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The Study of the Social Bases of Intellectual Functioning Across the Life Course: Issues, Findings, and Directions for Further Research on Abstraction

5.1. Introduction

The study of the social bases of intellectual functioning across the life course faces three broad challenges: (a) the conceptualization and measurement of intellectual functioning, (b) the identification of genuinely causal relationships, and (c) the valid generalization of findings to a population of interest. This final chapter evaluates this study’s response to each of these challenges, exposing the strengths and limitations of the theoretical orientations and methodological approaches that have guided this work. A summary of conclusions follows that and then the book concludes with a discussion of future directions in research on abstraction.

5.2. The Three Challenges

The three challenges of conceptual clarity and valid measurement, identification of causality, and generalization of findings typify social research more generally. In an insightful discussion of these challenges in terms of the scientific aims of realism, representation, and randomization, Kish (1987) shows that any actual study compromises at least one, and typically two of these aims in order to satisfy another. The classic experimental method randomly assigns subjects to treatment conditions, thus ensuring that measurable differences in outcome “y” are due to measurable differences in treatment “x.” But causal certainty is often traded for somewhat sterile measures, the unrealistic environmental conditions of the laboratory, and low generalizability. On the other hand, whereas survey research usually suffices with the weaker method of statistical control to evaluate causality, results obtained using scientific sampling techniques can be generalized with a known degree of error to a large population. Field experiments are weaker on randomization than classic experiments and on representation than sample survey research, but are strong with respect to realism.

Although each of the three challenges concerns an integral and necessary part of the scientific enterprise, invariably compromises are made in any actual endeavor to test hypotheses against data. Being aware of these issues and compromises, and how they affect results, is basic to any research effort. In the subsections that follow each of the three challenges is discussed as it relates to the present study.
5.2.1. Conceptualization of Intelligence: The Case of Abstraction

For nearly a century psychologists have probed and grappled with the conceptualization and measurement of intellectual functioning. In broad terms, a given approach to this pursuit can be related to the ends the concept serves. Thus, as long as intelligence is thought of as wholly determined by genetic factors, the concept is used to justify the status quo, and the most valid measure of it is the existing, unequal distribution of resources and status positions. It follows, then, that those at the top of status hierarchies are the most intelligent. But the conceptualization and measurement of intelligence become much more complex when the dominant ideological functions of the concept are replaced by its use as a criterion for distributing scarce opportunities and resources, and for evaluating educational programs and social mediation efforts.

The view that intellectual functioning is grounded in the nature of social experience, not just in early childhood but throughout life, is contrary to fixed conceptions of intelligence. A basic tenet of this orientation is that the very meaning of intelligent behavior undergoes transformation across time and varies across place. In this connection, a number of contemporary approaches to the conceptualization and measurement of intellectual functioning (mentioned in chapter 1) are welcome departures from many past efforts. Theories that specify multiple components of intelligence and microlevel analyses that focus on specific aspects of intellectual functioning do not claim to explain human intelligence in its entirety. These approaches are preferable to those based on reified and unitary conceptions of intelligence.

Although this study makes no pretense to investigate any facet of intellectual functioning other than abstraction, it does give this mode of thought a thorough scrutiny. It began by defining the term. This required distinguishing, first, between the literal and relational meanings of abstraction (both involve drawing away from objects of perception, but the latter also entails comparison); and second, between abstractness (or level of generality) and abstraction (a mode of thought). Next came a discussion of the conceptual relationships between abstraction and the theories of intelligence of Binet and Simon, Spearman, Thurstone, and Cattell. It was pointed out that whereas abstraction has an important role in such overarching theories, the way in which it is conceived of here accords more closely with contemporary componential and information processing approaches to intelligence. Following this, a fairly exhaustive overview of existing tests and measures of abstraction was conducted. These tests were assembled into a compendium according to whether they primarily serve clinical/psychiatric, educational, or multipurpose ends. Later it was concluded that although none of these tests is ideal for use in survey research, some are more useful than others. Indeed, the similarities questions and their coding guidelines provide models for the development of a better measure of abstraction for survey research purposes.