in higher education. We then developed an initial list of items for each scale. These items were based on our general knowledge of NCAA infractions, which we had seen in various published sources (e.g., *The Chronicle of Higher Education* and

Sports Illustrated). Furthermore, the scales were reviewed by enforcement staff at the NCAA office and by the compliance officer at the lead author's home university. This latter set of reviews proved valuable in alerting us to infractions that we would not have considered. Finally, the scales (and the questionnaire) were pretested on volunteer student-athletes from the lead author's university.

The scale items are presented in Tables 2 and 3, which are analyzed later in the Results section. The self-report scale measuring recruiting infractions is 13 items and has reliability (Cronbach's alpha) of .787. The self-report scale measuring college infractions includes 32 items and has an alpha of .838. The correlation between the recruiting infractions and college infractions scales was .654.

The self-report scales represent a contribution in and of themselves. They were constructed carefully, possess face validity, and have high reliability. Furthermore, the violations that the scales measure remain relevant. However, if used today, these scales should be pretested again with student-athletes and updated to determine whether additional items should be included. For example, items might be developed to assess violations involving new technology and social media (e.g., free computers, software, cell phones, or texting that is prohibited).

The self-report scales were placed near the end of the questionnaire (the second-to-last section). The respondents were instructed that "we would like to ask you about a number of different activities that some people might consider nonconformist or even outside NCAA rules." They were reminded at this point that their answers would "be kept totally anonymous." They were asked to report if they had "ever done" any of the "activities" listed on the two scales. Specifically, they were instructed to circle "yes" or "no" for each item.

Note that by answering yes or no, the respondents were reporting whether they had committed that act at least once and not how many times they had committed the act. Thus, we do not measure the "incidence" of offending but the "variety" of offending—that is, not how many times infractions occurred but how many of the different kinds of infractions listed on the self-report scale that a respondent committed (e.g., Burton, Cullen, Evans, and Dunaway, 1994). The scores on the recruiting infractions scale were skewed, with a mean of 0.997. Accordingly, the respondents were coded as 1 if they answered "yes" to any of the 13 items and 0 otherwise. For the college infractions scale, the respondents were given a 1 for each item on which they answered "yes." Scores on the scale thus could vary from 0 to 32. The mean was 3.217 (see Table 2).

We used a variety approach for two reasons. First, we believed that the yes–no response set would be easier to answer and thus decrease nonresponses (and, in turn, missing values) on the dependent variables. Second, previous research had achieved high scale reliability with this approach (Hindelang et al., 1981). Notably, Sweeten (in press: 1) has recently demonstrated that variety measures "are the preferred criminal offending scale because they are relatively easy to construct, possess high reliability and validity, and are not compromised by high frequency of non-serious crime types." We should also note that research using

incidence and variety measures typically report findings that are substantively similar (see, e.g., Ousey, Wilcox, and Fisher, 2011).

Independent Variables

In addition to measuring the extent of NCAA rule infractions, a second purpose of this research is to explore the potential sources of these violations. As noted previously, our investigation of this issue has been guided by seven theories scholars have used to explain crime and deviance.

To develop these theoretical measures, which serve as the study's independent variables, we operationalized theoretical concepts in ways consistent with previous research (see, e.g., Burton, 1991; Kubrin et al., 2009), but with wordings adapted to the particular subject matter of this study—student-athletes and rule infractions. The items used to assess the theories are presented in the Appendix by theory and by concept within each theory. This Appendix also reports the reliabilities for the scales. For most of the items listed, the respondents were asked to use a six-point Likert scale to express the extent to which they agreed or disagreed with each item. The scale points were as follows: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, and 6 = strongly agree. Other variables, however, required asking direct information (that is, not in the agree–disagree format). These questions and the categories used to respond are also listed in the Appendix. Reliability coefficients are listed where appropriate.

Because the measures are presented in Table 2, we will review them only briefly in detail here. Theory #1, deprivation/strain theory, contends that people break rules because they are economically deprived or otherwise under strain. We include two measures of family economic deprivation: having a family on public assistance and coming from a poor family. The "situational deprivation" measure assesses lacking financial resources while at college. "Relative deprivation" taps whether student-athletes are bothered by feelings that they are less advantaged than other students at their colleges. "Inequity" attempts to explore whether student-athletes believe that they are "exploited" economically by the structure of major college athletics. Finally, it has been maintained that deprivation can foster the view that people should reach goals through the technically most expedient means (see Messner and Rosenfeld, 1994). This view is measured through the scale called "normlessness."

Theory #2, differential association/social learning theory, proposes that people violate rules because they associate with deviant others and, through social learning, come to internalize values and views that define deviance as acceptable. In this regard, we include measures of how many athlete-friends they have who have broken NCAA regulations and of their perceptions of the views toward toward NCAA regulations held by student-athletes at their university ("others' values") and at other universities ("athletes' general values"). We also include a measure of their own views toward regulations ("internalized values"). Finally, consistent with reinforcement theory, we assess the "balance of risk"—that is, the respondents' perception of the relative benefits and costs of breaking NCAA rules.

Theory #3, social bond/control theory, asserts that ties to conventional society reduce nonconformity by keeping deviant impulses in check. Thus, we measure ties to the university by asking about "grade point average" and about whether good grades are more important than athletics ("commitment to athletics"). We also assess the extent to which the respondents spend time with nonathletes ("involvement with students"), have close emotional bonds with parents ("parental attachment") and with teammates and coaches ("attachment to others"), are married, and possess fundamentalist religious beliefs.

Theory #4, deterrence theory, argues that the certainty and severity of punishment decrease the profitability of, and thus involvement in, nonconformity. In this perspective, people are portrayed as rational calculators who weigh whether crime or deviance "pays." Accordingly, we include two scales that measure the respondents' perceptions of the "certainty of punishment" and the "severity of punishment."

Theory #5, opportunity theory, argues that rule breaking is more likely when people have more chances to deviate. We hypothesized that high-level athletes—"stars"—would have more opportunities to violate NCAA regulations. Thus, we included in the analysis measures of playing time ("athletic status") and how vigorously the student-athlete was recruited ("highly recruited").

Theory #6, individual differences theory, asserts that certain enduring individual traits cause people to violate rules across situations and throughout their lifetime. We were able to incorporate two relevant measures into the analysis. First, we used a scale to tap a "preference for risk taking," a trait linked previously to deviance (see, e.g., Grasmick, Tittle, Bursik, and Arneklev, 1993; Hagan, 1989). Second, we used a measure of "past delinquency," which assessed how much the respondents were involved in delinquency "since turning 16."

Finally, Theory #7, organizational theory, contends that organizational context can generate deviant activity. We chose to measure whether the respondents perceived they were in a context in which winning was stressed at all costs ("emphasis on winning") and in which compliance with NCAA regulations was given a priority ("emphasis on compliance"). We also measured the stability of the coach at the institution ("coach's tenure") and whether the team had been successful ("team record").

Control Variables

In addition to the independent variables derived from the theoretical models, we measured a number of control variables about the student-athletes. These included standard demographics, including age and race, which was measured as 0 = White and 1 = non-White. "Parents' education" was measured on a scale ranging from 0 = no parent graduated from high school to 3 = father or mother graduated from college. However, controls also were introduced for two variables that relate to the student-athletes' experiences. Thus, "sport" was coded as 1 = basketball and 2 = football, and "transfer from other college" was coded as 0 = did not attend another college or junior college and 1 = did attend another college or junior college.

TABLE 2

Involvement in Infractions During Recruiting and While on Campus, Percentages and Means Reported

Type of Infraction	Yes	No	Mean
Recruiting infraction	38.2	61.8	0.997
College infraction	71.9	28.1	3.217

TABLE 3

Percent of Student-Athletes Reporting Rule Infractions While Being Recruited

Violations	Yes	No
1. Received clothes or shoes from a coach	12.6	87.4
2. Received a small amount of money (under $20) from a coach	14.2	85.7
3. Received between $20 and $100 from a coach	7.9	92.1
4. Received more than $100 from a coach	1.7	98.3
5. Received clothes from someone outside the college who supports the athletic programs (a "booster")	6.9	93.1
6. Received a small amount of money (under $20) from a booster	5.9	94.1
7. Received between $20 and $100 from a booster	4.5	95.5
8. Received over $100 from a booster	2.3	97.7
9. Had someone else take your SAT or ACT test	0.2	98.8
10. Knew that your high school grades were being falsified so it would make you appear eligible	0.3	99.7
11. During an official paid visit, received money, T-shirts, or other clothing from your student host	17.6	82.4
12. During the recruitment period, worked out so that coaches could evaluate your talent	13.0	87.0
13. Did something else you thought might have been against NCAA rules	12.1	87.9

Results

Extent of NCAA Rule Infractions

Table 2 presents information on the involvement in NCAA infractions for each scale. As can be observed, more than six in ten respondents did not violate any NCAA rules during the recruiting process. Overall, the mean number of violations across the sample is less than one. In contrast, more than seven in ten student-athletes self-reported breaking an NCAA regulation after they matriculated at a college. The average number of violations per respondent was 3.217. Recall that this statistic measures the variety of offenses and not the incidence offending. That is, the sample, on average, report committing three different types of violations while in college.

Table 3 examines involvement in each of the violations on the recruiting infractions scale. The percentage of the respondents involved in any given infraction is relatively small. The most prevalent violation—"receiving money, T-shirts, or other clothing from your student host"—was self-reported by less than one in five of the respondents (17.6%). Infractions involving greater sums of money were rare (less than 2% reporting receiving more

than $100). Virtually no student-athlete reported academic violations, such as tampering with high school grades or having another student take their SAT or ACT test. It is perhaps worth noting, however, that 13% of the respondents reported that during their recruitment, they had "worked out so that the coaches could evaluate your talent."

Table 4 presents the percentage of the sample members self-reporting each of the 32 violations included in the college infractions scale. Several conclusions can be drawn from the data. First, coaches appear to be fostering performance-related violations. Thus, the most reported violation was "practiced for more than 28 hours in any one week." Relatedly, 16.5% of the respondents reported participating in an "out-of-season practice" organized by their coach. Second, in contrast, academic-related violations were less pronounced. Thus, although not negligible, 6.4% of the respondents reported receiving fraudulent passing grades and 5.9% reported having tutors author their course papers or assignments. Third, aside from these athletic-related violations, the most common infractions involved student-athletes receiving free meals from coaches (31.1%), boosters (18.9%), and local restaurants/bars (37.1% for "food or alcoholic beverages"). Furthermore, 12.4% report receiving "free services, such as haircuts or dry cleaning." Fourth, two other comparatively prevalent violations involved the students' status as athletes. Thus, almost one in five of the respondents reported that they had "traded or sold complimentary passes to games." Similarly, more than one in five of the respondents reported that they had made personal calls "that the athletic department paid for."

Fifth, the results suggest that gambling is an area of concern. Greater than one fourth of the sample reported that they "gambled on other college sporting events" and 3.7% admitted to gambling on a "game in which you played." Three respondents reported that they had received money from a gambler for "not playing well in a game."

Sixth, violations involving large amounts of money—the type of infraction often publicized in the media—appear to occur relatively infrequently. Thus, although these infractions were not fully unreported, only small percentages of the respondents reported receiving a plane/bus ticket to travel home, receiving money in excess of $100, having a girlfriend or family member hired by a booster, receiving a job that involved no real work, and receiving a car from a booster. No respondents said that they had taken out a "loan for a car, which you knew you would not have to pay back."

Sources of NCAA Rule Infractions

Given the diverse theories and numerous measures, we approached the data analysis for each outcome with a two-step process. First, we analyzed the variables within each theory separately. Second, we then took the statistically significant variables and placed them in a single "reduced equation"; we also included any control variable that was significant in any of the analyses. Tables 5 and 6 thus present the results for each of the seven theories, with the reduced model at the end of each table. The analysis is, as stated, cross-sectional, which means that caution should be exercised with regard to causal ordering (especially

TABLE 4

Percent of Student-Athletes Reporting Rule Infractions While in College

Violations	Yes	No
1. Traded or sold complimentary passes to games	19.6	80.4
2. Let a coach pay for a plane/bus/train ticket so that you could travel home	2.6	97.4
3. Received a small amount of money (under $20) from a coach (other than money for hosting recruits for official visits)	10.1	89.9
4. Received between $20 and $100 from a coach (other than money for hosting recruits for official visits)	5.6	94.4
5. Received more than $100 from a coach (other than money for hosting recruits for official visits)	1.5	98.5
6. Let a coach buy you a meal	31.1	68.9
7. Let a coach buy you clothes or shoes (not counting athletic shoes or equipment the team is supposed to receive)	2.5	97.5
8. Received a small amount of money (under $20) from someone outside the college who supports that athletic programs (a "booster")	8.2	91.8
9. Received between $20 and 100 from a booster	6.6	93.4
10. Received more than $100 from a booster	3.3	96.7
11. Let a booster buy you a meal	18.9	81.1
12. Let a booster buy you clothes	3.4	96.6
13. Let a booster buy or give you a car	0.3	99.7
14. Let a booster pay for a plane/bus/train ticket so that you could travel home	1.1	98.9
15. Took out a "loan" for a car, which you knew you would not have to pay back	0.0	100.0
16. "Borrowed" money from a booster that you knew you would never have to pay back	2.3	97.7
17. Got a job from a booster, but did not really have to show up and work all the hours you got paid	3.7	96.3
18. Let a booster hire your girlfriend or family member for a job, as a favor to you	1.5	98.5
19. Made personal telephone calls—such as to your family—that the athletic department paid for	22.1	77.9
20. Received free transportation—such as a trip to the airport or home—from a coach (not related to practice or competition)	9.1	90.9
21. Received free food or alcoholic beverages from a local restaurant or bar	37.1	62.9
22. Received free services, such as haircuts or dry cleaning, from a local business	12.4	87.6

Continued

TABLE 4

Continued

Violations	Yes	No
23. Received a passing grade for a course that you did not really attend or take all the tests in	6.4	93.6
24. Had an academic tutor/advisor hired by the athletic department do a course paper or assignment for you	5.9	94.1
25. In the last year, practiced for more than 20 hours in any one week	44.5	55.5
26. Participated in an out-of-season practice that a coach of your college team helped to organize	16.5	83.5
27. Gambled money on a game in which you played	3.7	96.3
28. Gambled money on other college sporting events	25.5	74.5
29. Received money from a gambler for not playing well in a game	0.5	99.5
30. Received money from a sports agent	0.5	99.5
31. Secretly signed a contract with a sports agent	0.3	99.7
32. Did something else you though might have been against NCAA rules	14.0	86.0

with the recruiting infractions, which occurred prior to the completion of the survey). As will be noted, however, the predictors of NCAA infractions are consistent with known predictors of antisocial behavior, which lends credence to the results reported here. Finally, the analyses reported in Table 5 were conducted with logistic regression because the scores on the recruiting infractions scale were skewed and thus were treated as dichotomous (recall that 61.8% of the sample reported no such infractions).

Recruiting infractions. As can be observed in Table 5, most of the variables predicted by the theories to be related to recruiting infractions are not statistically significant. None of the theoretical variables in Theory #7 is significant; only one variable in Theories #1, #4, #5, and #6 is significant, and only two variables in Theories #2 and #3 are significant. Furthermore, among the control variables, only being a transfer from another college has a significant relationship with the dependent variable. These nonsignificant results are important, however, because they suggest that many common explanations of recruiting infractions may well be incorrect. For example, it does not appear that involvement in infractions is affected by economic deprivation, certainty of being punished, or organizational factors. Furthermore, note that recruiting infractions did not vary by race, parents' education, or sport played by the student-athlete.

In the reduced model in Table 5, the variables of feelings of inequity and perceived severity of punishment are no longer significant. However, consistent with social learning theory, the data suggest that infractions were higher for those respondents who had friends

TABLE 5

Sources of Recruiting Infractions, by Theory

	Logit Coefficient	Significance Level
Theory #1. Deprivation/Strain Theory		
Public assistance	.382	.100
Poor family	−.028	.463
Situational deprivation	.062	.223
Relative deprivation	.003	.935
Inequity	.188	.000*
Normlessness	.034	.420
Age	−.005	.941
Race	−.167	.418
Parents' education	.113	.301
Transfer from other college	.434	.086
Sport	−.094	.609
Theory #2. Differential Association/Social Learning Theory		
Friends' deviance	.415	<.000*
Others' values	.097	.005*
Athletes' general values	.059	.333
Internalized values	−.039	.308
Balance of risk	−.014	.751
Age	<.000	>.999
Race	−.044	.821
Parents' education	.048	.640
Transfer from other college	.222	.380
Sport	.033	.855
Theory #3. Social Bond/Control Theory		
Grade point average	−.190	.189
Marriage	−.549	.274
Parental attachment	−.439	<.000*
Attachment to others	−.045	.334
Commitment to athletics	.045	.376
Involvement with students	−.242	.091
Religious fundamentalist	.364	.046*
Age	.045	.480
Race	.124	.537
Parents' education	.124	.225
Transfer from another college	.371	.135
Sport	.028	.879
Theory #4. Deterrence Theory		
Certainty of punishment	−.016	.779
Severity of punishment	−.138	<.000*
Age	.049	.473
Race	−.084	.654
Parents' education	.077	.437

Continued

TABLE 5

Continued

	Logit Coefficient	Significance Level
Transfer from other college	.245	.230
Sport	.024	.891
Theory #5. Opportunity Theory		
Athletic status	.121	.145
Highly recruited	.071	<.000*
Age	−.037	.612
Race	−.145	.448
Parents' education	.108	.282
Transfer from other college	.567	.023*
Sport	.133	.471
Theory #6. Individual Difference Theory		
Preference for risk taking	.010	.695
Past delinquency	.229	<.000*
Age	.037	.604
Race	.252	.190
Parents' education	.041	.694
Transfer from other college	.322	.196
Sport	−.203	.279
Theory #7. Organizational Theory		
Emphasis on winning	−.003	.957
Emphasis on compliance	.044	.544
Coach's tenure	−.121	.160
Team record	−.054	.465
Age	.047	.487
Race	.083	.646
Parents' education	.097	.317
Transfer from other college	.267	.263
Sport	.028	.874
Reduced Model		
Theoretical Variables		
Inequity	.026	.538
Friends' deviance	.300	.004*
Others' values	.083	.024*
Parental attachment	−.377	.001*
Religious fundamentalist	.421	.031*
Severity of punishment	−.048	.190
Highly recruited	.068	<.000*
Past delinquency	.206	<.000*
Control Variable		
Transfer from other college	.579	.022*

*$p < .05$.

TABLE 6

Sources of College Infractions, by Theory

	Beta	Significance Level
Theory #1. Deprivation/Strain Theory		
Public assistance	−.003	.944
Poor family	.007	.875
Situational deprivation	.012	.767
Relative deprivation	.029	.525
Inequity	.158	.002*
Normlessness	.126	.001*
Age	.188	<.000*
Race	−.074	.081
Parents' education	.114	.006*
Transfer from other college	.043	.290
Sport	−.052	.181
Theory #2. Differential Association/Social Learning Theory		
Friends' deviance	.280	<.000*
Others' values	.200	<.000*
Athletes' general values	.081	.038*
Internalized values	−.111	<.000*
Balance of risk	.138	.001*
Age	.148	<.000*
Race	−.047	.175
Parents' education	.074	.031*
Transfer from other college	.018	.597
Sport	−.005	.862
Theory #3. Social Bond/Control Theory		
Grade point average	.009	.842
Marriage	−.024	.542
Parental attachment	−.197	<.000*
Attachment to others	−.043	.268
Commitment to athletics	.056	.161
Involvement with students	−.118	.003*
Religious fundamentalist	−.024	.534
Age	.210	<.000*
Race	−.026	.531
Parents' education	.130	.001*
Transfer from another college	.033	.412
Sport	−.044	.260
Theory #4. Deterrence Theory		
Certainty of punishment	.006	.862
Severity of punishment	−.255	<.000*
Age	.197	<.000*
Race	−.062	.117

Continued

TABLE 6

Continued

	Beta	Significance Level
Parents' education	.090	.022
Transfer from other college	.024	.542
Sport	−.014	.712
Theory #5. Opportunity Theory		
Athletic status	.071	.089
Highly recruited	.146	<.000*
Age	.165	<.000*
Race	−.052	.198
Parents' education	.108	.007
Transfer from other college	.046	.256
Sport	−.004	.912
Theory #6. Individual Difference Theory		
Preference for risk taking	.001	.976
Past delinquency	.457	<.000*
Age	.166	.000*
Race	.018	.616
Parents' education	.059	.104
Transfer from other college	.031	.391
Sport	−.101	.002*
Theory #7. Organizational Theory		
Emphasis on winning	.016	.675
Emphasis on compliance	−.043	.270
Coach's tenure	−.058	.152
Team record	−.028	.497
Age	.187	<.000*
Race	−.015	.710
Parents' education	.101	.013*
Transfer from other college	.032	.442
Sport	−.019	.611
Reduced Model		
Theoretical Variables		
Inequity	−.009	.798
Normlessness	−.002	.954
Friends' deviance	.239	<.000*
Others' values	.160	<.000*
Athletes' general values	.065	.072
Internalized values	−.099	.001*
Balance of risk	.113	<.000*
Parental attachment	−.132	<.000*
Involvement with students	−.008	.799
Severity of punishment	.007	.836
Highly recruited	.103	.001*
Past delinquency	.313	<.000*

Continued

TABLE 6

Continued

	Beta	Significance Level
Control Variables		
Age	.138	<.000*
Parents' education	.070	.025*
Transfer from other college	.029	.364
Sport	−.068	.031*

$R^2 = .440$. Equation $F = 31.13, p < .000$. $*p < .05$.

who (1) broke NCAA rules and (2) believed that breaking NCAA rules is acceptable. Accordingly, it appears that whom student-athletes associate with affects their involvement in recruiting infractions. Opportunity also seems to increase infractions. Thus, respondents who were highly recruited had more recruiting infractions. Relatedly, those who had transferred from other colleges also had more infractions. This finding could be interpreted as an opportunity effect: Transfers likely were engaged in the recruiting process twice. However, it could mean that infractions are more likely when student-athletes have been in college and then enter the recruitment process (that is, they commit more infractions the "second time around").

Third, somewhat surprisingly, we found that students' self-reporting as a religious fundamentalist were more likely to break NCAA rules during recruitment. This relationship is one of the few counterintuitive findings in this research. One possibility is that we have detected an "honesty effect"; that is, respondents with strong religious beliefs may admit more violations or perhaps define actions of ambiguous morality as infractions. This interpretation, however, is questionable because (as we shall discover) religious fundamentalism is unrelated to college infractions. Thus, if this variable biased the responses, then it should do so on both infraction scales. We can think of one other possible reason for the positive relationship between religiosity and infractions. A proportion of the respondents may have become religiously fundamentalist as a result of a conversion in college (being "born again"). If so, then they may have been more deviant before college, thus accounting for their higher levels of infractions in the recruitment process.

Fourth, and perhaps the most notable finding, is that NCAA violations were influenced by two factors unrelated to the college or athletic experience. First, consistent with social bond theory, respondents who were closely attached to their parents were less likely to break rules. Second, consistent with individual differences theory, respondents previously involved in delinquency committed more infractions. This finding suggests that NCAA violations may be a manifestation of a broader propensity to deviate that has effects across social domains.

College infractions. As observed in Table 6, across the theories assessed, 3 control variables and 12 theoretical variables were significantly related to the college infractions scale. Note that in Table 6, where the reduced model is presented, the variables explain 44% of the variation in infractions—a figure that is substantial for theories of crime (Weisburd and Piquero, 2008). Based on the reduced model, several salient findings emerge.

First, no components of deprivation/strain theory and of deterrence theory retained statistical significance. These findings suggest that two common explanations of NCAA misconduct—that student-athletes violate rules out of need or because of weak enforcement—do not garner empirical support.

Second, factors identified by social learning theory appear to play an important causal role; four factors are related to college infractions, whereas a fifth variable ("athletes' general values") is just barely nonsignificant ($p = .072$). Similar to recruiting infractions, college infractions are increased if student-athletes associate with friends who either break NCAA rules or define such deviance as acceptable. In this analysis, however, the data also suggest that infractions are decreased if student-athletes hold values that define rule violations as morally wrong and are increased if they view the rule violations as positively rewarded (i.e., the perceived benefits outweigh the perceived costs).

Second, parental attachment has significant effects across types of infractions. Those who are bonded to their parents appear to resist breaking NCAA rules. Third, highly recruited student-athletes appear to be more likely to commit infractions not only before but also after entering college. One possible interpretation for this finding is that once the highly recruited succumb to the temptation to break rules during the recruitment process, they are more likely to continue this behavior while in college. This continuity in deviance occurs, we suspect, because their initial infractions are "differentially reinforced"; that is, they receive tangible benefits and suffer no consequences (see Akers, Krohn, Lanza-Kaduce, and Radosevich, 1979; Akers and Sellers, 2004).

Fourth, consistent with individual differences theory, past delinquency emerges as the strongest predictor of college infractions. This finding coincides with research that shows that people involved in crime are "generally deviant"—that is, they break not only laws but also a range of other social norms (Gottfredson and Hirschi, 1990). Again, as noted with regard to recruiting infractions, the strong influence of past delinquency suggests that NCAA violations are part of an individual propensity that student-athletes bring with them into their college settings.

We should note also that Table 6 indicates that basketball players are more likely to commit college infractions. However, this effect, although statistically significant, is weak and of little substantive importance. Furthermore, note that age is positively related to infractions. This finding is expected because older student-athletes would have been in college longer and had more opportunities to commit infractions. The age-infraction association also furnishes a measure of confidence in our data. The lack of an age effect for recruiting infractions is expected because all the respondents would have had the same

exposure to that process. In contrast, presence of an age effect for college infractions is expected, because, as noted, the respondents' time in which to commit NCAA violations increases with age.[1]

Discussion

Violations of NCAA rules—and the scandals that follow them—are a continuing source of concern for universities, teams' fan base, and the larger citizenry. This project was initiated in the hopes that the technology (self-report studies) and theories used by criminologists could shed unprecedented light on this public policy issue. To be sure, the results need to be replicated with current-day and female student-athletes. Nonetheless, the findings illuminate key aspects about the extent and causes of NCAA rule infractions and, in so doing, provide the best basis available for formulating policy interventions.

The Extent and Sources of Rule Infractions

The majority of student-athletes do commit infractions, most of which occur while in college (seven in ten). Given the prevalence of rule breaking, it is likely that *virtually every college athletic program contains student-athletes that have violated NCAA regulations*. Most of these infractions are minor.

In our sample, the typical violation involved the receipt of a free meal, clothes, haircuts, or small amounts of cash (less than $20). Student-athletes also reported selling game tickets and making telephone calls that were charged to the athletic department. Taken together, these violations seem to fall under the category of "lifestyle" offenses: infractions that are aimed at marginally improving the quality of life of student-athletes. By contrast, serious infractions are relatively infrequent. Most student-athletes do not receive large cash payments or free vehicles, and relatively few benefit from academic fraud, such as being assigned grades they did not earn. As a result, the serious violations that come to light in NCAA and media investigations are atypical and probably not the "tip of the iceberg" (although many undiscovered serious infractions undoubtedly exist). Rather, the image of the student-athlete as driving new cars and having "hundred-dollar handshakes" with boosters seems exaggerated.

1. A reviewer expressed the concern that two items in the college infractions scale (items 25 and 26) related to practicing in unwarranted ways and that these are likely the coaches', not the players', fault. As a result, we recomputed the scale reliability without these two items, and it stayed virtually the same (alpha = .838 vs. .837). We also conducted all the data analyses without these items, and they too stayed substantively the same (in the reduced model, parental education was significant only at the .052 level). Furthermore, we reanalyzed the data with all variables in the analysis. Again, the results remained substantively the same as those reported in the reduced model. The only variations in the results were that sport was significant only at the .055 level and that team record emerged as a significant and negative predictor of infractions ($\beta = -.083$). This latter finding again suggests that winning or pressures to win are likely not a major source of violations.

However, gambling is an infraction that may warrant special attention. Fully one fourth of the respondents reported that they had gambled on sporting events—findings consistent with, if not lower than, other research (Cross and Vollano, 1999; Huang, Jacobs, Derevensky, Gupta, and Paskus, 2007; Weinstock, Whelan, Meyers, and Watson, 2007). These results suggest that student-athletes have a proclivity for illegal gambling, which could present opportunities for more serious problems. Indeed, although relatively infrequent, almost 4% admitted gambling on events in which they played, and three respondents said that they "received money from a gambler for not playing well in a game."

Unauthorized practice time is another infraction that may warrant special attention. This violation surfaced recently in the football program at the University of Michigan, but this might be a case of a prominent program that was caught because it was the fish that jumped into the boat. Almost 45% of the respondents reported practicing for more than 20 hours a week, and 16.5% reported participating in organized out-of-season practices supervised by a coach. Because unauthorized practice time decreases a student-athlete's "free" time and may give a team an unfair competitive advantage, these infractions are potentially consequential.

Developing interventions to reduce violations requires knowing what risk factors to target for prevention or change. Again, criminological theories provide invaluable guidance as to what the sources of rule breaking might be. Often, these theories are employed to explain not only formal acts of crime but also deviant behavior or, as it is commonly called today, antisocial conduct. In the current project, the analysis supplied important insights regarding what are—or are not—robust sources of NCAA rule infractions. We start with the latter issue first and highlight three salient findings.

Thus, coming from an impoverished background and having a lack of money while in college do not appear to be major sources of NCAA rule infractions. Although some poor student-athletes may break NCAA rules, it seems that an equal proportion of more advantaged students do as well. It may be, therefore, that selective perceptions—focusing on certain cases but ignoring others—give life to the image of student-athletes taking payoffs to stave off economic deprivation. Moreover, this finding is not fully unexpected: Even if white-collar illegalities are not considered, the criminological literature does not find a strong link between most offenses and social class (see, e.g., Andrews and Bonta, 2010; Tittle, Villemez, and Smith, 1978). Relatedly, we should be wary of assuming that morality is class based and that affluence insulates against misconduct.

The threat of punishment also does not appear to be a major source of NCAA rule infractions. Perceptions of the certainty and severity of punishment for violating NCAA rules were not significantly related to infractions among our respondents. We did find that student-athletes who felt that the benefits of violations outweighed the costs were more likely to commit infractions while in college. Even here, however, it is not clear that raising the costs of violations would have a meaningful effect on rule breaking unless the benefits of this activity were simultaneously lowered. In short, it is not clear that sanctions will

reduce infractions. Notably, when a variety of causal factors is controlled, self-reported crime studies also show that deterrence variables are, at best, weak predictors of conduct (Paternoster, 1987; Pratt et al., 2006).

Finally, the organizational context of the athletic program does not appear to be a major source of NCAA rule infractions. The analyses of factors such as how strongly a program emphasizes winning (at all costs) or compliance with NCAA regulations, or how successful a team has been, did not reveal any significant effects. Of course, this result might change if more sensitive or different measures were employed (e.g., direct measures of attitudes of coaches and athletic department personnel). At this point, however, the search for the causes of rule infractions seems more profitably directed at other factors.

So, what does matter? The data suggest that highly recruited student-athletes are more likely to violate NCAA rules. Consistent with popular stereotypes, they report breaking more rules both during the recruitment process and while in college. The continuity of their infractions is a potential cause for concern. It may be that these student-athletes are induced into infractions during their initial recruitment, which in essence teaches them that rule breaking is acceptable and thus places them at risk for violations during their college careers.

Importantly, the other major sources of rule infractions reflect risk factors that meta-analyses have identified as robust causes of antisocial conduct (Andrews and Bonta, 2010). These finding suggest, then, that NCAA collegiate athletics are not an idiosyncratic world where infractions are caused mainly by unique factors. Instead, it appears that the risk factors for misconduct tend to be similar across social domains. Three factors merit special attention.

First, close attachment to parents insulates student-athletes against NCAA rule infractions. Consistent with social bond theory, those with close ties to parents are less likely to break NCAA rules. Scholars refer to this effect as “indirect control” because the control exercised over the person is not the result of direct surveillance but of the psychological presence of parents (e.g., the person would not want to break a rule because doing so, particularly if discovered, would disappoint their parents) (Hirschi, 1969). Note that previous research suggests that this type of “informal” social control is more effective in reducing misconduct than the formal threat of punishment (Pratt et al., 2006).

Second, associating with student-athletes who break NCAA rules and learning values that define such deviance as acceptable are salient causes of infractions. Thus, consistent with the differential association/social learning tradition, it seems that involvement in rule breaking is, at least in part, learned behavior. When student-athletes have friends who break NCAA rules, view their teammates and fellow student-athletes as approving of such violations, and internalize those deviant values, they are more likely to engage in infractions. These results are in line with findings for social learning theory (Pratt et al., 2010).

Third, the strongest predictor of NCAA infractions is whether a student-athlete has a general propensity to deviate. Research has shown that a person who deviates in one social

domain is likely to deviate in other social domains—a phenomenon called the "generality of deviance." Scholars propose that underlying individual differences (i.e., personality traits or propensities) explain why people are wayward across situations (see, e.g., Gottfredson and Hirschi, 1990). In the current study, we found that respondents who reported delinquent involvement were more likely to report infractions during the recruitment process and while in college. Thus, it appears that student-athletes who are predisposed to break social rules generally will tend also to break NCAA rules.

Policy Implications

The widespread prevalence of minor NCAA violations raises the issue of whether these infractions can ever be halted. We suspect that free meals or clothes, petty cash payments or selling tickets, and phone calls charged to the athletic department are perceived by student-athletes as minor ways of enhancing their quality of life. It may be that these benefits are perceived as entitlements—as "perks" that accompany one's status as a student-athlete. In fact, they may not be viewed as much different from the amenities—meals, athletic wear, and the like—that student-athletes receive as part of their scholarships. Furthermore, it appears that many people who surround student-athletes—coaches, boosters, and proprietors of local eating and service establishments—offer these perks, perhaps, on a regular basis.

It is likely that, to a greater or less extent, these violations are found at virtually every major college sports program. Selective enforcement of these violations—such as when the NCAA is informed of misconduct and thus investigates a given institution—is likely to result in programs being punished for "something everyone does." Moreover, as suggested, these violations may not be fully controllable, regardless of institutional oversight.

These observations suggest three policy considerations. First, the NCAA could consider legalizing the receipt of amenities such as meals, clothes, and minor "gifts." Of course, the argument against this option is that it would create a "slippery slope" and a potential enforcement nightmare: Once minor meals/payments are allowed, the temptation for greater amenities to be offered would escalate. Furthermore, policing what is a minor versus an excessive inducement would be virtually impossible.

Second, the NCAA could consider a living stipend that would enhance the quality of life of student-athletes (a proposal recently under consideration by the NCAA). The risk of this policy is that these payments may become an "add-on" rather than a substitute for the illegal amenities now received. Our finding that economic deprivation was not a cause of infractions supports the conclusion that stipends would be unlikely to address the underlying cause of student-athletes' taking of inducements. Of course, the policy of a living stipend could be endorsed for other reasons (e.g., students "deserve a piece of the financial pie").

Third, given the likely intractable nature of minor violations, the NCAA may wish to target their enforcement resources to detecting more serious violations (or continue to do so, if serious violations already are the NCAA's enforcement priority). This strategy might

include establishing programs that target highly recruited student-athletes, which our data suggest are susceptible to infractions. Such programs might be two pronged: One part might monitor institutions and how they conduct their recruitment process, and the second part might employ educational interventions to teach recruits why and how to "say no" when confronted with opportunities to violate NCAA rules.

Two other important policy issues merit attention. First, increasing the formal penalties by the NCAA for rule violations is unlikely to reduce student-athletes' infractions. Our data suggest that student-athletes are not affected by the threat that violating NCAA regulations will incur sanctions. Based on the general deterrence literature within criminology, this result is not fully surprising (although that research shows more support for the conclusion that perceived certainty of punishment is a modest correlate of reduced misconduct). Of course, were the NCAA to launch a massive crackdown on rule breaking—for example, by hiring more enforcement agents or conducting "sting" operations on campuses—some reductions in infractions might be possible. One report noted that in 2006, the NCAA spent less than 1% of its budget on enforcement (Branch, 2011; see also Weston, 2011). In general, however, an important lesson from criminology is that formal sanctions are limited in their ability to change human behavior.

Second, important causes of NCAA rule infractions are largely outside the purview of the NCAA. We found, for example, that infractions were more prevalent among respondents who were not closely attached to their parents and who had a history of delinquent involvement. These findings suggest that student-athletes do not come to the recruitment process and to their colleges as "blank slates." Instead, they enter these social domains with preexisting relationships and individual traits that make them more or less likely to break NCAA rules. Accordingly, the NCAA may be limited in its ability to prevent student-athletes at risk for deviance in general from breaking its rules.

One possible intervention, however, would be to screen student-athletes for their propensity to deviate. We are not suggesting excluding student-athletes based on such screening because forecasting future deviance is a formidable task fraught with mistaken predictions. At best, such screening allows for the identification of people at risk for "getting into trouble," but these are probability statements and not foolproof prognostications. Even so, focusing on at-risk student-athletes might allow for intervention programs early in their college careers that not only reduce rule infractions but also divert them from involvement in other forms of misconduct (e.g., criminal behavior). In short, screening can be a means of providing much-needed services that assist student-athletes in overcoming social and personality deficits that otherwise will hamper their academic and athletic development. Notably, risk instruments for offender rehabilitation (e.g., the Level of Service Inventory) have been shown to have predictive validity and to be of value in targeting services to high-risk offenders (Andrews and Bonta, 2010; Vose, Cullen, and Smith, 2008).

Another possibility is that athletic programs may reduce NCAA infractions if they disrupt the "learning environment for deviance" that ostensibly prevails among some

student-athletes. Our data suggest that one reason student-athletes engage in infractions is that they associate with other student-athletes who violate and/or approve the violation of NCAA rules and, in turn, come to embrace these deviant values themselves. In short, they either enter or select themselves into a learning environment that fosters rule breaking.

We doubt that this sort of informal learning environment will be affected by compliance lectures explaining what the content of NCAA rules are and warning what penalties will accrue if one is detected breaking these rules. An emphasis on deterrence is unlikely to be persuasive and may even increase rule breaking. In fact, "scared straight" programs are, despite popular beliefs to the contrary, ineffective in reducing misconduct (Finckenauer, 1982). Again, threats and the imposition of harsh punishments will have limited effects. Instead, we would recommend the creation of programs that first consider how student-athletes "think about" NCAA rules, and then use this information to develop persuasive reasons why infractions are illegitimate. It might be useful to consult student-athletes as to what positive reinforcements they would use to encourage compliance with NCAA rules. Similarly, student-athletes may have insights into the format through which messages against rule violations might best be conveyed (e.g., student-athletes serving as peer counselors).

In any case, we would recommend avoiding interventions that are punitive in tone and focus on the costs of violations; instead, we recommend using programs that target for change values and behavior supportive of rule infractions. This approach would have the potential to disrupt, if not transform, the learning environments through which student-athletes learn from their peers that breaking rules is "okay . . . no big deal." Such an approach would have to be conducted institution by institution, but the NCAA could develop materials that would outline a "model program" and provide training in its implementation. We should note that "cognitive-behavioral" programs of this general sort have been found to be effective in changing the behavior of youths involved in wayward conduct (see, e.g., MacKenzie, 2006).

Ironically, however, media and the public might fuel such antisocial attitudes by repeatedly conveying the message that student-athletes, especially African Americans, are exploited labor, with the NCAA harboring a "plantation mentality" (Branch, 2011: 102; see also Nocera, 2012). Such views have merit in a context in which leading coaches are paid upward of $4 million annually (many Division I coaches earn a salary exceeding $1 million), and the likeness of student-athletes can be marketed for university profit (e.g., selling clothing with university logos) (Brady, Upton, and Berkowitz, 2011; Branch, 2011). Furthermore, college athletic programs bring in revenues of approximately $10.6 billion (*Chronicle of Higher Education,* 2011). As Nocera (2012: 32) argues about the failure to compensate student-athletes, the "hypocrisy that permeates big-money college sports takes your breath away."

Following this line of inquiry, Huma and Staurowky (2011) provided a substantive analysis of the economic situation for student-athletes attending universities in the Football

Bowl Subdivision. Their data show that even though given so-called full scholarships, players' annual out-of-pocket expenses total $3,222. Furthermore, the amount they receive for living expenses places "the vast majority at or below the poverty level" (2011: 4). Noting that professional football and basketball players have revenue sharing with team owners in the 45% to 50% range, they computed, using these figures, the "fair market value" for the student-athletes. They conclude that the "average FBS football and basketball player would be worth approximately $121,048 and $265,027 respectively" (2011: 16). In this context, they then set forth several reasonable policy initiatives, including fully funding student-athletes' expenses and creating a trust fund to pay for the educational pursuits of those who do not graduate during their playing days.

But there is another side to this debate; two issues are relevant. First, unlike regular students, student-athletes are not saddled with college-related debts that can exceed $100,000. Outside their college programs, most student-athletes have no ability to earn compensation through their athletic prowess—and those who can are free to take their labor to the professional ranks. In reality, only 1% of men's basketball players and 2% of men's football players are even drafted—and only a fraction of this group makes a sustained living at the professional level (Branch, 2011). Indeed, most players are replaceable—as they are every 4 to 5 years. Furthermore, when one considers what they are provided—free tuition, room, and board; free medical insurance and treatment; books and tutoring that would cost upward of $50 an hour; expert coaching and weight training; and so on—it is possible to argue that their full compensation package would run into the tens of thousands of dollars a year. A near endless line of high-school athletes would welcome the chance to take advantage of this opportunity—and many welcome the mere opportunity to "walk on" programs without any scholarship. This is perhaps one reason why two thirds of a 2009 national sample of the public "did not believe college athletes should be financially compensated" (Mondello, Piquero, Piquero, Gertz, and Bratton, in press: 6). If a hidden unfairness exists, then it may not be that athletic scholarships are awarded but that they are allocated only on a 1-year basis. One study showed that among top basketball programs, fully 22% of scholarships were not renewed between 2008 and 2009 (Branch, 2011).

Second, as noted, the concern over economic inequality can lead some commentators to treat rule infractions as an acceptable political protest or, in the least, as something to be expected. But again, student-athletes voluntarily make agreements with universities, and NCAA violations can negatively affect their careers (athletic suspensions or dismissal from college), their teammates (if games and championships are forfeited), and their universities (if revenues are lost or reputations tarnished). Campaigning for reform is admirable, but breaking NCAA regulations should be discouraged and steps should be taken to prevent such conduct. Our policy recommendations are thus shared in this spirit.

In closing, settling the debate over how to compensate student-athletes fairly is beyond our purview. But again, it is prudent to consider that attitudes justifying NCAA rule infractions are not invented anew by each class of student-athletes but are transmitted

within programs and are nourished by the larger social environment. If violations are to be curtailed, then an important step is in appreciating that these complexities must be unpacked and that simple fixes—which have been tried repeatedly—are unlikely to prove effective.

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APPENDIX

List of Measures for Theoretical Variables

Theory #1: Deprivation/Strain Theory

A. Public Assistance (alpha = .72)

1. In the past 12 months, has the family at home received any of the following assistance from the government: welfare benefits; food stamps; public housing. [Each form of assistance is coded: 1 = Yes, 0 = No]

B. Poor Family (alpha = .71)

1. Because my family was poor, being an athlete was my only hope of going to college and being a success in life.
2. I often worry about my family not having enough money to get by.

C. Situational Deprivation (alpha = .85)

1. Since the school year started last fall, have you ever not had enough money to do any of the following: buy clothes you needed; buy something else you needed; travel home from college; go out with friends to eat; go to a movie, concert, or some other event that cost money. [Answers coded: 1 = Yes, 0 = No]

D. Relative Deprivation (alpha = .91)

1. It bothers me that most of the students on campus have nicer things than me, such as clothes, stereos, and cars.
2. It bothers me that most of the students on my campus have more money than I do.

E. Inequity (alpha = .59)

1. College athletes like me are exploited by the coaches and the universities we play for.
2. The system set up by the NCAA is unfair because everyone gets money—the coaches, universities—except the athletes themselves.

F. Normlessness (alpha = .59)

1. You have to do whatever it takes to win.
2. You have to do whatever it takes to get ahead in life.

Theory #2. Differential Association/Social Learning Theory

A. Friends' Deviance

1. Think of your friends who are athletes at your own or other colleges. How many of these have taken money or broken some other NCAA rule? [Answers coded: 1 = None of them to 5 = All of them]

B. Others' Values (alpha = .67)

1. Most of the athletes at my school think that it is okay to get as much money as you can, even if this means breaking the NCAA rules.

2. My teammates think it is wrong to break NCAA rules.

3. Most of the athletes I know think it would be stupid to turn down money or a free car from a "booster" if it were offered.

C. Athletes' General Values (alpha = .56)

1. Athletes in most schools across the country break NCAA rules.

2. Across the nation, most athletes who break NCAA rules never get caught.

D. Internalized Values (alpha = .69)

1. No matter how small the violation, breaking NCAA rules is a serious matter.

2. Most NCAA rules are foolish and don't mean much to me.

3. No one really gets hurt when athletes break NCAA rules.

4. I think it is morally wrong to break NCAA rules.

E. Balance of Risk (alpha = .53)

1. On balance, I would have more to lose by breaking NCAA rules than I have to gain.

2. If I were to break an NCAA rule, I think the benefits I could get would be greater than any punishment I would receive.

Theory #3. Social/Control Bond Theory

A. Grade Point Average

1. While in college, how have you done academically? [Answers coded: 1 = Have had a hard time staying eligible to 4 = Mostly A's (3.4 or higher average on a 4.0 scale)]

B. Marriage

1. Are you currently married? [Answers coded: 1 = Yes, 0 = No]

C. Parental Attachment

1. I feel close to my parents (or guardians).

D. Attachment to Others (alpha = .51)

1. I feel close to my teammates.

2. I feel close to my coaches.

E. Commitment to Athletics (alpha = .70)

1. Getting good grades is more important to me than winning games.

2. The main reason I am at college is to play sports, not to get an education.

3. Staying eligible to play sports, not getting A's in classes, is my main concern.

F. Involvement with Students

1. While at your college, do you spend most of your time with teammates (or other athletes) or with "regular" college students (nonathletes)? [Answers coded: 1 = Mostly with my teammates

or other athletes; 2 = About half the time with teammates, half with regular students; 3 = Mostly with regular students]

G. Religious Fundamentalist

1. Are you a Born Again Christian or a fundamentalist believer in some other faith? [Answers coded: 1 = Yes, 0 = No]

Theory #4: Deterrence Theory

A. Certainty of Punishment (alpha = .61)

1. If I broke an NCAA rule, like taking money from a "booster," there is a good chance that I would get caught.

2. I think that I could break most NCAA rules and never get caught.

B. Severity of Punishment (alpha = .72)

1. If you were caught breaking an NCAA rule—like taking money from a booster—how likely do you think it is that any of the following would happen to you: would lose athletic scholarship; would be banned by NCAA from ever playing college athletics; chances for getting a job after college would be hurt; parents and family would lose respect for you; coaches would lose respect for you; you would feel ashamed of yourself. [Answers coded: 1 = Yes, 0 = No]

Theory #5. Opportunity Theory

A. Athletic Status

1. For this past season, what best describes how much you played during games? [Answers coded: 1 = Did not play in most games; 2 = Played a small amount of most games; 3 = Was a top reserve and played much of the game; 4 = Was on the first team and thus played most of the game]

B. Highly Recruited (alpha = .81)

1. When you were recruited from high school, how many official paid visits did you take? [Answers Coded: 0 to 5]

2. When you were recruited from high school, how many colleges asked you to come to their campus for a recruiting visit? [Answers coded: 0 to 11]

3. When you were recruited from high school, how many colleges offered you an athletic scholarship? [Answers coded: 0 to 11]

Theory #6: Individual Differences Theory

A. Preference for Risk Taking (alpha = .80)

1. I like to test myself every now and then by doing something a little risky.

2. Sometimes I will take a risk just for the fun of it.

3. I sometimes find it exciting to do things for which I might get into trouble.

4. Excitement and adventure are more important to me than security.

B. Past Delinquency (alpha = .80)

1. For the activities listed below, have you ever engaged in them since turning 16: been drunk in a public place; drove a car when you might have been drunk; used marijuana; used some drug other than marijuana (cocaine, heroin, uppers/downers, LSD); used steroids, threw objects (such as rocks, snowballs, or bottles) at cars or people; stole or tried to steal things worth between $5 and $50; stole or tried to steal things worth more than $50; carried a hidden weapon other than a pocket knife; broke into a building or vehicle to steal something or just to look around; used force (or the threat of force) to get money or things from someone; hit or threatened to hit someone in your family; purposely destroyed property belonging to someone else (e.g., school window, mailbox, street lights). [Answers coded: 1 = Yes, 0 = No]

Theory #7: Organizational Theory

A. Emphasis on Winning

1. My coaches would do almost anything to make sure we had a winning team.

B. Emphasis on Compliance (alpha = .61)

1. The coaches and athletic department emphasize to us that we cannot break any NCAA rule.

2. At my college, no one really takes the time to explain to us what is, or is not, against NCAA regulations.

C. Coach's Tenure

1. How long has your head coach been at your college? [Answers coded: 1 = First year to 4 = Five or more years]

D. Team Record

1. Which of the following best describes the athletic team you play for? [Answers coded: 1 = Has winning seasons every year to 5 = Has a losing season every year]

Francis T. Cullen is a Distinguished Research Professor of Criminal Justice and Sociology at the University of Cincinnati. His recent works include *Correctional Theory: Context and Consequences, Unsafe in the Ivory Tower: The Sexual Victimization of Women*, and *The Oxford Handbook of Criminological Theory*. His current research focuses on the organization of criminological knowledge and on rehabilitation as a correctional policy. He is a past president of both the American Society of Criminology and the Academy of Criminal Justice Sciences and was honored with ASC's 2010 Edwin H. Sutherland Award.

Edward J. Latessa is a professor in and director of the School of Criminal Justice at the University of Cincinnati. He has published numerous works in the areas of corrections, criminal justice, and juvenile justice, including multiple editions of *Corrections in America* and *Corrections in the Community*. His current research interests include offender risk assessment, treatment effectiveness, and evidence-based corrections. He is a past president of the Academy of Criminal Justice Sciences and has received the Peter P. Lejins Award for

Research from the American Correctional Association, the Margaret Mead Award from the International Community Corrections Association, and the August Vollmer Award from the American Society of Criminology.

Cheryl Lero Jonson is an assistant professor in the Department of Political Science and Criminal Justice at Northern Kentucky University. In 2010, she received a Ph.D. in criminal justice from the University of Cincinnati. Her publications include *Correctional Theory: Context and Consequences* and *The Origins of American Criminology*. Her current research focuses on the impact of prison on recidivism, the use of meta-analysis to organize criminological knowledge, early intervention and crime prevention, and work–family conflict among law enforcement officials.

NCAA Rule Infractions

An Economic Perspective

Brad R. Humphreys
University of Alberta

Cullen, Latessa, and Jonson (2012, this issue) analyzed data from a survey administered to a random sample of football and men's basketball players at NCAA Division I-A institutions in 1994. The survey data are unique and provide detailed information about the behavior and motivations of NCAA student-athletes in the two sports that generate the largest revenues, and the lion's share of media attention, in U.S. intercollegiate athletics. Scandals in NCAA Division I-A athletic programs are standard headline fodder, so any reasoned, carefully performed research on the topic of violations and the motivations behind them represents an important alternative to one-off *ex post* investigations of "scandals" and sensational media reports designed to sell newspapers and increase television viewership.

Cullen et al.'s (2012) results suggest that illicit behavior, in terms of violations of NCAA regulations, took place in this population. Most of the violations took the form of relatively minor infractions and tended to be of the venial variety: "[T]he typical violation involved the receipt of a free meal, clothes, haircuts, or small amounts of cash (less than $20)." Much of the reported illicit behavior took place after the players were on campus, and not during the recruitment process. The policy conclusions in the article focus on aligning NCAA regulations with the actual situation on the ground by calling for the relaxation of NCAA rules banning receipt of small-time amenities, reducing the punitive nature of many of the penalties handed down by the NCAA, and urging the NCAA to focus on more serious violations.

Much of the illicit behavior examined by Cullen et al. (2012) can be perceived as a result of economic decisions made by student-athletes, university employees, and athletic boosters. Cullen et al.'s results and implications can be viewed through the lens of economics;

Direct correspondence to Brad R. Humphreys, Department of Economics, University of Alberta, 8-14 HM Tory Building, Edmonton, Alberta T6G 2H4, Canada (e-mail: brad.humphreys@ualberta.ca).

DOI:10.1111/j.1745-9133.2012.00848.x © 2012 American Society of Criminology

economic theory also can explain the results and assess the policy implications offered in the article. Two important economic observations about the NCAA and its rules can help to understand the results and policy implications made by Cullen et al.: Crimes and other related rule violations can be thought of as economic decisions, and economists regard the NCAA as a cartel and NCAA regulations as a mechanism to enforce the NCAA cartel agreement. In economic terms, the NCAA's decision to provide scholarship athletes only with tuition, room, and board, and no other form of monetary compensation constitutes a cartel agreement under which NCAA member-institutions agree not to compete for the services of athletes on a price basis.

The economic theory of crime and other illicit behavior was developed by Becker (1968). In Becker's model, the decision to break a rule or law is a rational economic decision. A would-be rule breaker, in this case a student-athlete considering accepting a free meal or perhaps the parent of a potential all-star football player considering accepting an alleged payment of $180,000 for his son to enroll in a specific university's football program, weighs the total expected total economic costs and benefits associated with the activity and undertakes it if the expected total economic benefits exceed the costs. The benefits can be monetary or nonmonetary, and the costs can include the probability of detection, the expected punishment of getting caught and punished, as well as the value of nonmonetary factors like the negative aspects of a guilty conscience and the scorn of friends and family. Cullen et al.'s (2012) results are consistent with this view of violations of NCAA rules. Most of the violations involve smalls sums of money or services provided for free in situations difficult to monitor or detect. Neither NCAA investigators nor campus compliance officers can follow every player into every bar, restaurant, barbershop, or dry cleaner in town.

The most common form of rule violations reported involved small amounts of money or goods and services with relatively low values. Note that most of these "violations" involve voluntary economic exchange, in contrast to crimes, which involve involuntary transfers of money or property. Because these "violations" involve exchange, they have both a supplier (coach, athletic administrator, booster, local businessperson, or fan) and a demander (the athlete in question) making economic decisions. Whereas the NCAA views these activities as rule violations, the supplier participates in these exchanges voluntarily, so the act of engaging such an exchange must provide the supplier with some benefit, or else economic theory predicts that the transaction would not take place. In the case of coaches or administrators, this benefit could take the form of increased future compensation, if the recruit plays well enough to make the team more successful or attracts more fans to the stadium or arena. In the case of boosters, local businesspersons, or fans, college sports generate nonmonetary consumption benefits (Dixon et al., 2012), and these economic transactions may reflect the value of these consumption benefits. Economic theory also predicts that the greater the expected benefit to the supplier of cash and free goods and services, the more likely a potential supplier is to initiate and complete a transaction. The fact that economic activities that the NCAA views as violations of regulations also involve the voluntary exchange of money,

goods, and services suggests that other motivations, likely economic motivations, drive the setting and enforcement of these rules; these motivations are discussed subsequently. It also reinforces the point that these violations differ significantly from crimes or civil torts.

Cullen et al.'s (2012) results generally support the predictions of the economic model of crime applied to this setting. Highly recruited athletes were more likely to be involved in violations both while being recruited and when they were on campus. These athletes were more likely to generate significant positive outcomes on the field, raising the expected value of the transaction to the supplier and increasing the likelihood it took place. Violations were more likely to take place on campus, where the economic cost of the transaction was lower because many athletes are physically present on and around campus, whereas recruits are not. Athletes who are closely attached to their parents would experience greater psychic costs if caught violating these regulations, raising the total economic cost and reducing the likelihood that the total economic benefits exceed the total economic costs.

The policy implications offered by Cullen et al. (2012) also are consistent with the economic reality: Monitoring is costly and the probability of detection is remote, so why not just legalize this sort of thing in the NCAA regulations? Unfortunately, the other key economic aspect of NCAA behavior, the fundamental importance of the cartel agreement between member institutions, suggests that the policy implications offered by Cullen et al. will not be heeded and sheds additional light on the implications of this research.

Economists have long viewed the NCAA as a cartel. A cartel is a formal economic agreement among agents or organizations that would normally compete with one another to not compete in some dimension. Cartels engage in collusive behavior, and the success of a cartel depends on all members of the cartel abiding by the agreement. In the case of the NCAA, the cartel agreement is on the input side; NCAA member organizations clearly compete for players, but they have agreed not to compete on a price basis. Fleisher, Goff, and Tollison (1992) undertook the first comprehensive analysis of NCAA behavior in the context of cartel behavior and demonstrated that the economic model of cartels describes much of the NCAA's activities. Kahn (2007) documented the large economic rents generated by this cartel and explored the implications for universities and society.

NCAA regulations can be viewed as an institutional approach to enforcing the cartel agreement. Many of these regulations are aimed at prohibiting any form of monetary competition for potential players or at prohibiting existing players from receiving any form of monetary compensation or nonmonetary benefits like free goods and services that might be interpreted as compensation. Research has indicated that the outcomes of NCAA sanctions against institutions that deviate from the cartel agreement when recruiting players are consistent with the predictions of cartel theory (Humphreys and Ruseski, 2009). Because many NCAA regulations exist to enforce the cartel agreement, from the NCAA's perspective, there are no major or minor rules; all NCAA rules enforce the cartel agreement without resorting to costly monitoring. From this perspective, the NCAA is extremely unlikely to

remove regulations governing any form of monetary or nonmonetary benefits for players, even free haircuts.

The NCAA cartel agreement, when enforced effectively, provides members with substantial economic benefits. Economic theory predicts that players would be paid a salary roughly equal to their marginal revenue product if NCAA members competed for athletes on a price basis like professional sports leagues. Brown (1993) estimated that an NCAA football player good enough to be drafted by the NFL generated more than $500,000 in revenues for his college team based on data from the early 1990s; Brown (1994) reported estimates of $100,000 for an NCAA basketball player good enough to be drafted by the NBA. Absent the cartel agreement, the money flowing to NCAA football and basketball would exceed substantially the value of tuition, room, and board currently provided to players.

The NCAA has other powerful economic incentives to keep the current regulations, and the current relationship between players and athletic programs, unchanged. For decades, the NCAA has been waging a long and effective campaign to convince policy makers and the public that the relationship between NCAA athletic programs and players is purely educational, and not economic. The pervasive and persistent use of the term student-athlete in NCAA publications and by NCAA officials is one manifestation of this struggle, but it goes much further than this. The NCAA maintains that players are student-athletes and not employees because any economic relationship between an athletic program and an athlete would imply that athletes are employees and, thus, subject to labor and antitrust law (McCormack and McCormack, 2010). If college athletes are employees, then injured players would be entitled to workers' compensation for injuries sustained while playing. Athletes often are injured, and the workers' compensation costs would be significant for NCAA athletic programs. Any policy change that permits monetary benefits or other forms of benefits to athletes erodes the NCAA's position that athletes have an entirely educational relationship with athletic programs, and not an economic relationship. In addition, a legal decision declaring student-athletes to be university employees would threaten the existence of the NCAA cartel agreement, as the collusive behavior of not competing for athlete-employees on a price basis would likely be interpreted as a violation of existing antitrust laws. The NCAA and its member athletic programs have a vested interest in maintaining the status quo under which student-athletes have a solely educational relationship with universities that includes nothing resembling monetary compensation or other benefits like free goods and services.

From an economic perspective, NCAA athletic programs engage in commercial activities in the context of a cartel agreement where competition for the most important input to this commercial activity, athletes, does not involve any type of monetary compensation. The revenues generated by these commercial activities are substantial, and under some interpretations of current U.S. tax law, NCAA athletic programs could be subject to the Unrelated Business Income Tax (UBIT) that would impose additional costs on athletic programs

(Piccinini and Zimmerman, 2009). The idea that athletic programs fulfill an educational role, and thus should not be subject to the UBIT, also rests on the idea that student-athletes have a purely educational relationship to athletic departments. Again, NCAA regulations prohibiting any form of monetary or nonmonetary compensation for athletes represents the first line of defense against claims that athletes are employees; any movement away from this position erodes the NCAA's fundamental and long-held positions.

The NCAA operates as a cartel on the input side, which requires strict prohibitions on any form of monetary or direct nonmonetary competition for the services of athletes. Maintaining the cartel agreement is complicated and messy. It requires large numbers of arcane rules, many of which apply to voluntary economic transactions that would not be viewed as undesirable in other settings; would anyone express shock and dismay if a local celebrity musician received a free haircut or a discount at the dry cleaners? Maintaining the cartel agreement, as well as the existing exemptions from workers' compensation for injury programs and business taxes, requires strict and sometimes harsh enforcement of each and every one of these rules, no matter how arcane or picayune and a steadfast refusal on the part of the NCAA to relax any of the rules, or to reduce the consequences of violations.

Society prefers to allow the NCAA to continue to operate as a cartel and enforce the cartel agreement as it sees fit. Mondello, Piquero, Piquero, Gertz, and Bratton (in press) reported that only 30% of a nationally representative survey sample thought college athletes should receive compensation; this result suggests either wide support for the NCAA cartel agreement or widespread ignorance of the actual economic motives of the NCAA. These preferences support the existence of a 419-page NCAA rule book, punishment for a coach who provides a player with money to travel home to visit a sick parent or sibling, and banning small-time economic transactions like giving a player a free t-shirt.

NCAA rule violations will continue to occur. They involve voluntary, mutually beneficial exchange and are difficult to detect. The results reported by Cullen et al. (2012) and the small number of teams placed on probation at any time suggest that many violations take place but only a small fraction of the violations committed are detected and punished, implying a relatively small total cost of an individual violation to the athlete. In the case of star players, the potential economic value of attracting such a player by committing a violation to a coach and an athletic program are substantial, and the costs are larger now than when these survey data were collected. Those rule violations that are detected will continue to be punished. The NCAA has clear and strong economic interests in maintaining the existing cartel agreement and its exemption from labor and antitrust law. A massive, byzantine rule book; widespread rule infractions; random enforcement and harsh penalties for those infractions that happen to get detected and prosecuted; and the cynicism engendered by a system that punishes a 21-year-old for accepting a free drink in a local bar represent the price that must be paid so that society can view college athletes as "true amateurs" and college football coaches can earn salaries exceeding $4 million per year.

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Brad R. Humphreys is a professor in the Department of Economics at the University of Alberta. He holds the Chair in the Economics of Gambling. He has a PhD in economics from the Johns Hopkins University. He was on the faculty at the University of Illinois at Urbana-Champaign before joining the faculty of the University of Alberta in 2007. His research has been published in academic journals in economics and policy analysis. In July 2011 he became Editor-in-Chief of *Contemporary Economic Policy*, a general interest economics journal focused on economic policy analysis.

Assessing the Extent and Sources of NCAA Rule Infractions

Alex R. Piquero
University of Texas at Dallas

"Sports do not build character. They reveal it."
—Heywood Broun

College student-athletes are a distinct population, one that may be able to commit certain kinds of illegal (or actually more equivalent to administrative law violations) acts simply because of their status. They have access to things and persons that may increase the likelihood of deviance in ways that non–college athletes do not, although this is mainly applicable to football, men's basketball, and perhaps ice hockey. Thus, understanding the extent and sources of rule infractions among this specific population is important theoretically and for amending policy. Unfortunately, little systematic research has been conducted on the criminal offending patterns of student-athletes generally (Alpert, Rojek, Hansen, Shannon, and Decker, 2011), and virtually no published academic research exists on the violation of NCAA regulations from the perspective of the individual committing the violation (although the NCAA has itself completed surveys with student-athletes about rule violations that they may have observed).

Recognizing that the field of criminology contains a large set of theories that may offer insight into student-athlete infractions, Cullen, Latessa, and Jonson (2012, this issue) conducted a self-report survey in 1994 of Division I football and men's basketball student-athletes to investigate the extent and the sources associated with two forms of NCAA rule violations: infractions that occurred during recruitment and infractions that occurred during college. They found that 60% of respondents did not commit any infractions in the recruitment process but that 70% reported breaking NCAA rules while in college—most of which were minor acts, with the exception that more than a quarter

The author wishes to thank Eric Stewart and Charles Wellford for comments and suggestions. Direct correspondence to Alex R. Piquero, University of Texas at Dallas, Criminology, 800 W. Campbell Road, GR31, Richardson, TX 75080 (e-mail: apiquero@utdallas.edu).

DOI:10.1111/j.1745-9133.2012.00849.x © 2012 American Society of Criminology

of the respondents gambled on sporting events. Further investigation of the sources of these infractions, using traditional criminological variables that were tailored to student-athlete deviance, showed that differential association, propensity, reward, and opportunity factors increased infractions, whereas classic social control factors decreased infractions. In short, Cullen et al. found similar covariates related to student-athlete deviance compared with those that related to common forms of offending among non–student-athletes (including peer deviance and attitudes toward deviance, with the strongest predictor being a student-athlete's general propensity to deviance). Thus, student-athlete infractions seem to be a type of analogous behavior, although one that is open only to a subsample of students who by the nature of their status as a student-athlete can break NCAA rules.

Cullen et al. (2012) identified several policy recommendations that should be adopted and others that should be discarded in an effort to help prevent student-athlete infractions, including having the NCAA consider: legalizing receipt of minor amenities as "gifts"; a living stipend, which would be an add-on to their scholarship; and targeting enforcement on more serious violations and developing programs that monitor institutions and provide interventions to recruits and student-athletes. Cullen et al. also noted that the NCAA should discard several policies including increasing formal penalties, while encouraging the use of screening, within the context of a risks–needs assessment.

In the remainder of this essay, I use Cullen et al.'s (2012) study as a springboard to consider the larger issue of the context of college that is unique to student-athletes and then turn to a consideration of the theoretical, measurement, and policy issues that emanate from Cullen et al.'s study and subsequently emerge for future inquiry. Many of the comments I raise as points for subsequent research are oriented around improving on their analysis, including the low response rate, the focus solely on males playing in two Division I sports (basketball and football), the use of cross-sectional data, and the use of data collected in 1994.

Context Matters: The Context of Student-Athlete Deviance

The college experience comes at a pivotal time in the adolescent life course as young persons enter a social world full of exciting new experiences and, for most college students (but not necessarily student-athletes), with very few restrictions placed on their time or their behavior. Entrance into college also coincides with a phase of the life course situated between adolescence and adulthood, termed "emerging adulthood" (Arnett, 2000), where persons find themselves in a type of maturity gap where they are no longer adolescents but have not yet graduated to adulthood. Many opportunities, especially deviant social activities, are likely to be placed before such youth much like the sampling experience at a beer or wine tasting. Thus, understanding how students navigate their entrance and adaptation into college in general and how the context of college life helps to situate and organize their behavior represents an important area of inquiry.

However, unlike "regular" college students, student-athletes live in two college contexts, one organized around the traditional college experience and a unique one organized around athletics. This lifestyle involves different daily routines, different courses, different counseling offerings, different athletic training and dining facilities, and simply an entirely different world surrounded by a system that is designed to support their education but also their best athletic performance. When this context is coupled with high-profile sports, sport teams, facilities, national exposure, and financial resources—both in the interim and in the future—college student-athletes experience a unique context that may create opportunities for deviance that are not open to traditional students.

The belief is widespread, at least among the populace, that a failed system of college student-athlete regulation enables misconduct to flourish (Nocera, 2012). Hardly a day passes when there is no mention of a student-athlete being involved in some scandal, whether it involves receiving monetary gifts, illegal services, or cheating in coursework and examinations (although the NCAA often does not get involved in issues of academic misconduct; Wolverton, 2012). In fact, a 2011 *Sports Illustrated* investigation conducted on every player on the opening-day rosters of the magazine's 2010 preseason top 25 college football teams uncovered that 7% of players in their single-season sample had some sort of criminal record (Dohrmann and Benedict, 2011).

Interestingly, if a non–student-athlete would receive a free meal or free t-shirt, then it would unlikely be illegal, but if a student-athlete received a free meal or free t-shirt during the course of (or as a result of) their occupational status, then it would likely be considered an NCAA violation. Of course, non–student-athletes also commit deviant and/or criminal acts—some may cheat in coursework and some may drink underage as well. But what makes the misbehavior of student-athletes unique from that of non–student-athletes is the context under which their misbehavior occurs. This is where the importance of context comes in and should be examined in much greater detail.

The role of context has a long history in sociology, criminology, and psychology. Of course, unique aspects of certain parts of a city and certain blocks within certain sections of town coalesce to form a context that may open or constrain opportunities for prosocial or antisocial behavior. And, of course, types of crime are differentially distributed throughout cities, not only with respect to where crime shows up most frequently but also where certain kinds of crime show up more frequently than others.

Perhaps the one traditional crime type that may be closely linked to the role of context is corporate/organizational crime. Not only does corporate offending virtually require an occupation, but it also requires access to certain things and opportunities that are only made available to certain persons. Researchers have routinely found that although microlevel factors are important for understanding corporate offending, so too are macrolevel factors (Simpson, Paternoster, and Piquero, 1998) as well as more general cultural influences that seem specific to the pressures and realities of the business world (Vaughan, 1996), one in

which persons attempt to seek out their own control in an uncontrollable environment (Piquero, Exum, and Simpson, 2005).

Just as context has yielded important insights into the conditions under which corporate offending may manifest, considerations of context and culture that are specific to student-athletes as well as university administration, compliance, and monitoring should help open possibilities for theoretical, measurement, and policy research. After all, individuals are situated in several contexts within a university structure, and those contexts include other student-athletes, the main student body, the athletics department, and so forth. Understanding student-athlete behavior, then, is influenced by both macrolevel and microlevel processes—and the effect of microlevel effects cannot be minimized. It is important to bear in mind that student-athletes involved in a diverse set of sports still exhibit different patterns of NCAA violations and criminal acts both before and during college—and this is especially true for football student-athletes. Thus, context may matter but so too does continuity and character—both of which appear well before the athlete matriculates into college.

Theoretical Considerations

Cullen et al. (2012) were smart to take many of the main criminological theories and construct questions that were geared toward student-athlete misconduct. It would not be a stretch to think that student-athlete misconduct is simply another manifestation of a more general pattern of deviance, an analogous behavior if you will (Gottfredson and Hirschi, 1990), largely because many types of deviance are committed on campuses by college students. Thus, the main theories represented included classic strain, differential association, self-control, social control, deterrence, opportunity, and one form of organizational theory. Of course, one could criticize precise operationalizations of some variables or comment that precise indicators of all key concepts were not assessed, but in general, this was a good first step.

We learned that the main correlates of student-athlete rule infraction (both during recruiting and then while in college) centered on the same variables that seem to be among the strongest correlates of crime, namely, differential association, propensity, and social control. We also learned that several variables (or theories) were not significant correlates of student-athlete misconduct (economic deprivation), and still other effects were more mixed.

So, what next? Earlier, I noted the importance of thinking carefully about the importance of context as a key contributor toward understanding student-athlete misconduct. I also think that, at the individual level, an underappreciated correlate in Cullen et al.'s (2012) discussion—but one that holds promise for understanding student-athlete rule violation—involves entitlement. Although Cullen et al. characterize what I call entitlement as high-level athletes or "stars" (within the context of opportunity theory and measured with two variables: playing time and how vigorously the student-athlete was recruited), there

is a larger literature about the role of entitlement in predicting specific crime types such as sexual coercion (Bouffard, 2010). Many stories have been published about the role of entitlement among both college student-athletes as well as professional athletes (Brennan, 2010), with no signs of slowdown as evinced by a recent report documenting a "culture of sexual entitlement" among some players of the Boston University men's ice hockey team (Zaremba and Dwinell, 2012). In short, it would be worthwhile to consider not only traditional criminological predictors and improving and expanding on some of the measurement limitations in Cullen et al., but also drawing out the role of entitlement among college student-athletes—especially those student-athletes who play high-profile/high-visibility sports and perhaps occupy key roles and positions on those teams.[1]

Measurement Considerations

Bearing in mind that the Cullen et al. (2012) study was among the first to examine the extent and sources of student-athlete violations at the individual level, important issues germane to measurement need consideration. The constructed scales covered a wide range of acts that included different domains of infractions, different types of acts within those domains, as well as violations from different sources. Many items were asked dichotomously, with an "ever" reference period, which presents a time-order problem. Moreover, student responses were such that the authors decided to dichotomize the overall scale thereby restricting the range of involvement in student-athlete misconduct and in effect treating the one-time rule violator the same as a ten-time rule violator. Although these two types of offenders may be influenced by similar factors, evidence from the criminal careers literature suggests that there may be differences between the non-, one-time, and frequent offender with respect to how certain criminological constructs distinguish between them (Piquero, Farrington, and Blumstein, 2003).

Additionally, future research should expand the range of criminological variables measured and assess opportunity-type variables. On the left-hand side, there is a need to include other rule violations that have now emerged as a result of changes in NCAA regulations as well as technology-based violations, such as the provision of Apple Inc. (Cupertino, CA) iPads, iPhones, or other high-tech gadgets. And as some recent coach-athlete behaviors such as texting are now permissible in some sports (men's college basketball) but not

1. Two closely related concepts are hubris and invulnerability. In an investigation of these concepts among college students and college student-athletes, Vermillion (2007) found that the student-athletes took fewer measures of self-protection, which the author considered similar to feelings of invulnerability. Akin to entitlement, hubris, and invulnerability is the role engulfment process where, as applied in the college athletic context, student-athletes come to build their identity as that of "being an athlete" (see, e.g., Adler and Adler, 1990). As one empirical example, Miller, Melnick, Barnes, Sabo, and Farrell (2007) found that a self-reported measure of "jock identity" was positively and significantly associated with minor and major delinquency.

others, the importance of a wider study that considers differences across sports cannot be overemphasized.

With respect to study construction and administration, it is imperative that research be conducted longitudinally so that predictors can be assessed prior to rule violations. Ideally, data collection would begin at the point of matriculation and continue throughout an athlete's career. It also would be good to compare student-athletes with random samples of traditional college students with respect to common antisocial acts and to do so with proper adjustment for individual differences to investigate the extent to which student-athletes are involved in more (or more serious) types of deviance and crime than non–student-athletes. In one interesting study, Blumstein and Benedict (1999) found that the serious arrest rate for NFL players was below the rate for males in large U.S. cities (21.4% compared with 23%) (see also Benedict and Yaeger, 1998). And, of course, analyses that are conducted across various types of sports, divisional classifications, as well as individual characteristics (sex and race/ethnicity) would be important as well to examine how general the various predictors are in determining involvement in rule violations.

A final set of studies could trace behaviors back to high school as what is learned and experienced during involvement with athletics during that period may have reverberations in the college sphere. As readers are fully aware, in some cities and for some sports, high-school athletics rival that of college sports. Consider the city of Allen, TX, which just spent $60 million on a new football facility that seats 18,000 and has a 38-foot-wide high-definition video screen.

Policy Considerations

Cullen et al. (2012) identified several policy options that should be considered while recommending some that should be discarded. It is important to consider their options seriously, and just as is the case in criminology more generally, knowing what works is just as useful as knowing what does not work. When these two strands of research are considered jointly, they should help form a rational, evidence-based approach to dealing with student-athlete misconduct.

One of the most commonly put forth—yet seemingly the most controversial—policies involves "paying" student-athletes. It is important to state that the paying of athletes can take many forms, from the more (giving them a paycheck) to the less (increasing their scholarship or providing complimentary tickets to a game) extreme. And whereas some high-profile college athletic programs report staggering revenues ("What the hell has happened," 2011) and many of them make contributions to the regular university fund themselves, many of them operate with a deficit. This notwithstanding, a debate can still be had about whether some additional type of support should be provided to student-athletes, such as increased stipends (Huma and Staurowsky, 2011).

Some commentators fully support the concept of paying student-athletes, with details forthcoming, whereas other commentators believe that student-athletes are already

being paid handsomely, especially when their scholarship dollars (among those receiving scholarship monies) and other ancillary, legitimate benefits (counseling, study hall, etc.) are tabulated. Even others sway back and forth—as was evidenced by NCAA President Mark Emert, who once took a vehement stand against paying athletes to subsequently suggesting that student-athletes should receive grants over and above their scholarships. Supporters of college athletics also have weighed in on this issue. A recent analysis of the public's view on paying athletes by Mondello, Piquero, Piquero, Gertz, and Bratton (in press) showed that most persons did not favor paying student-athletes (based on a very general question), but that Black respondents did strongly favor doing so—raising a larger issue of the role of race in college sports (Branch, 2011). Regardless of one's position on this issue, it is a more-than-plausible hypothesis to infer that potentially supporting student-athletes in a supplemental manner will help to deter, to some extent, rule violation—only, of course, if financial factors are important predictors of rule violation.

One policy that seems to be ineffective, at least given the small accumulated body of research, is the use of severe punishment. Severe sanctions may not be the answer, but that does not mean that deterrence has failed. The certainty of punishment has not been measured well, and some evidence suggests that some individuals (including offenders), under some circumstances, are responsive to the threat of sanctions (Piquero, Paternoster, Pogarsky, and Loughran, 2011). Relatedly, some persons are sensitive to the rewards obtained from rule violations, whatever they may be. Thus, finding a way to minimize the rewards and establishing a culture of ethics that stands against rules violations seems promising. More generally, it is important to understand the factors that may inhibit rule violations as such knowledge may help to highlight points of prevention and intervention as well. This is especially relevant today compared with 1994 when Cullen et al. (2012) collected their data because NCAA rule enforcement is much more proactive now, and many of the rule violations considered in their survey have been simplified.

To borrow from what has been learned regarding early child crime prevention (Farrington and Welsh, 2007), the prevention of student-athlete misconduct needs to start as early in the life course as possible, largely because athletes need to be socialized in fair and ethical conduct and behavior. Thus, as soon as children start playing sports, they need to be taught that receipt of goods and services for their performance is not to be accepted nor expected. The rewards of performance are victories, championships, and perhaps individual statistics—but these are rewards for performing one's job. Subsequently, booster shots of this sort of prevention are needed in adolescence and then with entrance into college. This option is one part of the two-prong policy response.

A second part would focus on the transition of student-athletes as they enroll in college. It is clear that they should be taught what behaviors are acceptable so that the building of an ethical athletic culture needs to be in place. They should be tested early and often about NCAA rules, so that they are absolutely clear in what they are permitted to do and what they cannot do. These programs should be developed by the NCAA and implemented

and monitored by the college/university's student affairs office and athletic department personnel.[2]

Summary

The need to attain a firmer grasp on the extent and sources of NCAA rule violations among college student-athletes cannot be denied. This type of misconduct is poorly understood. Yet, it also is important to be measured in our responses to the problem. Also, it cannot be denied that student-athletes engage in misconduct, but so do non–student-athletes, as do persons in respected occupations (police officers and fire fighters). Until we have good descriptive data on the problem and its sources, we should focus on measured punishment and compliance-oriented responses.

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2. Space constraints preclude a discussion of how to punish and reintegrate student-athletes who have committed NCAA rule infractions. Yet, it is important to consider individual punishments as well as punishments to an institution that may provide a context for the illegality to participate in the first place (Freeh Sporkin and Sullivan, LLP, 2012). A recent review of the NCAA major violations database continues to show many college sports programs breaking NCAA rules (Lederman, 2011).

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Alex R. Piquero is Ashbel Smith Professor of Criminology at the University of Texas at Dallas; adjunct professor at the Key Centre for Ethics, Law, Justice, and Governance, Griffith University Australia; and coeditor of the *Journal of Quantitative Criminology*. His research interests include criminal careers, criminological theory, and quantitative research methods. He has received several research, teaching, and mentoring awards and is a fellow of the American Society of Criminology and the Academy of Criminal Justice Sciences.

EDITORIAL INTRODUCTION

YOUNG ADULT OFFENDERS

Young Adults

How Different Is "Different Enough" for Social Science, Law, and Policy?

Jennifer L. Woolard
Georgetown University

Defining adolescence and young adulthood is a challenge for both developmental scientists and legislators alike. Although sometimes at odds and unable to understand each other, these two constituencies have drawn even closer in pursuit of the merits of a bright line for demarcating adulthood for juvenile and criminal justice. Advances in behavioral research confirm age-based differences in capacities relevant for legal competence and culpability (e.g., Scott and Steinberg, 2008). Tremendous gains in neuroscience, although still limited in scope and perhaps over relied on in popular press, document significant structural and functional changes in the brain that dovetail with the cognitive and psychosocial development investigated in behavioral research (e.g., Johnson, Blum, and Giedd, 2009).

The corpus of research examining adolescent development of legally relevant capacities made its way into a series of U.S. Supreme Court cases that ultimately declared that adolescents differ from adults in ways that prevent the imposition of the death penalty (*Roper v. Simmons*, 2005) and life without parole for nonhomicide (*Graham v. Florida*, 2011) and homicide offenses (*Miller v. Alabama*, 2012; *Jackson v. Hobbs*, 2012). Although some justices questioned the consistency of social science conclusions about the capacities of adolescents across legal domains, the complexities and subtleties of contextually influenced performance of developmental capacities has become part of the legal lexicon (Steinberg, Cauffman, Woolard, Graham, and Banich, 2009). Majority opinions in these cases reinforce important and relevant age-based distinctions between the capacities of juveniles and adults. The research findings, combined with what "any parent knows" (*Roper v. Simmons*, 2005),

Direct correspondence to Jennifer L. Woolard, Center for Research on Adolescence, Women, & the Law, Department of Psychology, Georgetown University, 306-K White Gravenor Building, 37th and P Streets NW, Washington, DC 20057 (e-mail: jlw47@georgetown.edu).

DOI:10.1111/j.1745-9133.2012.00852.x © 2012 American Society of Criminology

convinced majorities of the justices that juveniles are "different enough" to warrant several changes in the legal response to juvenile defendants as a class.

Farrington, Loeber, and Howell's (2012, this issue) article moves the consideration of "how different is different enough" to young adult offenders. Acknowledging the tricky and multidisciplinary challenge in legal line drawing, Farrington et al. review the evidence on young adult capacities and conclude that young adults 18 to 25 years of age merit alternatives to the justice system status quo. Even raising the questions for young adult offenders may give advocates and practitioners significant pause, as they are still in the throes of articulating the practical implications of Supreme Court cases for existing juvenile sentences and future case processing. However, as Woolard and Scott (2009) noted, "The simple binary classification of legal 'childhood' and 'adulthood' in fact is more complex than it seems because the boundary between childhood and adulthood varies depending on the policy purpose" (p. 345). What if assumptions about the vulnerability, incompetence, and dependency of children hold to a matter of degree with young adults? Although juvenile justice is one of the exceptions to the efficacy of a bright line approach to legally defining adulthood, we must recognize that judgments about that line are as much about policy and politics as science (Woolard and Scott, 2009). As social scientists engaged in policy-relevant questions, Farrington et al. do not shy away from extending the logic of developmental differences to the young adult population, identifying several pathways to crafting what they consider a more developmentally informed and responsive criminal justice system.

Gibson and Krohn (2012, this issue) recognize the implications of this change for other aspects of legal regulation of adolescents and young adults and are sympathetic to Farrington et al.'s (2012) arguments but caution that additional evidence should temper the speed with which policy options are identified and recommended. Specifically, they conclude that the research on stability and amenability of the psychosocial capacities used to justify treating adolescents differently has yet to be examined thoroughly in young adult populations. Combined with their review of offender reentry challenges and European accommodations for young adult offenders, Gibson and Krohn describe the effectiveness of alternative young adult offender policies as promising but not prescriptive.

Cauffman (2012, this issue) also lauds the questions that Farrington et al. (2012) raise but offers additional cautions and concerns to those raised by Gibson and Krohn (2012). Citing the limited nature of differences between older adults and young adults in several studies and the limited accuracy in clinical risk assessments, she questions whether the corpus of research justifies the significant changes proposed by Farrington et al.

Taken together, the main article and the subsequent policy essays articulate both the limits and the promise of applying developmental research on legally relevant capacities of adolescents and young adults to justice system policy and practice. The resulting intellectual conversation builds on the last several decades of empirical research and the relatively recent

changes in legal processing of adolescents. Although the authors disagree on whether we know that young adults are "different enough" to warrant significant changes in the legal landscape, the nexus of research, policy, and practice they invoke is exactly where the conversation should be.

Three threads of that ongoing conversation should come to the forefront. First, we must address the complexities of integrating brain research into public policy discussions, the role of evidence-based practices for intervention with young adults, and the importance of extending and translating the academic conversation. As evidenced by the headlines emerging from the 2012 Society for Neuroscience conference (e.g., Hamilton, 2012), brain research continues to receive significant media, policy, and legal attention. As the conclusion that youth brains are characterized by important structural and functional differences compared with adults gains widespread acceptance, we will soon face the challenge of how to conduct, explain, and incorporate more refined, sophisticated, and specific neurobiological research into policy and practice. Second, as noted in the article and the policy essays, a natural follow-on to arguments about changing the response to young adult offenders leads us to revisit the questions of what works, for whom, and under what conditions. The initial question pushes us to determine whether young adults are "similar enough" to adolescent offenders for effective interventions simply to transfer up to the older population. Even if such interventions transfer easily, which is questionable, the legal landscape in virtually every other domain of rights and responsibilities of young adults remains different. Under these distinct environmental, legal, and social conditions, it is unclear what intervention strategies will emerge as effective.

Finally, our conversation must in and of itself be a target of inquiry. Those of us interested in criminology and public policy already value the dissemination and application of research as an act of mutual influence with policy makers and practitioners. The controversial nature of the questions raised in the article and the corresponding policy essays, combined with the allure of sophisticated neuropsychological research, make for a heady and dangerous context. The potential for brain-based research, even when tied weakly to legal arguments, can overwhelm other forms of research and evidence (e.g., Aspinwall, Brown, and Tabery, 2012). We cannot rely on science writers, advocates, lobbyists, and practitioners, however well intentioned, to convey and interpret our research findings. We must renew and prioritize our responsibilities to remain engaged in multiple conversations about the profound and practical implications of our work.

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Jennifer L. Woolard is associate professor of psychology and Interim Director of Research at the Center for Social Justice at Georgetown University. She obtained her Ph.D. in developmental and community psychology from the University of Virginia. Her research focuses on adolescents and families in legal contexts, including police interrogation, culpability, the attorney-client relationship, and the role of parents in adolescents' legal decision making. She also partners with local stakeholders to study community change and youth violence prevention. She has presented her research findings to a wide variety of academic, legal, and policy audiences, and won several awards for undergraduate teaching excellence.

Overview of: "Young Adult Offenders: The Need for More Effective Legislative Options and Justice Processing"

David P. Farrington
Cambridge University

Rolf Loeber
University of Pittsburgh

James C. Howell
Comprehensive Strategy Group

Research Summary

Empirical evidence shows that no sharp change in cognitive functioning or in offending careers occurs on the 18th birthday. Many aspects of higher executive functioning, including impulse control, planning ahead, reasoning, thinking before acting, emotion regulation, delay of gratification, abstract thinking, and verbal memory, as well as resistance to peer influence, continue to mature through the mid-20s. Most young offenders naturally "grow out" of offending in the early 20s, which is the peak period for desistance. Adult court processing makes offenders worse; convictions are followed by an increase in offending, juveniles who are dealt with in adult court are more likely to reoffend than other juveniles, and sending young people to adult prisons leads to an increase in recidivism. The evidence suggests that the rehabilitative approach of the juvenile court is more successful than the punitive approach of the adult criminal court.

Policy Implications

Many justifications for the more rehabilitative treatment of juvenile offenders (immature, poor executive functioning, poor emotion regulation and self-regulation, poor planning, more influenced by immediate gratification, low adjudicative competence, more susceptible to peer influence, more redeemable, less set in their offending habits, and less culpable) apply to young adult offenders. As in some other countries, there could be special legal provisions in the United States for young adult offenders

DOI:10.1111/j.1745-9133.2012.00838.x © 2012 American Society of Criminology

18–24 years of age. One possibility is that these offenders should not be dealt with in the adult criminal court but in special courts for young adult offenders that are more focused on rehabilitation. Alternatively, all young adult offenders could be assessed for their risks, needs, maturity, culpability, and adjudicative competence, and in appropriate cases, they should be given a "maturity discount." Special efforts should be made to help young adult offenders with low intelligence and/or mental health problems. Young adult offenders should be housed in special correctional facilities and should be assisted with problems of reentry.

Keywords
young adult offenders, *cognitive functioning*, *psychosocial maturity*, *court processing*, *rehabilitation*

Young Adult Offenders

The Need for More Effective Legislative Options and Justice Processing

David P. Farrington
Cambridge University

Rolf Loeber
University of Pittsburgh

James C. Howell
Comprehensive Strategy Group

In most states, the legal treatment of offenders changes dramatically when they reach their 18th birthday. (In some states, this transition occurs at ages 16, 17, or even 19; see Griffin, 2012.) Instead of being dealt with in the juvenile justice system, which focuses mainly on the best interests of the child, rehabilitation, and programming, offenders start being dealt with in the adult criminal justice system, which focuses on just deserts, retribution, and deterrence, with few attempts at offender programming. What is the justification for the dramatic change in legal treatment at age 18? Is there a dramatic change in criminal propensity or criminal careers, for example?

Many justifications have been put forward for treating juveniles differently from adults. It has been argued that juveniles have less mature judgment; poorer emotion regulation; and self-regulation; poorer decision making in offending opportunities; and poorer executive functioning, reasoning, abstract thinking, and planning (Scott and Steinberg, 2008). Arguably, juveniles have poorer impulse control and are more likely to take risks and commit crimes for excitement rather than according to a rational cost–benefit assessment. In their decision making, juveniles are thought to be influenced more by immediate desirable

This article is inspired by knowledge contained in the final report of the U.S. National Institute of Justice Study Group on Transitions from Juvenile Delinquency to Adult Crime (Loeber and Farrington, 2012). The authors would like particularly to acknowledge the assistance of Barry C. Feld and Daniel P. Mears. Points of view or opinions in this article are those of the authors and do not necessarily represent the official position or policies of the U.S. National Institute of Justice. Direct correspondence to David P. Farrington, Institute of Criminology, Cambridge University, Sidgwick Avenue, Cambridge CB3 9DA, United Kingdom (e-mail: dpf1@cam.ac.uk).

DOI:10.1111/j.1745-9133.2012.00842.x © 2012 American Society of Criminology

consequences than by delayed possible undesirable consequences. Allegedly, they are thought to be more susceptible to peer influences, more changeable, more redeemable, and less set in their offending habits. Consequently, they are less culpable or blameworthy, have diminished responsibility, and are less deserving of punishment. Also, they have lower adjudicative competence to communicate with lawyers, make legal decisions, understand and participate in legal procedures, or stand trial (Howell, Feld, and Mears, 2012).

Do all these abilities change dramatically at age 18? This seems unlikely. Although we accept that there are great variations in the methods of processing used by juvenile and adult criminal courts, we argue in this article that the usual change from rehabilitation to punishment on the 18th birthday is too abrupt. The cognitive functioning of offenders changes gradually, and young adults aged 18–24 are similar in many respects to juveniles aged 15–17. In many ways, young people continue to mature up to the mid-20s. Many justifications for the special treatment of juveniles also apply (to a greater or lesser degree) to young adult offenders. Therefore, we argue that there should be special legal provisions for young adult offenders aged 18–24, who in many respects are midway between juveniles and adults.

Legal age boundaries in many areas, including juvenile and criminal justice, seem arbitrary. For example, the minimum legal ages for driving a car, drinking alcohol, owning a gun, having sexual intercourse, and getting married often are different from the minimum legal age for adult court. There are great variations in legal age boundaries between countries and between U.S. states, and great changes over time. For example, most young adults aged 18–24 may have been living independently in the 1950s, but they were not in the 2000s.

Arnett (2000) coined the term "emerging adulthood" for the age period from the late teens to the mid-20s (roughly ages 18–25). He explained:

> The dominant theory of the life course in developmental psychology, first proposed by Erikson (1950), postulated that adolescence, lasting from the beginning of puberty until the late teens, was followed by young adulthood, lasting from the late teens to about age 40 when middle adulthood began. This paradigm may have made sense in the middle of the 20th century when most people in industrialized societies married and entered stable full-time work by around age 20 or shortly after. However, by the end of the century, this paradigm no longer fit the normative pattern in industrialized societies. Median ages of marriage had risen into the late 20s, and the early to mid-20s became a time of frequent job changes and, for many people, pursuit of post-secondary education or training. Furthermore, sexual mores had changed dramatically, and premarital sex and cohabitation in the 20s had become widely accepted. Most young people now spent the period from their late teens to their mid-20s not settling into long-term adult roles but trying out different experiences and gradually making their way toward enduring choices in love and work. The

> theory of emerging adulthood was proposed as a framework for recognizing that the transition to adulthood was now long enough that it constituted not merely a transition but a separate period of the life course. (Arnett, 2007: 68–69)

In this article, we first discuss some aspects of the special legal treatment of juvenile offenders, and then we present knowledge about human development and offending careers from the teenage years to the 20s. We then review reentry problems of young adult offenders and the legal treatment of young adult offenders in some other countries. Finally, we suggest methods of improving the legal treatment of young adult offenders in the United States. (For more details about all of these issues, see Loeber and Farrington, 2012.)

Justifications for the Special Legal Treatment of Juvenile Offenders

Culpability

Culpability focuses on a person's blameworthiness and the degree of deserved punishment. The diminished responsibility of young people for offending is thought to require mitigated sanctions to avoid permanently life-changing penalties and provide room for reform. Compared with adults, youths' immature judgment reflects differences in appreciation of risk, appraisal of short- and long-term consequences, self-control, and susceptibility to negative peer influences (Scott and Steinberg, 2008). The U.S. Supreme Court's decision in *Roper v. Simmons* (2005) to abolish executions of juvenile offenders in the United States provides the backdrop for our discussion of the reduced criminal responsibility of young people.

In *Roper v. Simmons*, the Supreme Court conducted a proportionality analysis of adolescents' culpability to determine whether the death penalty ever could be an appropriate punishment for juveniles. A majority of the Court offered three reasons why states could not punish youths found to be criminally responsible as severely as adults. First, juveniles' immature judgment and lesser self-control caused them to act impulsively and without full appreciation of the consequences of their actions and, thus, reduced their culpability. Second, juveniles are more susceptible to negative peer influences than are adults. In addition, juveniles' greater dependence on parents and community extends some responsibility for their crimes to others, which diminishes their criminal responsibility. Third, juveniles' personalities are more in flux and less fully formed than those of adults, and their crimes provide less reliable evidence of "depraved character." Although the differences between adolescents and adults seem intuitively obvious, *Roper v. Simmons* provided minimal scientific evidence to support its conclusions (Denno, 2006).

The Court's *Roper v. Simmons* decision (2005: 569) also attributed youths' diminished culpability to a "lack of maturity and . . . underdeveloped sense of responsibility . . . [that] often result in impetuous and ill considered actions and decisions." *Roper v. Simmons* focused on adolescents' immature judgment rather than on the narrower criminal law inquiry into the ability to distinguish right from wrong, and it was concluded that their immaturity

reduced their culpability. The Court's rationale recognized both adolescents' reduced moral culpability and their greater capacity for growth and change—that is, their diminished responsibility for past offenses and their unformed and perhaps redeemable character. In sum, the Supreme Court concluded that juveniles' reduced culpability warranted a categorical prohibition of execution (Feld, 2008).

Adjudicative Competence

The same developmental characteristics that diminish youths' criminal responsibility also affect their adjudicative competence adversely. Competence is the constitutional prerequisite to the exercise of other procedural rights. Due process requires a defendant to be competent to assure a fair trial. To be competent to stand trial, a criminal defendant must have "sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding [and have a] rational as well as factual understanding of the proceedings against him," as well as the capacity "to assist in preparing his defense" (*Drope v. Missouri,* 1975: 171). Adjudicative competence involves a defendant's ability to communicate with lawyers or aid in his or her defense, to make legal decisions as well as understand and participate in such legal procedures, to waive *Miranda* rights, to waive or assist counsel, to stand trial, and to exercise other constitutional protections. Judges evaluate a youth's competence by assessing his or her ability to (a) understand the charges and the basic elements of the adversary system (understanding), (b) appreciate one's situation as a defendant in a criminal prosecution (appreciation), and (c) relate pertinent information to counsel concerning the facts of the case (reasoning) (Bonnie and Grisso, 2000: 76).

Developmental psychologists have examined adolescents' adjudicative competence, their capacity to exercise or waive *Miranda* rights or the right to counsel, and their ability to participate in legal proceedings. This research questions strongly whether juveniles possess the cognitive ability, psychosocial maturity, and judgment necessary to exercise legal rights. Many young offenders, especially those younger than age 16 and those confronted with the complexities of criminal courts, cannot meet the legal standards for competence (Grisso et al., 2003; Scott and Grisso, 2005; Scott and Steinberg, 2008). Developmental psychologists argue that immaturity *per se* produces the same deficits of understanding, impairment of judgment, and inability to assist counsel as does severe mental illness, and it renders many juveniles legally incompetent (Grisso, 1997, 2000; Scott and Grisso, 2005). This vulnerability is enhanced for certain categories of juveniles: (a) those who are marginal or weak in intelligence, (b) those who are mentally ill, and (c) those who are otherwise mentally impaired as a result of injury or child abuse. For adolescents, generic developmental limitations, rather than mental illness or mental retardation, adversely affect their ability to understand legal proceedings, receive information, communicate with and assist counsel, and make rational decisions (Grisso, 1997; Redding and Fuller, 2004; Scott and Grisso, 2005).

Knowledge about Development of Psychosocial Maturity

To what extent do the Supreme Court's views conform to scientific knowledge about human development in adolescence and young adulthood? For many years, developmental psychologists focused on logical reasoning capacity as the linchpin of maturity. A new perspective on adolescent risk taking has emerged that begins with "the premise that risk taking in the real world is the product of both logical-reasoning and psychosocial factors" (Steinberg, 2007: 56; see also Steinberg, 2004). "However, unlike logical-reasoning abilities, which appear to be more or less fully developed by age 15, psychosocial capacities that improve decision making and reduce risk taking—such as impulse control, emotion regulation, delay of gratification, and resistance to peer influence—continue to mature well into young adulthood" (Steinberg, 2007: 56; see also Steinberg and Monaghan, 2007).

Increasing evidence shows that the brain continues to develop during childhood into early adolescence, including ongoing myelination, and into adulthood, when white matter increases and synapses are pruned. Research also shows that "the dorsal lateral prefrontal cortex, important for controlling impulses, is among the latest brain regions to mature without reaching adult dimensions until the early twenties" (Giedd, 2004: 77). The importance of white matter is underscored by the finding that decreased white matter is significantly more common among boys with psychopathic tendencies compared with controls (De Brito et al., 2009). Much is known about structural brain deficits of offenders (see, e.g., Raine, Lencz, Bihrle, LaCasse, and Colletti, 2000), but we focus narrowly on changes in brain functioning with age. Biological changes in the prefrontal cortex during adolescence and the early 20s lead to improvements in executive functioning, including reasoning, abstract thinking, planning, anticipating consequences, and impulse control (Sowell, Delis, Stiles, and Jernigan, 2001).

The data on brain development, although mostly cross-sectional, are much in line with evidence that reckless acts are still common until early adulthood, as is evident from data on the incidence of car accidents, even when controlling for the number of miles traveled (Foss, 2002). This fact is recognized widely by insurance companies, whose premiums for car insurance for young drivers (especially males) up to approximately age 25 are dramatically higher than for older drivers. It also is recognized by car rental companies that either do not rent cars to people younger than age 25 or levy a surcharge for drivers younger than that age.

The idea of improved behavioral controls that emerge between late adolescence and early adulthood also is evident from psychological research. For example, Steinberg, Cauffman, Woolard, Graham, and Banich (2009) investigated time perspective, planning ahead, and anticipation of consequences among individuals between ages 10 and 30. Although this study employed a cross-sectional design, the results suggest that the ability to plan ahead improves dramatically between early adolescence and the early 20s, along with

the anticipation of consequences, whereas time perspective improves slightly less in that same period.

Prior et al. (2011) completed a useful literature review titled *Maturity, Young Adults and Criminal Justice*. They found that physical maturity (the completion of puberty) usually occurred by age 12 or 13, whereas intellectual maturity was usually complete by age 18. However, the higher executive functions of the brain, such as planning, verbal memory, and impulse control, were not usually developed fully until age 25. They concluded (p. 8) that "the human brain is not mature until the early to mid-twenties." However, it is difficult to specify how much maturation occurs between ages 18 and 25.

Based on the work of Steinberg and Cauffman (1996), Prior et al. (2011) divided psychosocial maturity into three categories: responsibility (the ability to act independently, to be self-reliant, and to have a clear sense of personal identity), temperance (the ability to limit impulsiveness, to control aggressive responses and risk taking, and to think before acting), and perspective (the ability to understand and consider the views of others before taking a decision to act). Prior et al. (2011) concluded that temperance was especially related to offending. Although responsibility and perspective became relatively settled at approximately age 18, temperance continued to develop up to the mid-to-late 20s (Modecki, 2008). Prior et al. (2011) also discussed the fact that females usually mature earlier than males and discussed the need to distinguish between adolescence-limited and life-course-persistent offenders (Moffitt, 1993). They also advocated the use of instruments to assess maturity in the criminal justice system, highlighting the work of Soderstrom, Castellano, and Figaro (2001). In conclusion, the review of Prior et al. (2011) suggested that extending the minimum age for adult court offending up to the mid-20s might be justifiable based on knowledge about the development of cognitive functioning and maturity. Young adults, like juveniles, could be considered less culpable than older adults because of their psychosocial immaturity.

Offending Careers

Research findings agree that the prevalence of offending increases from late childhood into adolescence, peaks in late adolescence, and decreases subsequently into adulthood. This process is generally known as the *age–crime curve* (Farrington, 1986; Tremblay and Nagin, 2005). The curve can be observed in all populations of youth. Less well known is the fact that, although an early age of onset, compared with a later age of onset, is associated with a longer offending career, the highest concentration of desistance takes place during early adulthood *irrespective* of age of onset. This finding corresponds with the downslope of the age–crime curve. In fact, the decrease in prevalence in the downslope of the age–crime curve is very substantial. In some cases, it goes down from approximately 50% to approximately 10% of all persons (e.g., Loeber, Farrington, Stouthamer-Loeber, White, and Wie, 2008).

All available age–crime curves show that the legal age of adulthood at 18 (or for that matter ages 16 or 17 in some states) is not characterized by a sharp change in offending at exactly that age, and it has no specific relevance to the downslope of the age–crime curve. Serious offenses (such as rape, robbery, homicide, and fraud) tend to emerge after the less serious offenses of late adolescence and early adulthood. Even for serious offenses, however, no clear dividing line occurs at age 18. Steinberg et al. (2009: 583) concluded that "[t]he notion that a single line can be drawn between adolescence and adulthood for different purposes under the law is at odds with developmental science."

Most studies show that approximately half of juvenile offenders recidivate beyond age 18 into adulthood (see Piquero, Hawkins, and Kazemian, 2012). Piquero and colleagues addressed the following key questions about delinquency careers: *How common is persistence in and desistance from offending between adolescence and early adulthood?* And *how common is the onset of offending during early adulthood?* The criminal career parameters include prevalence and frequency, continuity, escalation and specialization, types of crimes and criminal careers, co-offending, prediction of offending into adulthood, and prediction of the onset of offending in the young adult years.

Most young adult offenders have previous juvenile records. For example, in the Cambridge Study in Delinquent Development, which is a prospective longitudinal survey of more than 400 males, two thirds of those who were convicted between ages 18 and 25 had been convicted previously as juveniles (Farrington, 2012). Only one quarter of all convicted offenders were first convicted at age 21 or older (McGee and Farrington, 2010). In this sample, the median age of the first conviction was 17, whereas the median age of the last conviction was 25. Taking account also of decreases in self-reported offending (Farrington et al., 2006), it can be concluded that most offenders desisted naturally in their early 20s. It seems unlikely that desistance is caused by justice processing because convictions were followed by an increase in self-reported offending in this sample (Farrington, 1977; Farrington, Osborn, and West, 1978).

There is no doubt that (according to official records) the probability of recidivism decreases from the teenage years to the 20s. To assess continuity in offending, Piquero, Farrington, and Blumstein (2007) examined convictions between different age periods, from 10–15 through 36–40 in the Cambridge Study. They found that 67% of recorded offenders at 10–15 also were recorded offenders at 16–20, whereas only 17% of those who were not convicted at 10–15 were recorded offenders at 16–20. The 67% of London males who were convicted between ages 10 and 15 and reconvicted between ages 16 and 20 could be compared with only 40% of males convicted at 16–20 who were reconvicted at 21–25 and only 33% of males convicted at 21–25 who were reconvicted at 26–30 (Farrington et al., 2006).

For a national sample of English males born in 1953, Prime, White, Liriano, and Patel (2001) found that the fraction of male offenders who were reconvicted within 5 years decreased from 42% at age 17 to 16% at age 25. For female offenders, however, the fraction

reconvicted decreased only from 23% at age 17 to 19% at age 25. It is known that the decrease in the age–crime curve after the peak is much steeper for males than for females.

Although the prevalence of offending and the probability of recidivism decrease from the teenage years to the 20s, it does not necessarily follow that the average residual length (in years) of a criminal career (up to the age of desistance) or the average residual number of offenses in a criminal career would decline similarly. However, Kazemian and Farrington (2006) investigated these quantities in the Cambridge Study, based on official records of convictions, and they found that these quantities decreased steadily with age. The average residual career length decreased from 8.8 years for offenders at age 18 to 6.1 years for offenders at age 25, and the average residual number of offenses decreased from 5.4 at age 18 to 3.8 at age 25. These quantities should be taken into account by sentencers, and they could be predicted by the age of the offender, the serial number of the conviction, the time since the last conviction, and the age of onset of offending.

Reentry Problems

The reentry problems faced by young adult offenders often are neglected. An estimated 200,000 juveniles and young adults ages 24 and younger leave secure juvenile correctional facilities or state and federal prisons and return home each year (Mears and Travis, 2004). Most reentry research has focused on older adults, and we know little about the reentry problems of young adults. This deficiency is critical because it would be risky to assume that the challenges faced by young adult offenders when returning to society are the same as those of older adults. Despite some overlap, substantial differences exist. For example, young people who are released from secure confinement confront several barriers:

- Developmental disabilities may have gone undiagnosed or untreated or mistreated.
- Family settings may include violence and drug dealing.
- Peer networks may foster criminality, which is a particular concern because of the importance of peer influence and association among young adults.
- They are likely to be unemployed because typically they will not have graduated from high school (Harlow, 2003) and will have a limited, if any, employment history.
- They have little experience of what it means to have positive, prosocial experiences with (a) friends, (b) recreation, (c) intimate emotional relationships, or (d) the self-discipline needed for employment.

These examples constitute some of the broad array of challenges that young adults face after reentry into society, and if unaddressed, these issues are likely to contribute to a trajectory of criminal involvement (see also Steinberg, Chung, and Little, 2004). Because parole/probation violations account for a large proportion of all incarcerations, states need to use proven techniques more widely to reduce violations or keep parole/probation violators out of prison. Nationwide, most (approximately 80%) of released prisoners are subject to a period of supervision in the community. Large numbers of parolees return to prison for

new crimes or technical violations of their parole and account for one third of new prison admissions nationally (Baer et al., 2006: 18).

Civil disqualifications are major obstacles to successful offender reentry. The Urban Institute's *Returning Home* study documented the prerelease needs and postrelease experiences of prisoners in Illinois, Maryland, Texas, and Ohio (Baer et al., 2006; see also Annie E. Casey Foundation, 2005). Whereas few studies have compared these needs and experiences systematically among young adult populations, a few effective postrelease programs are available for young adult offenders. A systematic review of prisoner reentry programs (Seiter and Kadela, 2003) suggested that several of them were effective, including vocational training and/or work release, drug rehabilitation, education programs (to some extent), halfway house programs, and prerelease programs, whereas promising results were obtained for sex and violent offender programs. Another review of adult inmate programs found small but positive benefits for work release programs (vs. in-prison incarceration) and job counseling/search for inmates leaving prison (Aos, Phipps, Barnoski, and Lieb, 2001). Once again, however, few studies exist that have systematically compared the effectiveness of reentry programs among younger versus older adult offender populations. More research on the reentry problems of young adult offenders is needed.

Special Legal Procedures for Young Adult Offenders

One peculiarity of the American juvenile justice system is the extent to which it allows the transfer of juveniles to the adult criminal court (see Griffin, 2012). In Europe, systems vary widely, and some countries (such as the Netherlands, Belgium, Portugal, and Poland) also allow juvenile defendants (older than ages 15 or 16) to be treated as adults. Other countries, such as Germany and Austria, do not allow juveniles younger than age 18 to be brought before an adult court to be sentenced under adult law. On the contrary, they allow young adults (between ages 18 and 20) to be treated under juvenile law and to be tried in the juvenile criminal justice system, although authorities have some discretion in this regard. These countries, however, have very long maximum custodial sentences for juveniles less than age 18: 10 years in Germany and 15 years in Austria (see Killias, Redondo, and Sarnecki, 2012).

As Dunkel and Pruin (2012) pointed out, the International Association of Penal Law in 2004 passed a final resolution stating that the applicability of the special provisions for offending by juveniles could be extended up to the age of 25. In Germany since 1953, all young adults aged 18–20 have been transferred to the jurisdiction of the juvenile courts, which allows the needs of the young adult to be taken into account and allows rehabilitative measures to be used. Whether the young adult receives a juvenile or adult sanction depends on such factors as whether the moral and psychological development of a young adult is like a juvenile and whether the offense is like a juvenile crime (e.g., spontaneous, unplanned, or motivated by anger). Thus, practice in Germany conforms to the 2003 Council of Europe

recommendation that young adult offenders younger than age 21 should be treated in a way comparable with juveniles when the judge is of the opinion that they are not as mature and responsible for their actions as full adults (Dunkel and Pruin, 2012).

Young adult defendants in Germany, Switzerland, and Sweden can be sent to special institutions for the treatment of young offenders, but that also would be possible under the adult system in many other countries. An extreme case is Switzerland, where the adult age limit is strictly 18, but the maximum sentence for juveniles is usually 1 year (and only in exceptional cases 4 years). Thus, countries either have low maximum penalties for juveniles (younger than 18) and apply, in certain circumstances, adult criminal sanctions to juvenile defendants, or they have sanctions for juveniles that are not too different from what the law provides for adults (Stump, 2003). These policies make it easier to keep the adult age limit at 18 and to apply juvenile law to young adults (aged 18–20).

Some other European countries, including Sweden and Austria, have separate young adult sentencing provisions and separate institutions for 18–20-year-olds (see Transition to Adulthood Alliance, 2010). The Netherlands, the Scandinavian countries, and the countries of the former Yugoslavia have special provisions for young adults within the general criminal law or provide for the possibility of avoiding the requirements of the adult law or reducing adult sentences. In Switzerland, young adults can be treated as juveniles until they are 25. In Sweden, there is "youth mitigation" up to age 21. In Finland, all those who committed their crime younger than age 21 are regarded by the prison service as juveniles.

Offenders ages 18 to 20 are dealt with more leniently than older adults not only in Scandinavia but also in 18 other European countries (including Austria, Germany, and the Netherlands). A practically important consequence of having young adults dealt with under juvenile law is that they may benefit from more lenient procedural rules, such as the wide use of diversion (e.g., in Germany). On the effects of such interventions, either no systematic research exists or the results are conflicting.

In England and Wales, as in the United States, the legal treatment of offenders changes dramatically when they reach their 18th birthday. Instead of being dealt with in the youth justice system, which focuses more on rehabilitation, they start being dealt with in the adult criminal justice system, which focuses more on punishment. However, there are some special provisions for young adult offenders, who are defined as those between ages 18 and 20 inclusive. In particular, these offenders are not sent to a prison but to a young offender institution, and their incarceration sentences must be followed by statutory supervision. At age 21, offenders are considered to be fully adult and fully responsible for their actions.

Because of concern about the legal treatment of young adult offenders in England and Wales, the Barrow Cadbury Trust established an independent Commission on Young Adults and the Criminal Justice System in 2004, which produced the report *Lost in Transition* (Barrow Cadbury Trust, 2005). The Commission highlighted the problems that every offender aged 18 or older was regarded as an adult and that sentencers were under no obligation to take account of the immaturity of offenders aged 21 or older. The Commission

argued against using birthdays as an arbitrary indicator of adulthood and considered that, ideally, there should be only one English criminal justice system for offenders of all ages that took account of the needs and maturity of offenders of different ages.

More realistically, the Commission argued for special provisions for young adult offenders that took account of their immaturity and malleability. It recommended that Transition to Adulthood teams should be established in each local criminal justice area to oversee the treatment of young adult offenders and to ease their transition between the youth and adult justice systems. It argued that most young adult offenders would naturally desist from crime in their 20s as they matured. Because treatment by the criminal justice system allegedly made them more likely to offend, there should be presumptions in favor of diversion and against custody for young adult offenders. The Commission pointed out that nearly 70% of incarcerated 18–20-year-olds were reconvicted within 2 years of release, although (in the absence of some comparison condition) this statistic in itself does not necessarily prove that young offender institutions are ineffective or damaging. The Commission also recommended that sentencers should be required to take account of the emotional maturity of young adult offenders and that specialists in the National Offender Management Service should submit an assessment of an offender's maturity to the court.

In 2009, the Transition to Adulthood Alliance published *A New Start* (Helyar-Cardwell, 2009a) and the *Young Adult Manifesto* (Helyar-Cardwell, 2009b). *The Manifesto* recommended that young adult offenders aged 18–24 should be recognized as a distinct category. It advocated that the government should consider how maturity and developmental stage could be taken into consideration in the sentencing of young adults, and it should pilot a maturity assessment instrument for use by the criminal justice system. *The Manifesto* also recommended more diversion of young adults from the courts, increased use of restorative justice, the abolition of short sentences for nonviolent offenders, and more support in the community to deal with drug, alcohol, mental health, and employment problems of young adult offenders (see Allen, 2012).

Policy Options

Many uncertainties exist regarding the extent to which the juvenile and adult justice systems reduce the recidivism of juvenile and young adult offenders. Some key questions are addressed as follows.

What is known about the relative effectiveness of the juvenile and criminal justice systems in reducing recidivism? Howell et al. (2012) pointed out that arrests, convictions, and imprisonment of youth and adults often lead to an increase in offending (see, e.g., Huizinga and Henry, 2008), and that sending youth to adult prisons usually increases rather than decreases recidivism (see, e.g., Kupchik, 2006). Second, they concluded that juveniles transferred to the adult court were more likely to reoffend, reoffended more quickly and at higher rates, and committed more serious offenses than did juveniles retained in the

juvenile justice system (see, e.g., Bishop and Frazier, 2000). Third, they cited a finding by the Centers for Disease Control Task Force (McGowan et al., 2007) indicating that juveniles who experienced the adult justice system committed more violent crimes after release than juveniles retained in the juvenile justice system. Fourth, they concluded that changes in transfer laws and practices did not produce a specific or a general deterrent effect (see, e.g., Redding, 2008). In recent decades, sanctions imposed on serious juvenile offenders have tended to become more wide ranging, including blended sentencing in juvenile courts and often longer sentences for juveniles in adult criminal courts than for adults convicted of the same crimes (Howell, 2009).

It seems clear that the more rehabilitative approach of the juvenile justice system is more successful with youth than the more punitive approach of the adult criminal justice system (Lipsey, 2009; Lipsey and Cullen, 2007). Therefore, it seems likely that a more rehabilitative approach also might be more successful with young adult offenders, and high-quality evaluation research on this topic is needed.

In light of all the empirical evidence reviewed by Howell et al. (2012), we recommend that experiments be mounted to assess the likely effectiveness of special sentencing and treatment provisions for young adult offenders. Legislators who are worried about being recognized as "soft on crime" may resist this strategy. However, if a more juvenile-like rehabilitative approach proves to be more effective and cost effective than the adult punitive approach in reducing the reoffending of young offenders, then that would be in the interest of taxpayers, young persons, and society at large.

In any case, survey evidence shows that the public are not as punitive as politicians claim. Welsh and Farrington (2011) reviewed evidence that the public overwhelmingly preferred to spend tax dollars on youth prevention programs rather than on building more prisons, and Cullen (2007) also argued that the public supported rehabilitation. Applegate, Davis, and Cullen (2009) found that, whereas the public generally preferred rehabilitation to retribution, deterrence, or incapacitation, their support for the transfer of juveniles to the adult court depended very much on features of the offense (e.g., seriousness) and offender (e.g., previous record). We agree that the sentencing of young adult offenders should take account of criminal history and other valid predictors of recidivism (see Austin, 2006).

Conclusions and Policy Recommendations

We started out with Arnett's (2000) thesis that a period called "emerging adulthood" exists between adolescence and adulthood. We do not think that such a term is useful for future legal purposes because it will be difficult if not impossible to create a new terminology in legal statutes. In contrast, the period between adolescence and early adulthood is unique for offending in two ways. First, the number of juvenile and young adult offenders decreases with age as is evident from the downslope of the age–crime curve, which usually does not flatten out until after age 25. Many offenders naturally desist in their early 20s, and punitive

treatment in the adult criminal justice system may make them worse. Second, the period between adolescence and early adulthood is unique in that, on average, juveniles' cognitive and behavioral maturation, as shown by their impulsivity and sensation seeking, is not complete at ages 16, 17, or 18, the ages at which most states stipulate the beginning of adulthood. Thus, two major indicators of adulthood, that is, lowered offending and lowered impulsivity, do not map at all on current definitions of the minimum age of adulthood.

We argue that there is nothing magical about a legal calendar age of adulthood and that it is based on assumptions rather than on evidence. That young people tend to be more impulsive and that the majority grow out of this during early adulthood is well recognized by many commercial organizations, including car insurance and rental companies. It is perplexing why many politicians seem to ignore the naturally declining propensity to commit crime and the naturally improving cognitive maturity in the 20s. It also is remarkable that, whereas many legislators promote changes in evidence-based and cost-effective policies in a multitude of areas of government, scientific findings about the intersection between the age–crime curve and the maturational development of young people often are ignored in legislation.

Legislators and policy makers can learn from research findings showing normative decreases in impulsivity and offending during adolescence and early adulthood, and these changes do not map well on current legal statutes governing the age when juvenile justice ends and adult criminal justice begins. This means that many young persons who engage in impulsive forms of offending are directed away from juvenile justice—with its emphasis on rehabilitation—to adult criminal justice—with its more punitive approach and longer sentences, resulting in longer periods of incarceration usually without rehabilitative programs. The situation is especially dire for vulnerable young men and women, such as those with low intelligence who, compared with youth with higher intelligence, often take longer to mature cognitively and behaviorally. Another vulnerable group is offenders with serious mental health disorders. Keeping vulnerable and less vulnerable young offenders in adult prisons beyond their propensity to offend is comparable with keeping patients with physical ailments in hospitals beyond their time of recovery. Both examples are economically wasteful and unjust.

Legislators and researchers should focus on young adulthood for two additional reasons. First, during this period, some juvenile offenders will persist in their delinquency and become adult offenders. Second, another group will show adult-onset offending. During this time, some individuals may become violent, whereas others start engaging in "new" forms of crime such as fraud, trafficking in humans, identity theft, cyber criminality, electronic forms of economic crimes, and prostitution.

We conclude that young adult offenders aged 18–24 are more similar to juveniles than to adults with respect to features such as their executive functioning, impulse control, malleability, responsibility, susceptibility to peer influence, and adjudicative competence. Therefore, we make the following policy recommendations (some of which are alternatives):

1. Changes in legislation are warranted to prevent large numbers of juvenile offenders from becoming adult criminals. We recommend increasing the minimum age for referral of young people to the adult court to age 21 or preferably 24 so that fewer young offenders are dealt with in the adult criminal justice system. The advantages to these changes are many: Fewer young offenders will be incarcerated, fewer will be exposed to the criminogenic influences of incarceration, and more of them can receive alternative, noncustodial, and rehabilitative sanctions. We expect that, consequently, the number of adult prisoners will decrease and considerable savings for taxpayers will accrue. To prompt legislative change, we recommend cost–benefit analyses to quantify the benefits of legally raising the minimum age of adult jurisdiction to 21 or 24. Such cost–benefit analyses have been executed abroad but not yet in the United States, although there have been cost–benefit analyses in the United States of the effects of increasing the minimum adult age from 16 to 18 (Henrichson and Levshin, 2011). An English report concluded that "diversion from trial under adult law to trial under juvenile law following maturity assessment is likely to produce cost saving to society. . ." of £420 per offender (Barrow Cadbury Trust, 2009: 3). More analyses are needed to quantify the monetary costs and benefits of legally raising the age of juvenile jurisdiction to age 21 or 24.
2. Alternatively, special courts for young adult offenders aged 18–24 could be established on an experimental basis in a small number of areas (building on the experience of the U.K. Transition to Adulthood Alliance: see www.t2a.org.uk). The reasons to support creating special courts for young adult offenders are as follows: (a) to prevent excessive punishment of young people who land in the adult justice system, (b) because youthfulness is a mitigating factor, and (c) to protect the developmental needs of young people. The focus should be on rehabilitation rather than on punishment, although this would depend on features of the offense and the offender. Because juveniles who are transferred to adult courts tend to receive more severe sentences and tend to have higher recidivism rates than those in juvenile courts, we expect that these special courts would decrease recidivism and decrease incarceration, and consequently, this strategy would save taxpayers money. In addition, they should be designed to have fewer ongoing stigmatizing effects than the adult criminal courts. Potentially, they could process a large number of cases because approximately one third of felony cases in urban courts involve persons younger than 25 (Cohen and Kyckelhahn, 2010).
3. A third option is to set up special correctional facilities for young adult offenders and include programs such as cognitive-behavioral therapy, drug treatment, restorative justice, mentoring, education and vocational training, and work release. In most states, a juvenile court may continue to exercise dispositional jurisdiction over an adjudicated youth until the youth reaches their 21st birthday, and some states (e.g., Pennsylvania) have separate correctional institutions for young adult offenders. The California Department of Juvenile Justice continues to have jurisdiction over juveniles until the 25th birthday (Transition to Adulthood Alliance, 2010). Most research shows

no evidence that either longer sentences or lengthening the period of incarceration provides benefits in terms of reducing the recidivism of serious offenders.

4. A "maturity discount" should be implemented for young adult offenders: a decrease in the severity of penalties that takes account of young persons' lesser culpability and diminished responsibility. Along that line, death sentences and life without parole sentences should be abolished for young adult offenders.
5. There should be risk/needs assessments and screening of young adult offenders to guide the selection of appropriate dispositions and interventions. This screening should assess topics such as executive functioning and impulse control, in addition to risk factors such as low intelligence. A comprehensive forensic assessment tool could be used, such as the MacArthur instrument (Woolard and Harvell, 2005). Young adult offenders with substance use problems should be diverted to drug courts, and those with mental health problems should be dealt with by mental health professionals. All sentencing could be based on individualized assessments of offenders and offenses. However, we would not propose that all offenders should have their brains scanned, as we do not think that enough is currently known about the relationship between brain structure and brain functioning.

Morse (1999: 76–77) put forward compelling arguments in favor of individualized sentencing for adults:

> [I]f most or all adolescents are only partially morally responsible, then similarly situated adults should be treated similarly. I recognize that the law may adopt a bright line based on age to avoid the expense of individualization. Thus, if subjection to peer pressure does somehow excuse and juveniles are more subject as a class, there might be reason not to try to identify the small group of juveniles that is not especially subject to peer pressure. The search for efficiency in adjudicating juveniles then errs on the side of leniency. But this argument need not be symmetrical. Should adult adjudication err on the side of severity and unfairness in the search for efficiency? We generally hold that it is better to acquit the guilty than to convict the innocent. Should not efficiency yield to the need to individualize for the small class of adults with the same characteristics as juveniles who therefore might not be fully responsible?

6. Evidence-based programs for young adult offenders should be implemented in the community and after release, including multisystemic therapy, cognitive-behavioral therapy, drug treatment, restorative justice, mentoring, educational and vocational training programs, and programs such as Communities That Care (see Farrington and Welsh, 2007). Many proven intervention programs outside the justice system can improve self-control (see Piquero, Jennings, and Farrington, 2010). Employment and relationship programs should be offered to encourage desistance, as well as other

programs aimed at reducing disorderly transitions such as not graduating from high school and single teenage parenthood. Other useful programs are those aiming to reduce opportunities for offending, such as "hot spots policing" and situational crime prevention, as well as reducing gang membership and drug dealing (especially targeted on high-crime neighborhoods). In addition, in light of the long-term desirable effects of early nurse home visiting, parent training, and family-based programs (Farrington and Welsh, in press), these also should be more widely implemented and followed up to assess their effects on young adult offending.

All of these initiatives should be rigorously evaluated, in randomized experiments or high-quality quasi-experimental studies, and cost–benefit analyses should be carried out. Age, gender, and racial/ethnic differences in the effectiveness of programs should be studied.

We urge the U.S. federal government to develop an action plan to implement our key recommendations to assist states in changing their statutes and practices so that justice is applied more fairly and with more knowledge of how youth develop into mature adults. We believe that improvements in the safety of citizens and communities are needed and that our approach offers more hope and more benefits than does the implementation of longer sentencing of young people in the adult justice system. The litmus test is whether concerted preventive and remedial interventions inside and outside the justice system can lower and shrink the age–crime curve for future generations of young people.

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David P. Farrington is the Emeritus Professor of Psychological Criminology at the Institute of Criminology, Cambridge University, and an adjunct professor of psychiatry at Western Psychiatric Institute and Clinic, University of Pittsburgh. His main research interests are in the development of offending and antisocial behavior from childhood to adulthood, and in developmental and situational crime prevention. His most recent books are *Young Homicide Offenders and Victims* (Springer, 2011), *The Oxford Handbook of Crime Prevention* (Oxford, 2012), *From Juvenile Delinquency to Adult Crime* (Oxford, 2012), *Young Adult Offenders* (Routledge, 2012), *Explaining Criminal Careers* (Oxford, 2012), and *Scholarly Influence in Criminology and Criminal Justice* (Nova, 2012).

Rolf Loeber is a distinguished professor of psychiatry and professor of psychology and epidemiology at Western Psychiatric Institute and Clinic, University of Pittsburgh. He is also a professor of juvenile delinquency and social development at the Free University of Amsterdam. His main research interests are in the development of conduct disorder and antisocial behavior by males and females, and in interventions to reduce this development. His most recent books are *Tomorrow's Criminals* (Ashgate, 2008), *Violence and Serious Theft*

(Routledge, 2008), *Young Homicide Offenders and Victims* (Springer, 2011), *From Juvenile Delinquency to Adult Crime* (Oxford, 2012), *Persisters and Desisters in Crime from Adolescence into Adulthood* (Ashgate, 2012), and *The Future of Criminology* (Oxford, 2012).

James C. (Buddy) Howell worked at the federal Office of Juvenile Justice and Delinquency Prevention (OJJDP) in the U.S. Department of Justice for 21 years, mostly as Director of Research and Program Development. He currently is a senior research associate with the National Gang Center in Tallahassee, FL. He has published on juvenile justice, youth violence, and street gangs. His most recent books are *Preventing and Reducing Juvenile Delinquency: A Comprehensive Framework* (2009) and *Gangs in America's Communities* (2012). Buddy is very active in helping states and localities reform their juvenile justice system and employ evidence-based programs in the Comprehensive Strategy Group.

YOUNG ADULT OFFENDERS

Aligning Justice System Processing with Developmental Science

Elizabeth Cauffman
University of California—Irvine

A common feature of virtually any legal system is the recognition that young children who engage in antisocial behavior are not held to the same standards of culpability, and are assumed to be more amenable to treatment, when compared with mature adults. Regardless of jurisdiction, a 5-year-old who pushes someone down a flight of stairs in a fit of anger is virtually certain to be handled differently from a 35-year-old who does so. Different countries and/or jurisdictions differ widely, however, in their definitions of "adulthood" and in their approaches to handling cases involving those in the gray areas around these boundaries. In their article, Farrington, Loeber, and Howell (2012, this issue) make a compelling argument that the typical boundary of 18 years of age employed in most American legal jurisdictions is inconsistent with scientific evidence. Specifically, this evidence shows that key aspects of psychosocial maturity are not fully developed until the later stages of what we typically call "young adulthood," and that a more appropriate policy would be to extend the age of presumed diminished responsibility to something in the neighborhood of 21–24 years of age. They note that several countries employ special courts and/or treatment programs to deal with transgressions by adolescents and young adults, and they highlight research indicating that punitive, adult-based sanctions lead to poorer outcomes and increased recidivism. Consequently, they propose many ways in which legal systems in the United States could be reformed to make them more consistent with our state of knowledge regarding development of mature judgment and treatment efficacy. Their recommendations include such possibilities as increasing the minimum age for adjudication in the adult court system, establishing special courts and/or correctional facilities for offenders 18–24 years of age to focus on evidence-based treatment, modifying sentencing guidelines to include a "youth discount" for young adults, using individual risk/needs assessments

Direct correspondence to Elizabeth Cauffman, University of California—Irvine, 4308 Social and Behavioral Sciences Gateway, Irvine, CA 92697–7050 (e-mail: cauffman@uci.edu).

DOI:10.1111/j.1745-9133.2012.00847.x © 2012 American Society of Criminology

to guide sentencing, and establishing more effective "reentry" programs for young adults returning to the community after being held in secure confinement.

Farrington et al. (2012) present a clear and accurate overview of current knowledge regarding the development of decision making and mature judgment. Adolescents have been found to be more impulsive (Cauffman and Steinberg, 2000; Galvan, Hare, Voss, Glover, and Casey, 2007; Steinberg et al., 2008), short sighted (Greene, 1986; Nurmi, 1991; Steinberg et al., 2008), and less able to resist the influence of their peers (Gardner and Steinberg, 2007), when compared with adults, and these aspects of maturity tend to show continued improvement until the early twenties. Such findings are drawn from a large (and growing) body of behavioral studies but are further supported by more recent brain imaging studies as well. From a logical standpoint, Farrington et al.'s policy recommendations would thus align legal policy with the established conclusions of scientific research, resulting in a system that is fairer and more effective than the ones currently employed throughout the United States. Practically speaking, however, some of these recommendations overlook key considerations that could limit their efficacy. In the paragraphs that follow, I highlight the strengths and weaknesses of the proposed policy options, and I suggest several additional considerations that could serve to guide policy toward fairer and more effective treatment of adolescents as well as young adults.

As clearly articulated by Farrington et al. (2012), between 18 and 24 years of age is a developmental time period during which significant improvements in several aspects of mature judgment occur. Because most American jurisdictions draw a bright-line legal boundary at age 18, most research on legal policy and development has focused on distinguishing between adolescents (those younger than 18 years of age) and adults (those older than 18 years of age), but studies that track development beyond this age show that, in many respects, age 18 often aligns with the *beginning* of a particularly problematic developmental phase marking the transition from adolescence to adulthood. An examination of behavioral data indicates that the apex of risk taking occurs during this period. For example, unintended pregnancy peaks at 18–19 years of age (Finer, 2010); binge drinking peaks around 21 years of age (Chassin, Pitts, and Prost, 2002); and crime peaks at 19 years of age (Federal Bureau of Investigation, 2010). When combined with more fine-grained studies showing specifically how susceptibility to peer pressure, impulsivity, risk taking, and short-term thinking do not subside until later in young adulthood, it becomes impossible to reconcile the argument that 18 is a sensible age at which to expect people to "know better" and to be "responsible" with the observation that these indicators of impulsive, reckless, self-destructive, and antisocial tendencies peak at precisely this point. Accordingly, the policy recommendations put forth by Farrington et al. to reevaluate how we treat 18–24-year-old offenders are generally sensible. Whether this is accomplished by establishing sentencing guidelines that include a "youth discount" or by favoring more rehabilitative treatment options in facilities designed specifically for this age group, the end result would be a more effective system of justice with a lower rate of continued offending.

Farrington et al. (2012)'s proposal to provide evidence-based reentry programs to assist young adult offenders with the transition back into the community after release is particularly noteworthy. Felony offenders of all ages face numerous obstacles to successful reentry. Many will find it difficult to obtain employment and/or housing, and many will find it difficult to avoid slipping back into old habits when returning to their old neighborhoods. These challenges are likely to be especially problematic for younger offenders, who may not have had previous work experience, may not have lived on their own before incarceration, and may have spent critical years normally devoted to education and increased autonomy as inmates instead. Farrington et al.'s suggestion to provide a more therapeutic and skills-based reentry program is thus especially important for adolescent and young adult offenders. Individuals in middle-to-late adolescence normally make substantial progress in acquiring and coordinating skills that are essential to filling the conventional roles of adulthood. Under normal circumstances, they begin to develop basic educational and vocational skills to enable them to function in the workplace as productive members of society. They also acquire the social skills necessary to establish stable intimate relationships and to cooperate in groups. Finally, they learn to behave responsibly without external supervision and to set meaningful personal goals for themselves. For most individuals, the process of completing these developmental tasks extends into early adulthood. These developmental tasks become even more challenging when faced during incarceration or when delayed until release. To put an adolescent or a young adult in a secure institutional setting during the years when their personality coalesces, and then to release them as adults, with no system of support, is a recipe for recidivism. Strengthening reentry programs for 18- to 24-year-olds will not only have a beneficial outcome for the youth himself but will also benefit the greater community through reductions in repeated criminal behavior and reductions in the costs associated with repeated incarceration.

In addition to suggesting more developmentally appropriate sentencing and treatment options for 18- to 24-year-olds, Farrington et al. (2012) suggest the establishment of a separate court system to handle such cases, either as an alternative or in addition to their other recommendations. Certainly, evidence shows that special drug courts and mental health courts are effective in reducing violence and recidivism (DeMatteo, Filone, and LaDuke, 2011; Steadman, Redlich, Callahan, Robbins, and Vesselinov, 2011). Their success, however, is likely a result of their role in channeling defendants into appropriate diversion or treatment programs. Similarly the advantages of a separate court system for 18- to 24-year-olds rely entirely on the presumed availability of appropriate treatment or sentencing options for young adults. I argue that availability of developmentally appropriate sentencing or treatment options is vastly more important than the nature of the venue in which those options are assigned. Furthermore, although young adults may yet lack the lower impulsivity, higher resistance to peer pressure, and greater capacity for long-term thinking that older adults exhibit, and although they may still have the capacity for change and thus may benefit from efforts at rehabilitation, studies have found that they generally *do* have the necessary

capacities to stand trial. The MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice conducted a large-scale study with offenders—half of whom were in the custody of the justice system and half of whom had never been detained—and found that youths 11 to 13 years of age demonstrated significantly poorer understanding of trial matters, as well as poorer reasoning and recognition of the relevance of information for a legal defense, than did 14- and 15-year-olds, who in turn performed significantly more poorly than individuals 16 years of age and older. No differences were found between the 16- and 17-year-olds and the young adults (Grisso et al., 2003), suggesting that "competence to stand trial" plateaus during mid-adolescence. This finding indicates that, in the absence of mental health problems, young adults generally should not need a specialized, paternalistic, nonadversarial court system such as the juvenile justice system, which, in its original conception, was tasked with acting "in the best interests of the child." In short, as long as appropriate sentencing options for young adults are available to the adult criminal court system, and as long as a more paternalistic juvenile system is available for youths who lack the capacity to participate fully in their own defense, there does not seem to be a significant advantage to establishing a third, separate court system specifically for young adults.

A second policy recommendation that may be of limited effectiveness involves the suggested reliance on individual risk/needs assessments for 18- to 24-year-olds. Although tailoring sentencing and treatment to the specific characteristics of each offender is a worthwhile goal, it is also a highly elusive one. Research has shown that clinical judgment or forensic evaluation is fallible (Ægisdóttir et al., 2006). Attempts have been made to improve clinical judgment by introducing actuarial tools and assessments, but these tools have several limitations. First, they tend to predict short-term outcomes, but not long-term ones. Second, whereas these assessments may be useful in establishing statistical patterns and probabilities, the degree of uncertainty when applied to a specific individual remains large. Consequently, the use of a standardized instrument provides a dilemma for handling people with scores just above or below a cut point because such individuals are not very different, and yet they are treated differently because of their classification (Dwyer, 1996). The court system does need guidance when tasked with assigning custom treatments. However, excessive reliance on numerical scores on standardized assessments, without adequate acknowledgment of the very wide error bars that apply to such assessments, can have the effect of implying an unrealistic level of certainty in a particular individual's treatment needs.

Despite these criticisms, the key observation by Farrington et al. (2012), that there is little scientific basis for drawing a bright-line boundary at 18 years of age for trial as an adult, is correct. Similarly, their proposal to shift this boundary to 21, if not 24, or at least adapt sentencing decisions to allow for more lenient and/or rehabilitative treatment of young adults, is entirely consistent with what we know about development. Farrington et al. acknowledge that lawmakers are often reticent to seem "soft on crime" but argue

that the general population is not as retributive as lawmakers would believe and that clear evidence of the cost-effectiveness and treatment efficacy of developmentally appropriate sentencing should sway any thoughtful voter. Although I am somewhat less optimistic about the triumph of reason over emotion in the debate over the relative importance of retribution, rehabilitation, and community safety as goals of the American criminal justice system, I am further concerned that, in considering the idea of moving the legal/criminal boundary of adulthood from 18 to 24, we are ignoring the great extent to which legislation over the past several decades has effectively moved this boundary in the *opposite* direction for a large number of offenses. The legal age of majority may be 18 for most states, but statutes in many jurisdictions require mandatory transfer to adult court for certain offenses committed by children as young as 10 years of age. For example, youths in Kansas can be waived to adult court for any criminal offense at 10 years of age, in Mississippi the age is 13, and in Florida the age is 14 (Griffin, Addie, Adams, and Firestine, 2011). Such policies confuse the offense with the offender and take the commission of a heinous crime as evidence of maturity, when no such correlation has been proven. As Farrington et al. have noted, clear and consistent evidence suggests that adult prosecution and punishment of juvenile offenders, and the use of punitive sanctions more generally, increases recidivism and jeopardizes the development and mental health of juveniles (McGowan et al., 2007). In a context where 14-year-olds are routinely tried as adults, and juveniles tried as adults are routinely sentenced to lengthy periods of incarceration in adult correctional facilities, despite compelling research demonstrating the iatrogenic effects of transferring juveniles (those 17 and younger) to the adult court system, it seems somewhat brazen to suggest that the first order of business in reforming our justice system should be to find ways to treat young adults more leniently. Although I agree that young adults in their early twenties typically are less mature than older adults, and therefore they may be less culpable and more amenable to treatment, I would contend that these arguments apply even more strongly to children and adolescents, and that our first order of business should be to eliminate mandatory transfers of minors to adult court and to reestablish the role of the juvenile justice system as a venue in which to identify developmentally appropriate treatments for young preadult offenders.

Recent signs have shown that the juvenile justice pendulum is beginning to swing back from punitive/retributive toward restorative/rehabilitative. In 2005, the U.S. Supreme Court abolished the death penalty for juvenile offenders (*Roper v. Simmons*, 2005), and more recently, the Court struck down mandatory sentences of life without the possibility of parole (*Graham v. Florida*, 2010; *Miller v. Alabama*, 2012). As noted in the briefs by the Supreme Court, the impetus for these policy shifts has been new science highlighting the developmental differences between adolescents and adults. A vast chasm remains, however, between what we know about the development of mature judgment and how our court system handles cases involving offenders between 12 and 24 years of age. Farrington et al. (2012) are entirely correct that a sound scientific basis exists for shifting the legal boundary

for the presumption of maturity from 18 to something like 21 or 24. But given the ongoing battle over the extent to which the justice system can even be allowed to treat *minors* as minors, I fear that Farrington et al. may be overly optimistic about the prospects of convincing lawmakers to treat young adults more like minors as well.

The overarching goal of this essay was to propose new policies for the adjudication and treatment of 18- to 24-year-old young adult offenders. As noted by Farrington et al. (2012), many countries have developed, or are actively pursuing, evidence-based treatment programs designed specifically to address the less mature nature of young adults in this intermediate "gray area" between adolescence and adulthood. Incontrovertible evidence shows that psychological development continues throughout adolescence and into young adulthood. Furthermore, the biological underpinnings of the behavioral studies on which these conclusions are based are beginning to emerge. Recent brain imaging research does not change the portrait of adolescent immaturity painted by behavioral research, but it makes the story more compelling. It is one thing to say that adolescents do not control their impulses, stand up to peer pressure, or think through the consequences of their actions as well as adults, and to cite performance on behavioral tests as evidence; it is quite another to say that they do not do these things because their brains are not yet wired to support such mature decision making. Yet, that is what recent studies linking anatomical and functional markers of brain development indicate (Casey, Getz, and Galvan, 2008; Giedd, 2008). It is important that justice system responses take such developmental considerations into account, for several reasons. First, although offenders should unquestionably face consequences for their offenses, the sanctions applied should be appropriate to the offender's developmental status, amenability to future change, and degree of culpability (which may be lowered because of the diminished reasoning capacity implied by a lack of fully developed impulse control, resistance to peer pressure, or ability to recognize long-term negative consequences of risky behavior). Second, punitive sentencing of juveniles in adult facilities leads to increased rates of reoffending, compared with treatment within the juvenile justice system. Farrington et al. argue that these findings support changes to the way we treat young adults and that we need to improve the support systems that help young adults reenter the community after incarceration. Farrington et al. are correct in these assertions. But we must not lose sight of the fact that these same arguments apply even more strongly to adolescents and that increasing the age of majority beyond 18 years of age in the eyes of the criminal court system will mean little if minors continue to be routinely transferred, tried, and sentenced as adults.

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Elizabeth Cauffman is a professor in the Department of Psychology and Social Behavior at the University of California, Irvine. Her research involves identifying developmental trajectories of delinquency and exploring the legal implications of research on the development of mature judgment.

Raising the Age

Issues in Emerging Adulthood and Adult Court Referral of Youthful Offenders

Chris L. Gibson
Marvin D. Krohn
University of Florida

Emerging adulthood is recognized as a distinct period of the life course between the ages of approximately 18 to 24 years when an individual is no longer a child but has not quite embraced normative adult roles (Arnett, 2000). Engaging in crime during this period can substantially heighten the costs to individuals and society. As argued by Farrington, Loeber, and Howell (2012, this issue), this is because the abrupt overnight change in legal status that occurs on one's 18th birthday turns him or her from juvenile to adult in the eyes of the justice system, a threshold at which individuals face the reality of harsher sanctions by the adult criminal justice system.

It is typically at this point in the life course where law grants individuals many rights they once did not possess, such as the right to marry without parental consent, obtain credit cards and loans, rent or purchase a home, and enter into other legally binding contracts. As for criminal sanctions, this transition poses several interesting policy questions regarding how 18- to 24-year-olds should be treated by the criminal justice system. Should they be treated as adults and face the risk of collateral damages (increased risk of recidivism and stigmatization) associated with exposure to the adult system, or should they be given a youth "discount," which includes less severe sanctions for their criminal actions coupled with the more specialized style of treatment designed to rehabilitate that is encouraged by the juvenile system?

Farrington et al. (2012) attempt to bring evidence to bear on this question by arguing that the justice system's treatment of youthful offenders (18–24 years of age) is misaligned with research on developmental neuroscience, criminal careers, and correctional treatment

Direct correspondence to Chris L. Gibson, Department of Sociology and Criminology & Law, 3219 Turlington Hall, P.O. Box 117330, University of Florida, Gainesville, FL 32611-7330 (e-mail: clgibson@ufl.edu).

DOI:10.1111/j.1745-9133.2012.00851.x © 2012 American Society of Criminology

of juveniles and adults. Given this research, Farrington et al. ask what justification there is for the dramatic change in legal treatment that occurs practically overnight when one becomes 18 years of age. Farrington et al. suggest that those between the ages of 18 and 24 resemble juveniles more than they do adults with respect to their lack of self-regulation, decision-making abilities, and brain functioning. Their main recommendation seems to be increasing the age of adult court referral to 24. They also put forward alternative recommendations that include specialized courts and correctional facilities to reduce stigmatization and recidivism, decrease severity of punishment, improve risk and needs assessments, and implement programmatic efforts showing evidence-based positive results for youth reentering communities. In this essay, we point to additional considerations and raise questions regarding the issues they address by extending the discussion of the potential for these efforts to work based on findings gleaned from research and programmatic efforts to assist youthful offenders.

Young Adult Offenders: The Intersection Between Development and Policy

The first policy recommendation that Farrington et al. (2012) make is to have the U.S. Congress enact legislation to increase the minimum age at which young offenders are treated as adults. This suggests that this policy recommendation should be applicable to all youthful offenders during emerging adulthood. That is, regardless of behavioral histories and distinct patterns of development, those between the ages of 18 and 24 should be given discounts and less stringent punishments and, based on needs assessments, should be provided specialized treatment options to prevent negative consequences that can result from exposure to the adult criminal justice system. Although we are sympathetic to this argument, we believe Farrington et al. have neglected some evidence that may make this policy recommendation less effective in some instances than it is helpful.

First, and as recognized by Farrington et al. (2012), criminologists largely agree that most offenders are beginning to desist from criminal activities between the ages of 18 to 24, and only a small percentage of youth have an adult onset of offending. Given this robust empirical trend, Farrington et al. argue that applying harsh adult criminal sanctions would yield few benefits. Adult sanctions could lead to prolonged criminal involvement when a person otherwise is likely to age out of crime. However, other offenders are not following this pattern of offending desistance (see Krohn, Gibson, and Thornberry, in press; Laub and Sampson, 2006; Moffittt, 1993). In some instances, however, individuals are following different criminal pathways that could warrant sanctions that are in line with the adult system. For instance, some are on chronic offending pathways, whereas others are just beginning an upswing in their criminal trajectories (e.g., late bloomers) during emerging adulthood (Krohn et al., in press). Although discussing some evidence from criminal career research, how criminal justice sanctions may affect these pathways is ignored by Farrington et al., which may have potential consequences for the effectiveness of their policy recommendation.

Adult sanctions for some may produce "snares" (Moffitt, 2006) that lead to prolonged offending, but for others, harsher adult sanctions may be appropriate and warranted to protect society. This statement is in line with research on deterrence and labeling that suggests official intervention effects can vary depending on offender type, including whether one is a violent or a first-time offender (Bhati, 2007; Bhati and Piquero, 2008; DeJong, 1997; Pogarsky, 2002; Smith and Gartin, 1989; Taxman and Piquero, 1998). These differences should be considered as opposed to lumping 18- to 24-year-olds into a category without regard for their behavioral histories and risk factors that may distinguish between them. In fairness to Farrington et al. (2012), they do recognize a need for more fine-tuned risk and needs assessments that take into account developmental considerations and imply that this is the preferred, but impractical, option. Nevertheless, to ignore the problems that may be incurred by a policy that calls for all 18- to 24-year-olds to be treated similarly by raising the age of referral to adult court may not be warranted.

Second, Farrington et al. (2012) rely on findings from developmental neuroscience and psychology to argue against treating youthful offenders as adults because of changes in emerging adulthood that are still occurring generally in the prefrontal cortex associated with underdeveloped executive functioning, lack of self-regulation, impulsivity, and risk taking, which all have been linked to antisocial and criminal behavior. They argue that this should be considered by the justice system when determining how youthful offenders are to be treated. Furthermore, they argue that youthful offenders would benefit from community reentry programs that focus on improving such functioning, including intelligence, a trait that is highly stable over the life course (Jensen, 1998).

Again, although we are sympathetic to Farrington et al.'s (2012) argument, they have neglected some research on within-person stability of such traits over time and, in some instances, relied on brain functioning studies that are cross-sectional. It has been suggested that some of these traits (levels of impulsivity, risk taking, and self-control) are highly stable once formed in childhood and are less likely to change over time (Gottfredson and Hirschi, 1990), although the research evidence is mixed (e.g., Burt, Simons, and Simons, 2006; Hay and Forrest, 2006; Moffitt et al., 2011). We recognize research that suggests some of these characteristics, such as self-control, are stable within people over time (e.g., Hay and Forrest, 2006) and are partially governed by genetics (e.g., Wright and Beaver, 2005). Although research confirms that an individual can change in his or her ranking on a trait such as self-control in a distribution over time (relative change) (Burt et al., 2006; Moffitt et al., 2011), it is less known how much within-individual change is to be expected in such traits, especially in adulthood.

In sum, we do not yet know how stable many of these psychosocial variables are and how amenable they will be to programs directed at changing them, particularly in the age group that Farrington et al. (2012) are targeting. Studies that have examined programmatic efforts to change self-control, for instance, have been conducted and seem promising, but these studies have focused on childhood, not emerging adulthood, and they have largely

left unexamined within-person change over lengthy periods of the life course (Piquero, Jennings, and Farrington, 2010). Perhaps a more promising alternative will be to reduce the opportunities to offend, as Farrington et al. have also alluded to.

Third, if those in emerging adulthood do not have fully developed brains, decision-making skills, and self-regulation, then where do we draw the line on the legally binding contracts that they can enter? The offenders who Farrington et al. (2012) argue should be given special legal treatment and not become exposed to the potential consequences resulting from the adult criminal justice system are also entering various legally binding contracts during emerging adulthood that have the potential to compromise their futures. For instance, at the age of 18, individuals are allowed to apply for credit cards and student loans. Companies are willing to sign them up and grant them access to purchasing power, which in many instances youth do not have the financial resources to honor the payment obligations after using a card or loan to purchase commodities. As in the case of criminal justice sanctions, such behavior can have substantial social and monetary costs to individuals and society. For instance, some reports suggest that the increasing amount of debt, including student loans, among young adults has forced them to make changes in their career paths, put off continued education, delay buying a home, and move back in with their parents (Fetterman and Hansen, 2006.). Given their less developed brains and psychosocial traits, should we delay their right to own a credit card, enter into a marriage, or even purchase a house until they are mature enough? We are not recommending that the minimal age be increased for entering these legally binding contracts, but this certainly is a problematic extension to Farrington et al.'s main premise, which links psychosocial maturity and brain development to criminal justice policy that most people would probably be unwilling to support.

Potential Effectiveness of Special Legal Procedures for Young Adult Offenders

We have questioned Farrington et al.'s (2012) reliance on arguments based on the developmental status of offenders in the 18- to 24-year age range and have posed some additional challenges. However, a more promising rationale for instituting special legal procedures for young adult offenders would be the effectiveness, in terms of both costs and outcomes, of such policies. Had Farrington et al. presented us with studies demonstrating that programs designed to treat young adult offenders that were more consistent with the way the legal system deals with juvenile offenders are more effective than our current system, we would be more favorably impressed with and more sympathetic to their overall argument. Unfortunately, they do not provide such empirical support for most of their policy recommendations. Rather, they base their argument on information suggesting that if such policies were instituted and evaluated, they would indeed demonstrate the cost-effectiveness of these programs.

The following two rationales exist regarding prior experience on which their recommendation (recommendation #1) that the United States raise the minimum age for referral of young people to the adult court to at least age 21 and possibly 24 is based:

1. The experience that European countries have had with extending special legal procedures to young adult offenders.
2. The experience in the United States of more harsh treatments of juveniles who are waived to the adult court.

Let us explore the strength of these arguments as a basis for their first recommendation.

Farrington et al. (2012) provide an overview of how the young adult offender population is dealt with in several European and Scandinavian nations. The common theme in these nations is the potential for providing a less punitive outcome either by extending upward the age range of the juvenile justice system, providing special provisions to take into account the special status of at least some of the 18- to 24-year-olds, or providing special institutions for the treatment of young offenders. In addition to the extant policies in these nations, Farrington et al. also cite reports from various commissions and associations in these nations recommending extending special provisions to young adults. Implicit in their discussion is the significantly lower crime rates in these nations as compared with the United States, suggesting that by extending less punitive measures to this age group, better outcomes will be achieved.

Unfortunately, there is an inferential leap from the existence of special provisions to improved (e.g., more successful reentry, less recidivism, and less stigmatization) outcomes for youth. Farrington et al.'s (2012) argument is not grounded in the results from evaluation research that directly examined the effects of providing special provisions. Indeed, in the one place where Farrington et al. refer to research on such programs, they report, "On the effects of such interventions, either no systematic research exists or the results are conflicting."

Historically, the implementation of new policies and programs without sufficient research to determine their effectiveness is replete with one failure after another. The current emphasis on evidence-based programs (Fagan and Hawkins, in press) is a result of these failed efforts on which we have wasted a significant amount of governmental resources and tax payers' dollars. To suggest that the minimum age for referring young people to the adult court be raised given the largely unknown effects of European programs is premature.

Farrington et al. (2012) do cite research that indicates that juveniles who are subjected to more punitive outcomes, including being waived to adult court, are more likely to reoffend by committing serious criminal behavior more quickly than juveniles retained in the juvenile justice system. The expected enhanced deterrent effect did not materialize with the introduction of such policies. From these studies, they conclude that "a more rehabilitative approach also might be more successful with young adult offenders." We agree that such studies, combined with other arguments presented in Farrington et al.'s essay, are suggestive of a beneficial effect of a less punitive approach to young adult offenders. However, collectively this evidence does not provide enough to conclude that we are at the stage where it is prudent that we raise the minimum age for referring young people

to the adult court. The second part of the sentence we quote above continues “and high-quality evaluation research on this topic is needed.” Then, Farrington et al. go on to call for experiments to assess the effectiveness of special sentencing and treatment provisions for young adult offenders. In the list of six recommendations with which they conclude their essay, they suggest that an “alternative” to changing the general policy would be to establish special courts on an experimental basis. Although not stated explicitly, the rationale for these experimental courts would be for the purposes of assessing the wisdom of instituting such programs on a national level.

We agree that the research on the developmental status of young adult offenders, the problems they encounter with reentry, and the inferences Farrington et al. (2012) make regarding the implementation of special provisions for young offenders in European nations and the problems encountered with more severe sanctions of juvenile offenders in the United States, are all suggestive that extending special provisions to young adult offenders may be a more effective approach than what is done currently in the United States. However, the key words in the previous sentence are *may be*. We simply do not have the necessary evidence to suggest a wide-scale policy change at this time. It is unfortunate that Farrington et al. choose to call for such legislation as their preferred recommendation. Rather, as Farrington et al. suggest, we endorse their more prudent statement that we should pursue “experiments mounted to assess the likely effectiveness of special sentencing and treatment provisions for young adult offenders.” And, such experiments should be conducted with an eye for which offenders these policies are going to yield the most benefits.

Conclusion

This essay focused on what we believe to be Farrington et al.’s (2012) main policy recommendation, which is raising the age of adult court referral to age 24 in the United States. Farrington et al. believe that doing so will reduce the collateral consequences that those in emerging adulthood would otherwise experience from adult criminal justice system sanctions during a developmental period in the life course when most individuals are desisting from criminal offending. In conclusion, we offer several research needs that can be valuable for determining whether Farrington et al.’s policy recommendation will be effective in protecting those in emerging adulthood from future negative outcomes produced by the U.S. criminal justice system.

First, it will be important to address the counterfactual question: What would have been the subsequent offending outcome for an offender between the ages of 18 and 24 if he or she would not have been exposed to the adult criminal justice system? Rigorous quasi-experimental comparisons of recidivism rates between those classified as juveniles and those in emerging adulthood (18 to 24 years old) need to be examined. This will help better understand the effects of adult criminal justice sanctions on 18- to 24-year-olds compared with matched samples of those who have been hypothesized by Farrington et al. to be similar to them (i.e., juveniles) but have not been exposed to adult sanctions.

Although some research tells us that juvenile transfer to adult court can produce various negative consequences, it is still largely unknown whether offenders between the ages of 18 to 24 will have better outcomes if treated more similarly to juveniles as opposed to adults. Given the difficulties in conducting experimental methodologies that would enable such comparisons, it will be important for criminologists to find suitable matches for these comparison purposes as they proceed in conducting this research. Such efforts will be steps in the right direction for determining whether increasing the age of referral to adult court is a potentially effective policy.

Second, and as noted by Farrington et al. (2012), it may also be worthwhile to implement experimental courts that address the special needs of those in emerging adulthood that have been charged with a criminal offense. This would be more realistic than implementing a nationwide policy change based on little, if any, empirical evidence of the effectiveness of such a policy in the United States. Furthermore, policy changes that have already been implemented in European and other nations discussed by Farrington et al. (2012) will need to be evaluated empirically to determine their effectiveness, and if proven to be successful, then we will need to more convincingly argue that cultural differences that exist will not lead to different, and even unintended, consequences if implemented in the United States.

Third, it will be necessary to determine whether 18- to 24-year-olds have more difficulty with community reentry compared with those 25 years of age and older. Evidenced-based programming, coupled with rigorous evaluation, implementation fidelity practices, and life-course theoretical guidance, will be important to discern the special needs that are required to assist those reentering in emerging adulthood from jails and prisons so that they may have better life chances.

Finally, the development of psychosocial traits and offending trajectories as they relate to individuals' knowledge of and interaction with the adult criminal justice system will need to be understood more clearly. For instance, experimental studies that assess how the development of brain functioning, especially in the prefrontal lobe, impacts juveniles and 18- to 24-year-olds' legal understanding and reasoning will provide more confidence in Farrington et al.'s (2012) recommendation. Additionally, it will be important to understand how those who are following distinct offending and psychosocial trajectories (i.e., self-control) are more or less likely to benefit from increasing the age of referral to adult court from 18 to 24 years of age. Such research can provide insights into the types of offenders that can benefit the most from Farrington et al.'s recommended policy change. These trajectories will also need to be understood as they relate to the reentry process during emerging adulthood. For example, is it possible that a reentry program for those in emerging adulthood can help improve underlying criminal propensities that have emerged in the early childhood years? In closing, we think that a firmer empirical basis concerning the issues raised in our conclusion is essential before a widespread policy change that would increase the age of adult court referral recommended by Farrington et al. should be instituted.

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Chris L. Gibson is currently an associate professor in the Department of Sociology and Criminology & Law at the University of Florida, a National Institute of Justice W.E.B. Du Bois Fellow, and holds a courtesy appointment in the Criminal Justice Center at the Levin College of Law at the University of Florida. His research primarily focuses on the independent and interactive influences of individual differences and environmental factors on antisocial behavior and victimization at various stages of the life course. He has published approximately 80 scholarly works, including peer-reviewed journal articles, chapters, and federal state reports. His book (with Marvin D. Krohn) titled *Handbook of Life-Course Criminology: Emerging Trends and Directions for Future Research* will be published by Springer-Verlag in 2013.

Marvin D. Krohn is currently a professor in the Department of Sociology and Criminology & Law at the University of Florida. He is a former vice president and executive counselor of the American Society of Criminology and was recently named a fellow in the American Society of Criminology. Professor Krohn has a long-standing interest in the etiology of delinquency and drug use, focusing primarily on social processural and life course approaches. For the past 25 years he has been a Principal Investigator on the Rochester Youth Development Study, a three-generational longitudinal panel study targeting those at high risk for serious crime and delinquency. His book (with co-authors Terence P. Thornberry, Alan J. Lizotte, Carolyn A. Smith, and Kimberly Tobin), *Gangs and Delinquency in Developmental*

Perspective, was the American Society of Criminology's recipient of the 2003 Michael J. Hindelang Award for Outstanding Scholarship. Professor Krohn also co-authored *Delinquent Behavior* (with Don C. Gibbons) and *Researching Theories of Crime and Delinquency* (with Charis E. Kubrin and Thomas D. Stucky) and has co-edited four compendiums on crime and delinquency. In addition, he has contributed to numerous research articles and book chapters.