

The Development of Panel Studies of Delinquency

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Introduction

Etiological studies of delinquency and crime have come to rely almost exclusively on longitudinal panel designs to investigate the social and psychological forces associated with antisocial careers. While there can be considerable variation in the design of this type of study, all panel studies share a set of core features. They typically are based on a representative sample of individual subjects selected at some point in their life course and then followed across time with repeated measures being taken. Doing so allows for a description of the onset and course of antisocial careers and, if the individuals are followed long enough, the termination of these careers. Panel designs also allow investigators to identify antecedent risk factors and causal processes that lead to antisocial behavior as well as the developmental consequences of such behavior.

Contemporary panel studies emerged from two long-established research traditions in criminology. The first were cross-sectional tests of various theories of delinquency and crime. The second were longitudinal studies describing delinquent or criminal careers.

For the better part of the 20th century, research to test the validity of theoretical models was, by and large, limited to cross-sectional surveys in which individuals were assessed at a single point in time and attempts were made to draw causal inferences from the data collected. There are numerous examples of this

type of study. Good illustrations can be found in the works by Akers, Krohn, Lanza-Kaduce, and Radosevich (1979), Hirschi (1969), Hindelang (1973), Johnson (1979), and Short (1957). Although these and related studies have greatly informed our understanding of the correlates of delinquency, they are severely limited in their ability to test the causal processes implied by the various theories. The fundamental stumbling block, of course, is the establishment of temporal order and, therefore, of causal order among the concepts. Because data on the explanatory variable and the outcome variable are collected simultaneously, only a single association or correlation is generated by the data. As a result, it is logically impossible to determine whether the purported cause leads to delinquency. Several other possible relationships, including delinquency leading to the purported cause, reciprocal causality, and a spurious relationship between the concepts, could also generate the observed correlation. Thus, the rich tradition of cross-sectional studies, while informing our understanding of the correlates of delinquency, foundered in its efforts to uncover its causes.

The second important origin of contemporary panel studies is in cohort studies of delinquent and criminal careers. Perhaps the most important are the Philadelphia birth cohort studies conducted by Wolfgang and his colleagues (Tracy, Wolfgang, & Figlio, 1990; Wolfgang, Figlio, & Sellin, 1972; Wolfgang, Thornberry, & Figlio, 1987). Cohort studies were conducted in several other American settings, for example, Racine, Wisconsin (Shannon, 1988), and Columbus, Ohio (Hamparian, Shuster, Dinitz, & Conrad, 1978), and many settings abroad (see, for example, Janson, 2000; Magnusson, Bergman, Rudinger, & Törestad, 1991).

Unlike cross-sectional studies, the hallmark of these cohort studies is the following of a sample of individuals over time. The first Philadelphia birth cohort study, for example, sampled 9,945 males born in 1945 who grew up in Philadelphia. Information on their delinquent and criminal careers, out to age 30, was gathered from their official arrest histories. These studies provided rich, detailed information on numerous issues such as the prevalence and frequency of delinquency, patterns of onset, the length, duration, and severity of criminal careers, and patterns of termination.

Although they took time into account, these longitudinal studies were also very limited in their ability to inform our understanding of the causes of delinquency and crime. Here the problem was not with temporal order, but with the absence of detailed measures of explanatory variables. Typically, these cohort studies had large samples and measures were drawn almost exclusively from official documents such as school and police records. As a result, there were few, if any, good indicators of important causal processes such as family relationships, commitment to school, peer associations, and so forth.

In the end, therefore, the research tradition in criminology that existed for the better part of the 20th century failed to investigate satisfactorily the causal processes associated with criminal careers. Most empirical tests of theory relied

on cross-sectional designs that could not disentangle temporal order; cohort studies could, but by design they were primarily descriptive and had little data on explanatory variables.

To address these limitations, the style of both criminological theory and empirical study has changed to take time more explicitly into account. The intriguing empirical descriptions of delinquent and criminal careers generated by cohort studies led to developmental theories of delinquency. For example, the theories offered by Hawkins and Weis (1985), Thornberry (1987), and Loeber and LeBlanc (1990) were early efforts to move beyond static models and to present theoretical explanations informed by longitudinal data. In turn, individual-based panel studies emerged as the primary way of testing the dynamic hypotheses that are at the core of developmental models.

Panel Studies of Crime and Delinquency

Panel studies of crime and delinquency share a core set of design features, while at the same time exhibiting substantial variation in approach. We will begin our discussion by describing the common elements of these studies, at least of the type of panel study included in this book. In many ways, we describe an ideal type of panel study and actual studies conform to them in varying degrees.

Common Elements

The core unit of analysis is the individual, typically selected in childhood or early adolescence. While data on other units—for example, family, peer group, and neighborhood—may be collected and analyzed, the study ultimately emanates from, and revolves around, a focal subject. That subject is typically selected before or at the normal age of onset of delinquent careers to allow for an examination of the precursors of antisocial behavior and to better estimate temporal order among the constructs.

Panel studies are usually based on probability samples selected from a representative, community population. By definition, nondelinquents and delinquents are included, and, among the latter, a full range of offending patterns in terms of frequency, severity, and types of careers should be represented. Using community samples allows for inferences to the general population and avoids the biases produced by selected samples such as clinical samples, incarcerated populations, known gang members, and the like. The samples used in these panel studies also tend to be relatively large to allow for precise estimation of complex statistical models.

All panel studies involve following subjects over time with repeated measures. Preferably, the follow-up period will extend across long portions of the life

course, beginning prior to the onset of offending, moving through the peak offending periods of adolescence and early adulthood, and including the adult years when most antisocial careers wind down. The follow-up period should also extend across major developmental stages—childhood, adolescence, emerging adulthood, and adulthood—to maximize our ability to use developmental change to help understand the onset, course, and termination of delinquent careers.

Measures are gathered at regular intervals throughout this period and, within reason, more measurement points are better than fewer. Practical concerns of budget, respondent fatigue, and attrition usually place a natural break on the number of assessments conducted.

At a minimum, measures need to provide an assessment of involvement in the full range of antisocial behaviors and the major risk factors and presumed causes of delinquency and crime. The latter, of course, are heavily theory-dependent and the underlying theory guiding the study should be presented as explicitly as possible. Core measures are typically repeated to gauge stability and change in these constructs, but some measures need to be deleted or modified and new measures need to be added to reflect the developmental changes experienced by the focal subjects.

There are several basic purposes of individual panel studies of this sort. Among them is the description of delinquent and criminal careers, for example, estimating the prevalence and frequency of offending, age of onset patterns, trajectories of offending, and termination. The primary purpose is explanatory or etiological, however. These studies are designed to investigate the antecedent risk factors and causal processes that lead to delinquent careers and to different types of delinquent careers. While survey designs can never examine causal processes as definitively as experimental designs, the long-term, repeated measurement approach of individual panel studies comes closest to doing so, especially if the study extends across major developmental periods and begins prior to the age of onset. A third basic purpose of these studies is to examine the consequences of antisocial behavior, both in terms of disruption to normal life-course development and in terms of the perpetuation of delinquent careers themselves.

Diversity of Panel Studies

While individual panel studies share a common approach to research, these core design features are, in many ways, a platform from which a host of specific projects can be launched. And, indeed, actual panel studies vary considerably in how they examine delinquent and criminal careers.

There are many different conceptual orientations represented in panel studies of crime and delinquency. Some are more biological or psychological in orientation, others more sociological and structural. Some are more theory-driven,

guided by a specific theoretical model; others are more eclectic, studying a broad array of risk factors and antecedents. Some studies are more interdisciplinary; others are more monothematic in approach.

Panel studies also differ in their specific research designs. They start at different ages and have varying numbers of assessments. In some studies, assessments are conducted at regularly spaced intervals, while in others, they are done at varyingly spaced intervals. Some studies select and focus on a single or tightly bunched age cohort, while others use an accelerated longitudinal design in which multiple, overlapping age cohorts are selected and followed.

Individual panel studies also vary considerably in their approach to measurement. All of these studies conduct interviews with the focal subject, but around that core there is substantial variation in the inclusion of other respondents and in the use of other methods. Among the many choices are interviews with parents, peers, and partners; the collection of archival data from school, juvenile and criminal justice agencies, and social service agencies; teacher reports; and observing the focal subjects interacting with others.

Panel studies also vary in the inclusion of other programmatic elements. Some embed substudies in the core study to examine specific issues, often using a subsample of the total panel. Some offer prevention or treatment programs to a subsample and use the remainder as the control group.

These are just a few of the conceptual, design, and programmatic dimensions along which individual panel studies of antisocial behavior actually vary. When the possible combinations of all these dimensions are taken into account, it is quite literally true that every panel study of delinquency and crime is unique. By sharing a common approach to the scientific investigation of delinquency and crime, these studies allow for replication and the accumulation of knowledge. At the same time though, the specific design decisions that are made yield a rich diversity of approach that allows for the investigation of unique issues and for testing the robustness and generalizability of core relationships with somewhat different methods. These twin features—common core design elements and diversity of approach—are perhaps the greatest strengths of individual panel studies of delinquency and crime.

Limitations of Panel Studies

Although panel studies have many strengths, they are certainly not without their limitations. There are a number of important theoretical questions that are hard to examine within the basic design features described above. For example, examining the impact of situational dynamics and group processes on antisocial behavior is hampered by the individual-level unit of analysis and focus of these studies. Although not impossible to investigate within the confines of panel

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