
SEX DIFFERENCES IN RESEARCH PRODUCTIVITY: NEW EVIDENCE ABOUT AN OLD PUZZLE*

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Numerous studies have found that female scientists publish at lower rates than male scientists. So far, explanations for this consistent pattern have failed to emerge, and sex differences in research productivity remain a puzzle. We report new empirical evidence based on a systematic and detailed analysis of data from four large, nationally representative, cross-sectional surveys of postsecondary faculty in 1969, 1973, 1988, and 1993. Our research yields two main findings. First, sex differences in research productivity declined over the time period studied, with the female-to-male ratio increasing from about 60 percent in the late 1960s to 75 to 80 percent in the late 1980s and early 1990s. Second, most of the observed sex differences in research productivity can be attributed to sex differences in personal characteristics, structural positions, and marital status. These results suggest that sex differences in research productivity stem from sex differences in structural locations and as such respond to the secular improvement of women's position in science.

Numerous studies have found that female scientists publish at lower rates than male scientists, and research efforts to explain this gender gap have been largely unsuccessful (Long and Fox 1995; Ward and Grant 1995; Zuckerman 1991). In a classic statement of the problem, Cole and Zuckerman (1984) characterize sex differences in research productivity as “the productivity puzzle”:

More than 50 studies covering various time periods and fields of science report sex differences in published productivity, more specifically, that men publish more than women, even when age and other important social attributes are taken into account. Moreover, gender dif-

ferences in publication rates appear to have persisted for decades. So far, efforts to account for these differences have not been successful; their existence continues to be a puzzle. (P. 218)

From their own research on scientists who received doctorates in 1969–1970, Cole and Zuckerman (1984) estimate that “women published slightly more than half (57%) as many papers as men” (p. 217). In a more recent literature review, Zuckerman (1991) maintains that “women publish fewer papers than men of the same ages, on average, 50–60 percent as many” (p. 43).

So far, Cole and Zuckerman's provocative assertion has not been seriously challenged, and explanations for sex differences in research productivity have remained elusive. This quandary has helped propel the contin-

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