

individuals come to attribute differences in individual abilities to their respective states of N. A new status characteristic will thereby emerge. Finally, for such an evolving characteristic to become part of actors' cultural framework, it must be diffused through a social population.

CONCLUSION

Expectation states theory is a cumulative program. Current theories say more than what was said in earlier theories, and current empirical research upon which these theories rest is more extensive than that of an earlier stage. Further, investigation of expectation states processes has spread beyond the United States, now including research in Israel, Germany, Australia, Canada, Holland, and Turkey. At the same time, researchers are tackling new theoretical and applied problems while working with the concepts and principles within the program. (For a more detailed review of much of this work, see Wagner & Berger 2002). Thus, although it clearly has grown (see Table 1), expectation states theory is still a program in progress.

SEE ALSO: Legitimacy; Mathematical Sociology; Micro-Macro Links; Social Influence; Status Construction Theory; Theoretical Research Programs; Theory Construction

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expectations and aspirations

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Expectations and aspirations, within sociological research on education and social inequality, are stable prefigurative orientations composed of specific beliefs about one's future trajectory

through the educational system and one's ultimate class or status position. As adolescents age, these expectations and aspirations are presumed to condition current behavior and, in the process, become self-fulfilling prophecies.

Expectations are sometimes distinguished from aspirations in theory, with the former stipulated to refer to realistic appraisals rather than idealistic goals. Nonetheless, almost all empirical research has utilized the same straightforward operationalization for both concepts. Educational expectations and aspirations are usually answers that adolescents give to questions such as: "Do you plan to go to college?" and "As things stand now, how far in school do you think you will get?" Occupational expectations and aspirations are responses to questions such as: "What type of job do you plan or expect to have at age 30?" These survey questions elicit future plans which are generally quite optimistic, thereby qualifying as sufficiently idealistic for the analytic and explanatory purposes of those who wish to have a measure of aspirations.

Measurement of expectations such as these began with the work of educational psychologists employed by the Educational Testing Service in the early 1950s. Since then, sociologists have dominated their study. The 1953 article entitled "Educational and Occupational Aspirations of Common Man Boys," written by Joseph A. Kahl, is perhaps the most influential early piece, as it was completed as a research report for the Mobility Project led by Talcott Parsons just as structural functionalism was in its ascendancy. The central question of Kahl's study was: "What influences the aspirations of the boys in the lower middle levels of the status range whose environment gives them a wide choice?" (Kahl 1953: 189). In order to show that "these boys must make a conscious and pointed decision at some stage of their careers," he reported the results of in-depth interviews with 24 boys of middling social origins, only half of whom expected to go to college. His goal was then to "explore the decision-making of such boys," whose beliefs about the future were not predetermined either by expectations grounded in their class origins or by their cognitive abilities. And, out of this effort, he sought a reasonable causal account of how beliefs about

the future are shaped by one's social context and then compel future behavior.

Kahl identified parental pressure as the most crucial determinant. Corresponding roughly to two types of students, he saw two types of parents: those who sought to raise "getting by" children and those who sought to raise "getting ahead" children. Many of the factors that determined whether parents adopted the getting ahead rearing strategy were idiosyncratic, and yet there were some systematic differences, relating primarily to parents' own experiences with the labor market. The extent to which parents saw college as having a genuine payoff for occupational attainment, based on their own experiences in the workplace, was crucial.

Expectations and aspirations then became the central mediating variables in status attainment research, especially following the publication of what became known as the Wisconsin model of status attainment, which was based on early analyses of the Wisconsin Longitudinal Survey (a random sample of all high school seniors in the state of Wisconsin in 1957). The full model was first fully specified in two influential articles published in the *American Sociological Review* (Sewell et al. 1969, 1970) that reported results from both the original 1957 data and the follow-up 1964 data on the educational and early occupational careers of young men. Beyond Kahl's focus on exploring the formation of college plans, these articles aimed to explain the entire process of educational and occupational attainment.

According to the original 1969 Wisconsin model, the joint effects of a high school student's family background and mental ability on his eventual educational and occupational attainments can be completely explained by the expectations that others hold of him. In particular, significant others – parents, teachers, and peers – define expectations that students then internalize as educational and occupational aspirations. Because the underlying theory assumes that students are compelled to follow their own aspirations, the model is powerfully simple and implies that significant others can increase a student's educational and occupational attainment merely by increasing their own expectations of him.

Regarding the specific processes of aspiration formation, the principal social psychological theorist, Archibald Haller, maintained that aspirations are formed in three ways: imitation, self-reflection, and adoption. Once formed, Haller (1982: 5–6) wrote that aspirations are embedded in “approximately consistent and mutually reinforcing cognitions” which then “have an inertia of their own and are expressed in corresponding behavior.” Thus, students’ educational and occupational aspirations become stable abstract motivational orientations (see Spenner & Featherman 1978), and the measured Wisconsin model variables – college plans and expected future occupation – are merely realistic indicators of these latent status aspirations.

Although the theory underneath the original Wisconsin model was bold, its creators were well aware of its many limitations. Almost immediately upon publication, they began to qualify its basic mechanisms, and in the process they weakened its most parsimonious theoretical claims by allowing for the addition of supplemental direct effects of socioeconomic status on all endogenous variables. The addition of paths not predicted by the original socialization theory presented problems for the powerful claims of the 1969 article. In particular, the claim that significant others could raise students’ educational and occupational attainments by simply imposing higher expectations on them began to seem less credible. Instead, the revised models of the 1970s and 1980s suggested that significant others and educational institutions have direct effects on the educational and occupational attainment process. If so, then it had to be conceded that structural constraints (and perceptions of them) could play an important role in models of educational and occupational attainment.

These revisions were, in part, a response to research critical of the Wisconsin model and its supposed origins in structural-functionalism sociology. Critics argued that structural constraints embedded in the opportunity structure of society should be at the center of all models of educational attainment, and hence that concepts such as aspirations and expectations offer little or no explanatory power. Most famously, Pierre Bourdieu dismissed the work of sociologists who assert that associations between

aspirations/expectations and attainments are causal. Rather, for Bourdieu, the unequal opportunity structures of society “determine aspirations by determining the extent to which they can be satisfied” (Bourdieu 1973: 83). And, as such, aspirations and expectations have no autonomous explanatory power, as they are nothing other than alternative indicators of attainment.

Critiques such as these helped to bring an end to the brief dominance of status attainment theory in the study of social inequality. The cutting edge of research in the sociology of education then shifted toward studies of institutional and demographic effects on educational achievement and attainment, as researchers generally sought to avoid debates over whether social psychological models unnecessarily blame the victims of a constrained opportunity structure. Even so, variables measuring expectations continued to be deployed as standard covariates in the sociology of education for the analysis of a variety of outcomes (for a review, see Morgan 2005: ch. 2).

In the most recent research, however, new models of educational attainment are now attempting to account for the beliefs that determine educational attainment. Some researchers have begun to focus on changes in post-industrial society and how these are reflected in the processes by which adolescents plan for their futures. Others, seeking to integrate sociological and economic approaches, have attempted to build models of educational achievement and attainment that are sensitive to the exogenous impact of shifts in costs and benefits but that also give substantial scope to independent belief formation processes that can overwhelm narrow expected utility calculations. By and large, this new work has the potential to help determine how structural dynamics should be incorporated into models of educational attainment, as structure that is imposed from the outside as the rigid constraints maintained by institutions or via individual responses to perceived structural constraints.

SEE ALSO: Bourdieu, Pierre; Educational and Occupational Attainment; Parental Involvement in Education; Parsons, Talcott; Significant Others; Status Attainment; Structural Functional Theory; Teachers

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experiment

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Experiments play a central role in most theories of science as the key mechanism through which theories and hypotheses are corroborated or refuted. Most especially in the work of Karl Popper, the acceptability of a theory – the extent to which it can be conceivably characterized as “scientific” – is determined by its falsifiability, that is, by whether it can be put to the test in an experiment. Experimentation is thus the foremost *trial of strength* for knowledge claims, and the sociology of science has investigated the particular social practices on which this validating function rests.

Despite its centrality to most analytical accounts of the scientific enterprise, experimentation, as a social practice in its own right, has remained largely unexamined by philosophers

of science, partly because their emphasis tended to be on theory and theoreticians. Also, it was often assumed – rather than proved – that experiments were fundamentally logical process reducible to a series of analytical steps, and thus capable of determining unambiguously the validity of a knowledge claim if conducted according to formal instructions.

In the 1980s the sociology of science began to take a closer look at how knowledge is put to the test under experimental conditions. This investigation was influenced by the groundbreaking historical work of Kuhn (1962), and received much of its inspiration from innovative reinterpretations of the history of science. A sociologically informed history of science and a historically grounded sociology of science have since walked hand in hand.

One of the most influential treatments of experimentation in the sociology of scientific knowledge (SSK) was offered by Collins (1985). Collins's main target was the idea of replication: that success or failure in repeating of an experiment could provide unambiguous and definitive proof of the validity of a knowledge claim. The notion of replication can appear deceptively straightforward in most empiricist philosophies – a matter of simply repeating an experiment under slightly different conditions to prove or disprove a previous result. Yet Collins showed that the practice of replication cannot be reduced to a set of formal rules. A judgment of sameness or difference is always required, and such a judgment is irreducibly social. If, for instance, Experiment B fails to reproduce the result of Experiment A, the experimenters must still decide whether this is because Experiment A was faulty or wrong, or rather because Experiment B was dissimilar from A in key aspects and thus failed to truly replicate and therefore disprove it. According to Collins, any effort to formulate a set of definitive rules about this decision, the attempt to turn what is a matter of socially embedded judgment into a series of formalized, logical steps, would lead to an “experimenter's regress.” The meaning of a particular experiment is thus a matter to be determined by a community of expert practitioners making a socially contingent judgment, a judgment that is dependent on, among other things, the distribution of tacit skills and instruments