

8. DYNAMIC MODELING OF COHORT CHANGE: THE CASE OF POLITICAL PARTISANSHIP*

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This article describes an alternative to typical cohort analysis procedures for modeling developmental processes using cohort data. The alternative strategy, a dynamic modeling approach, is illustrated by an analysis of trends in the strength of partisan identification in the United States 1952–1978. The proposed model accounts for observed variation in partisan strength by age and cohort without any need to include those variables in the model itself.

1. INTRODUCTION

In 1959, William Evan proposed that a technique developed by demographers and called “cohort analysis” might be applied to questions concerning long-term opinion change. In the two dozen years since that suggestion was advanced, cohort analysis has been employed to study a wide range of sociopolitical attitudes and behaviors, including foreign policy opinions (Cutler, 1970a), political alienation (Cutler and Bengston, 1974), ideological orientations (Glenn, 1974), voting (Glenn and Grimes, 1968; Hout and Knoke, 1975), and most especially, partisan attachments (Crittenden, 1962; Cutler, 1970b; Glenn, 1972; Glenn and Hefner, 1972; Knoke and Hout, 1974; Abramson, 1976, 1979; Converse, 1976). During the same period the term “cohort analysis” has come to denote not a

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single, well-defined method of analysis but any of a wide array of approaches, ranging from the most casual “eyeballing” of tabular displays to fairly rigorous multiple regression and log-linear estimation procedures (Mason *et al.*, 1973; Fienberg and Mason, 1978).

The purpose of this paper is to describe an alternative strategy for the analysis of cohort data, a dynamic modeling approach that, it will be argued, is better suited to the study of many nondemographic variables than are the methods commonly employed. This strategy will be illustrated by an analysis of trends in the strength of partisan identification in the United States 1952–1978.

2. BACKGROUND

Cohort analysis is a method—or set of methods—for studying longitudinal patterns of change. As such, it is related to panel analysis but with the difference that in the latter the same individuals are observed through time, while in the former differing (but, presumably, representative) samples of cohort members are observed. Cohorts may be defined with reference to any of a number of variables (e.g., persons who were married in a given time interval or individuals who attended college in a particular year). But the most commonly used variable for demarcating cohorts is date of birth. Thus, for example, we may have as units of analysis the cohorts of persons born in the years 1901–1910, 1911–1920, 1921–1930, and so on. The span of years for each cohort may be dictated by theoretical concerns or by data constraints.¹

Regardless of the particular method adopted by the researcher, the goal of cohort analysis, broadly speaking, is to assess the extent to which variation in a criterion measure (for example, percentage voting or mean years of education) observed on cohorts over time is attributable to *period*, *age*, and *cohort* effects, or possibly to interactions of the three. Period effects are fluctuations in the data that are due to idiosyncratic events or circumstances occurring at particular time points. Age effects

¹ More detailed discussions of cohort analysis may be found in Mason *et al.* (1973), Converse (1976), and Glenn (1977).