Handbook of Quantitative Criminology

Alex R. Piquero · David Weisburd
Editors

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Foreword

Quantitative criminology has certainly come a long way since I was first introduced to a largely qualitative criminology some 40 years ago, when I was recruited to lead a task force on science and technology for the President's Commission on Law Enforcement and Administration of Justice. At that time, criminology was a very limited activity, depending almost exclusively on the Uniform Crime Reports (UCR) initiated by the FBI in 1929 for measurement of crime based on victim reports to the police and on police arrests. A typical mode of analysis was simple bivariate correlation. Marvin Wolfgang and colleagues were making an important advance by tracking longitudinal data on arrests in Philadelphia, an innovation that was widely appreciated. And the field was very small: I remember attending my first meeting of the American Society of Criminology in about 1968 in an anteroom at New York University; there were about 25–30 people in attendance, mostly sociologists with a few lawyers thrown in. That Society today has over 3,000 members, mostly now drawn from criminology which has established its own clear identity, but augmented by a wide variety of disciplines that include statisticians, economists, demographers, and even a few engineers.

This Handbook provides a remarkable testimony to the growth of that field. Following the maxim that "if you can't measure it, you can't understand it," we have seen the early dissatisfaction with the UCR replaced by a wide variety of new approaches to measuring crime victimization and offending. There have been a large number of longitudinal self-report studies that provided information on offending and on offenders and their characteristics to augment the limited information previously available from only arrest data. The National Crime Victimization Survey (NCVS, formerly the NCS) was initiated in 1973 as an outgrowth of the Commission's recommendation to provide a measure of the "dark figure of crime" that did not get reported to the police. These initiatives had to be augmented by analytic innovations that strengthen the quality of their data. Inevitably, some data would be missing and imputation methods had to be developed to fill the gaps. Self-reports were hindered by recall limitations, and life calendars were introduced to facilitate memory recall.

Economists became interested in crime shortly after Garry Becker, building on the notion that the "demand" for crime would be reduced by increasing the punishment, or "price." He proposed an initial model of deterrence and his successors brought multivariate regression as a standard tool in criminology. That opened the door to variations such as logistic or probit models, for analysis of natural experiments when randomized design was not feasible, and for the use of propensity scores to better match treated and control populations. That brought time series models and hierarchical models into criminology also.

Experimentation was used to a limited degree early in criminology, but those experiments were largely limited to the kinds of psychological treatments that could be tested on a randomly separated treatment and control groups of offenders. Largely under the initiative of Lawrence Sherman, who led with the Kansas City Preventive Patrol experiment, we have seen a striking variety of randomized social experiments testing various means of operating elements of the criminal justice system, including police or courts as well as corrections, and new methods had to be developed to enhance the validity of those experiments and to compensate for the difficulty of incorporating a placebo into a social experiment.

Since there were limits to the degree to which one could experimentally manipulate the criminal justice system, a wide variety of modeling approaches developed. These include simulation models to analyze the flow of offenders through the system, models of criminal careers, and their dynamics from initiation to termination. Daniel Nagin introduced trajectory models as an important means of aggregating the dynamics of hundreds of individual longitudinal trajectories into a small number of distinct patterns that could capture the essential characteristics of longitudinal phenomena. Other models included spatial models of the diffusion of criminal activity within a community or across communities, network models characterizing the linkages among groups of offenders, and many more.

These are just a sampling of the many analytic innovations that Alex Piquero and David Weisburd have admirably assembled in this Handbook. This allows someone seeking an appropriate and innovative method for collecting some new data or for analyzing a particular set of data to explore a wide variety of approaches that have already been used, and hopefully to build on them in new ways that will provide an additional chapter for a future edition of the Handbook.

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Contents

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