



Wilbert McKeachie Collegiate Professor of Psychology, Education and Women's Studies

Jacquelynne Eccles is the Wilbert McKeachie Collegiate Professor of Psychology, Education and Women's Studies at the University of Michigan and a research scientist at the Institute for Social Research. She is also director of the Gender and Achievement Research Program. Her most recent book is *Gender and Occupational Outcomes: Longitudinal Assessments of Individual, Social and Cultural Influences*.

"If we are to increase the number of women who pursue engineering as a career, we must pay more attention to how we formulate and present the options that women have when making their decisions. We have to make sure that, first, women are aware of and understand all of the options that are available and, second, they understand what each option might enable them to achieve."

"Gender-related inequality in technology careers has been a persistent, troubling condition," Eccles said. "It has been particularly evident in the fact that women aren't sharing in the salary and status advantages attached to those careers."

Despite recent efforts to increase the number of women in occupational fields associated with engineering, women are less likely than men to aspire to, and then take the preparatory courses that are required for, careers in those fields. "In the early 1980s, my colleagues and I proposed a theoretical model to study motivational and social factors that might contribute to that discrepancy. We linked educational and vocational choices directly to two sets of beliefs: one, the individual's expectations for success and, two, the importance or value that the individual attaches to the various options perceived as available. We also took into account the relation of those beliefs to cultural norms, experiences and aptitudes, and to those personal beliefs and attitudes commonly assumed to be associated with achievement-related activities -- for example, how individuals interpret the cause-and-effect of efforts that lead to achievements; the input of parents, teachers, peers and media; gender-role beliefs; self-perceptions, self-concepts, personal life goals and long-range plans; and individuals' perceptions of the achievement itself."

Eccles and her colleagues assumed that each of those factors affects both the expectations an individual has for future success and the subjective value one attaches to various options. "We came to the conclusion that those expectations and the choices made were influenced by the options available and by the value that individuals attached to the various options. In other words, the availability and the value of options were key in the selection process. Our subsequent research has largely supported these predictions."

Three features of our model are particularly important for understanding the model.

First, the model focuses on choice. Many of the most significant gender differences in behavior (e.g., educational and vocational aspirations) occur in achievement-related behaviors that involve the element of choice. "Coming around to the idea that the choices women and men make play a key role in their different levels of achievement takes one beyond the question of 'Why aren't women more like men?' to the question 'Why do women and men make the choices they do?' We believe that people continually make choices, both consciously and non consciously, and in making those decisions they pay considerable attention to the time they'll have to spend and

the efforts they'll have to make in achieving their goals."

Second, focusing on choice led Eccles to think about how various options come to be considered. "We found that, although individuals do choose from among several options, they don't actively or consciously consider the full range of available options in making their selections. In many cases, individuals simply aren't aware that some options exist. In other cases, individuals don't consider some options seriously because they have inaccurate information about either the option or the possibility of achieving a goal that a particular option would allow them to pursue. Still other options might not be seriously considered because they don't fit in well with the individual's gender-role scenario."

Third, Eccles examined achievement-related decisions, such as the decision to enroll in an accelerated math program or to major in education or the biological sciences rather than in engineering. "We acknowledged that individuals don't make those kinds of decisions in a vacuum. Rather, they make achievement-related decisions within the context of a complex social reality that presents a wide variety of choices, each of which has both long-range and immediate consequences. The choice is often between two or more positive options or between two or more options that have both positive and negative components. Too often theorists focus attention on the reasons why capable women don't select a particular high-status occupation and fail to ask why they choose the options that they consider."

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