Explaining Criminal Careers

Implications for Justice Policy

JOHN F. MACLEOD, PETER G. GROVE, AND DAVID P. FARRINGTON

Clarendon Studies in Criminology

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General Editor's Introduction

Clarendon Studies in Criminology aims to provide a forum for outstanding empirical and theoretical work in all aspects of criminology and criminal justice, broadly understood. The Editors welcome submissions from established scholars, as well as excellent PhD work. The Series was inaugurated in 1994, with Roger Hood as its first General Editor, following discussions between Oxford University Press and three criminology centres. It is edited under the auspices of these three centres: the Cambridge Institute of Criminology, the Mannheim Centre for Criminology at the London School of Economics, and the Centre for Criminology at the University of Oxford. Each supplies members of the Editorial Board and, in turn, the Series Editor.

This book addresses an important, central area of criminological enquiry—namely, the theory of criminal careers. Two of the authors—John F. MacLeod and Peter G. Grove—are former scientific researchers who undertook important criminal career research at the Home Office in the first years of this century and the third—David P. Farrington—has a very long and distinguished history of path-breaking and sophisticated research in the field. Drawing upon their combined expertise, which includes psychology, statistics, and mathematical modelling, the present volume examines the validity of existing criminal career theories and proposes a theory and consequent mathematical models to explain offending, conviction, and reconviction.

Their research analyses the criminal careers of about 100,000 serious offenders drawn from official databases and the datasets of existing longitudinal studies to test propositions about the nature of criminal careers. Central issues addressed by the authors include: the number of offenders in the population; the number of crimes each commits, on average, each year; the length of their criminal careers; the numbers of persistent offenders; and the proportion of crimes that they commit. Their research tackles difficult questions about the onset, persistence, decline, and ending of criminal careers; the factors that explain criminal career duration; the effects of conviction and punishment (particularly imprisonment); and the

effects of aging upon desistance. Central too are questions about what can safely be predicted about future crime rates, numbers of offenders, and prison populations. The common contention that offenders simply 'grow out' of crime is challenged by their findings, which instead suggest that the most important factor in desistance is neither aging nor sentence type but conviction.

On the basis of their analysis, the authors develop a clear picture of different categories of offender with different reconviction rates. Subsequent chapters in the book set about explaining these differences. The resulting model is shown to provide a reliable basis for making forecasts about the number of offenders and size of the prison population. The importance of such models to penal policy planning should not be underestimated, not least because they furnish a mechanism for sound predictions and provide the theoretical basis for the evaluating policy initiatives. Given the importance of these findings and their significant implications for policy development, it is especially welcome that the technicalities of their research and analysis are presented in an accessible way. The authors always keep their wider audience both within the academy and in public life in mind by using non-technical language wherever possible; by formulating their ideas in a conceptually clear and highly logical way; and by presenting much of their data in graphical form. They prudently place further details of the mathematical and statistical analysis upon which their findings rely in an appendix of 'mathematical notes' aimed at the technically competent, interested reader.

This important addition to the Clarendon Studies in Criminology Series makes a very significant contribution to criminological knowledge. It will be of interest not only to advanced students and scholars of criminology and other social scientists, but also to those working in criminal justice agencies as policymakers, analysts, researchers, and statisticians.

For all these reasons, the Editors welcome this new addition to the Series.

Lucia Zedner
University of Oxford
May 2012

Foreword

The construct of a 'criminal career' is a powerful approach for accumulating rich knowledge about offenders and using that knowledge for developing rational policies for dealing with crime. This book makes a major advance in pulling together that knowledge and pointing to directions for improved use and for expanding that knowledge. The basic thrust of criminal career research is to look at the characteristics of individual offenders and to use that information for dealing with a particular individual, but also to look at aggregates of offenders and their collective characteristics for guidance on how criminal justice policies can best respond to their offending patterns.

The predominant structure of an individual criminal career looks first at the envelope of the offending pattern, the initiation and termination of the career, and then at the pattern of offences within that envelope. The characteristics of those offences would be the mix of crime types, their frequency, and the way that mix varies over the course of the career.

There are some clear relationships between these characteristics and policy choices by the criminal justice system. The interval between initiation and expected termination, or the duration of the career, should have an important influence on sentencing policy. In particular, it would make little sense for sentences to be longer than the residual duration, or the time from any point of intervention to expected termination. As one examines different offenders in terms of their threat to public safety, those with a highest offending frequency, especially of the most serious crime types, represent prime candidates for incarceration in order to achieve the largest crime-reduction effect through incapacitation.

The authors of this volume have done an impressive job of analysing a large body of longitudinal UK data on individual criminal careers, have accumulated a prodigious amount of analytic insight into a wide variety of aggregate criminal career characteristics, and have gone well beyond criminal careers in the issues on which they have generated important understanding. Their volume is replete with a rich array of models on many aspects of individual

criminal careers and aggregate implications of those careers. The results are strengthened by examining the careers in multiple cohorts drawn at different times, with a striking consistency of the results across the cohorts.

The authors have also done an impressive job of capturing many important facets of individual criminal careers. They find it sufficient to characterize the population of offenders into three categories. There is one low-risk category with a low-offending frequency (frequency is often denoted by the Greek letter lambda, λ). There is a high-risk category with considerable heterogeneity in its offending frequency, and that heterogeneity is captured sufficiently by partitioning them into two subcategories: a high-λ subcategory and a low-λ subcategory.

Where others have tended to describe the envelope of the career in terms of its duration, the authors find that unsatisfactory and instead characterize the termination process by a desistance probability or its complement, a reconviction probability. This approach captures the aggregate decline in criminal participation without requiring any change in the individual offending frequency, which some criminologists have assumed must occur because of the well-established aggregate decline in the age–crime curve (a measure of the rate of arrest or conviction as a function of age, which rises rapidly to a peak in the late teen years and then declines more slowly than the teenage rise). Importantly, the authors attribute the aggregate decrease in crime to the declining participation in offending rather than to a slowing down by a roughly constant population of offenders.

With this basic structure, they are able to capture many aspects of careers such as survival distributions (the fraction of an offending cohort still active at any time after initiation), disentangling the contributions of prevalence and λ to the widely known age–crime curve. They also examine the degree of specialization or generality in a career based on the mix of crime types included (emerging with the intriguing finding that the number of different crime types in a career involving K offences is given by the logarithm of K). Then they go further to develop estimates of the mix of anticipated types of crimes included in a career based on information on types they already know to be included. They also derive estimates of the fraction of the population in each offender category who ever get convicted, a fraction that they find impressively constant across birth cohorts. In their models, since participation is reduced after each conviction,

that highlights the importance of conviction as a means of crime control and downplays any significant effect of incapacitation.

The impressive richness of their analysis of the many facets of criminal careers is exceeded by the extent to which they are able to link information on the criminal career structure to a wide variety of other features about offenders and aspects of criminal justice policy. They obtained psychological information on offenders and find a variety of intriguing associations between those psychological characteristics and the offending category. They also emerge with an intriguing array of policy insights and approaches for the criminal justice system. Then, by identifying a variety of policy approaches they can estimate trends in prison population and emerge with an intriguing variety of recommendations about how to reduce crime and make the criminal justice system more efficient and effective.

This volume is a powerful example of the richness of the variety of models that could be developed by people with strong mathematical skills, multiple sources of large samples of relevant data on individual criminal careers, and strong insights into the dynamics of crime and the criminal justice system. Of course, any such modelling inevitably involves a wide variety of assumptions. Most of the authors' assumptions seem quite reasonable, but some may have an unanticipated strong influence on their conclusions. For those who would like to challenge their conclusions, the modelling analysis provides the opportunity. Those who would like to draw other conclusions have the challenging task of identifying which assumptions were most influential in generating the conclusion they didn't like. They could then suggest other assumptions and their implications. Then, others could choose the most reasonable assumptions, preferably by data analysis or experiment. The volume provides rich opportunities for such debates and comparative tests.

While this volume should stimulate criminal career research in all countries, I would find it particularly fascinating to apply some of the modelling perspectives generated in this volume to the wide variety of individual criminal career data available in the US. All the states maintain repositories of individual arrest histories and one could readily generate cohorts of first-time arrestees in different time periods and in different states and pursue very similar analyses, perhaps substituting arrest events, which are well recorded in the US, for the conviction events that are much better recorded in

the UK (and which are not as well recorded in the US). It would be particularly interesting to contrast criminal career patterns and their implications in three or four different large states characterized by different aggregate levels of criminal activity. For example, California, New York, Illinois, Pennsylvania, and Texas all have excellent criminal record information, and are different in many aspects of their policies and demography. A replication of at least some of the approaches presented by this volume would be intriguing in the results obtained in each state, in contrasting results in different states, and in contrasting results with the UK.

It would be particularly appropriate and desirable for the National Institute of Justice, the research arm of the US Department of Justice, to pursue some of this criminal career research. There was considerable effort along those lines in the 1970s and 1980s, and those early efforts provided some of the initial starting points for the much fuller developments in this volume. Nevertheless, very little of that research has been supported more recently. It is entirely possible that criminal career patterns could well have changed in the US since those earlier results. Has the proportion of serious offenders in the population changed to any significant degree, and are offending frequencies or career durations or other aspects of criminal careers significantly different from 30 or 40 years ago? And how do they compare to those characteristics in the UK developed in this volume?

A particularly challenging finding in this volume is the observation that incapacitation effects are negligibly small, largely because time spent in prison serves merely to lengthen the criminal career by that amount of time. That observation could well be a consequence of the assumption that there is a fixed recidivism (or, nonrecidivism) probability following each conviction (or arrest in the US case), and the absence of arrests in prison could be what keeps the career going after release. Or it could be a consequence of the criminogenic effects of incarceration resulting from interaction with criminal peers or the difficulty of gaining successful employment after release, all of which might even contribute to lengthening the career or leading to more serious crimes after release.

These are the kinds of issues that could well be taken up by researchers skilled in the kinds of modelling that is so admirably displayed in this volume. Even more interesting would be the degree to which the volume will serve to recruit skilled modellers who are currently much more immersed in finance and business matters.

They will find the models developed here challenging their skills and thereby serve to enrich the population of criminologists in all countries with the analytic skills demonstrated by MacLeod, Grove, and Farrington. That would be a most useful and desirable outcome of this demonstration of analytic prowess and creativity.

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Much of the work reported in this volume was undertaken while two of us, Grove and MacLeod, were employed by the Research, Development and Statistics Directorate of the Home Office. But, while our results may have been influential in several areas of policy and management, the views expressed herein are those of the authors and not necessarily those of the Home Office or Ministry of Justice (nor do they reflect UK Government policy, either now or in the past).

Contents

1

Criminal Career Research, Mathematical Models, and Testing Quantitative Predictions from Theories

Background

Unlike theories in the physical sciences, theories in criminology, as in the other behavioural and social sciences, rarely make exact quantitative predictions that can be tested empirically. For example, Moffitt's (1993) theory specifies that there are two types of offenders: life-course-persistent, who have an early onset and a long criminal career, and adolescence-limited, who have a later onset and a short criminal career. However, this theory does not predict such quantities as the exact fraction of any birth cohort who will become life-course-persistents compared with adolescence-limiteds; the frequency of offending of each category of offenders at each age; or the distribution of ages of onset and criminal career durations of each category. In a true science, exact quantitative predictions should be made by theories and tested empirically. In this book, we propose and test simple theories that make exact quantitative predictions about key features of criminal careers.

A number of theories and mathematical models have been proposed in psychology (see eg Atkinson, Bower, and Crothers 1965; Laming 1973) and criminology (see eg Greenberg 1979; Piquero and Weisburd 2010) that make exact quantitative predictions. The most important of these theories of criminal careers have been inspired by the work of Alfred Blumstein. Blumstein, who was originally trained as an engineer and operations researcher, came to criminology more than 40 years ago when he was recruited to Washington to lead a task force on science and technology for the

US President's Commission on Law Enforcement and Administration of Justice. In the early days of computers in the 1960s, he developed the first major model of the criminal justice system (the JUSSIM model) which was a flow diagram that predicted, for example, the effects of changes in the numbers of offenders or changes in sentencing policies on the prison population (see Belkin, Blumstein, and Glass 1971; Blumstein and Larson 1969). This was subsequently used in other countries, for example as the CANJUS model in Canada (see Cassidy, 1985).

Before describing Alfred Blumstein's work on criminal careers, we should point out that, following Blumstein et al (1986), we define a criminal career as a longitudinal sequence of offences committed by an individual offender. Therefore, the study of criminal careers requires longitudinal data on offending, whether obtained from official records or from longitudinal surveys such as the Cambridge Study in Delinquent Development, in which over 400 London boys have been followed up in interviews and records from age 8 to age 48–50 (Farrington, 2003; Farrington et al 2006, 2009). Dictionary definitions of the term 'career' specify two different concepts: a course or progress through life (our use of the term) or a way of making a living. We make no necessary suggestion that offenders use their criminal activity as an important means of earning a living.

We define 'crimes' as the most common types of crimes that predominate in the official criminal statistics of Western industrialized democracies, principally theft, burglary, robbery, violence, vandalism, minor fraud, and drug use. We do not focus on 'white-collar crimes', although these have been studied within the criminal career perspective (see eg Piquero and Benson 2004; Weisburd and Waring 2001). Much criminal career research that we will review is based on official records of offending, because these contain exact information about the timing of offences, but criminal career research can and should also be based on self-reports of offending (see eg Greenwood and Abrahamse 1982). We now consider Alfred Blumstein's contributions in more detail.

Blumstein and Cohen (1979)

In the 1970s, Alfred Blumstein became very interested in estimating the incapacitative effects of imprisonment, following the work of Shinnar and Shinnar (1975), and he chaired the US National