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Women Earned Record Number of Science and Engineering Doctorates in 1983

Women earned a record 4,460 science and engineering doctorate degrees in 1983, continuing an unbroken string of annual increases that extends for more than two decades. Women received 25 percent of the S/E doctorates in 1983 compared to 13 percent in 1973 and 7 percent in 1963. In contrast to the situation for women, men have been earning a declining number of S/E doctorate degrees for more than a decade; the 13,440 doctorates awarded to men in 1983 was 19 percent below the 1973 level.

Three distinct phases occurred in S/E Ph.D. production during the 1960-1983 period. There was rapid growth during the 1960s, with increases for both men and women. The annual number of S/E doctoral graduates rose from 6,260 in 1960 to a peak of 19,010 in 1972, an increase of over 200 percent. For most of the 1970s the number of S/E doctorates declined each year, reaching a low of 17,050 in 1978. The dominant factor in this phase was the drop in degrees awarded to men. Since 1978 there have been small annual increases in the numbers of S/E doctorates awarded. The 1983 level, 17,900, was 5 percent above the 1978 total. Despite these recent increases, however, the number of S/E doctorate degrees awarded has not yet returned to the levels of the early 1970s.

The turnaround since 1978 in the annual number of S/E doctorate recipients is attributable almost entirely to the increased participation of women. Although throughout the 1960-1983 period women earned more S/E doctor's degrees each year, it was not until the late 1970s that their numbers were large enough to fully offset the annual declines for men.

The new crop of degreed women differ significantly from their male counterparts in terms of their major field of study: In 1983, an overwhelming 97 percent of them were in science and 3 percent in engineering; for men the comparable figures were 80 percent in science and 20 percent in engineering. Over one-half of the women majored in the social sciences compared to one-fourth of the men. The field distributions of both men's and women's doctorate degrees in 1983 were similar to those of 1973.

The increased participation of women in engineering has so far had little effect on overall trends in that field, because the number of women earning doctorates is still very small. It is likely, however, that more women will earn engineering doctorate degrees in the future, since the number of women enrolled in full-time undergraduate engineering programs in-

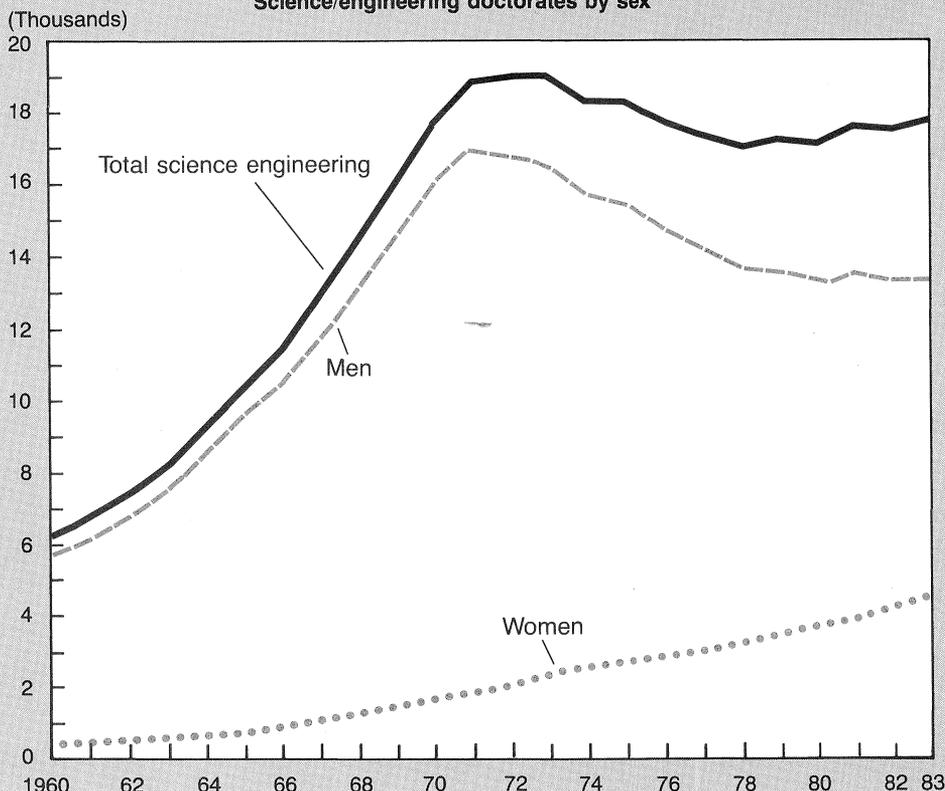
creased from 21,900 in 1978 to 62,300 in 1982, a gain of 185 percent. The recent increases in the number of engineering doctorates granted in the United States have resulted primarily from a surge in degrees awarded to non-U.S. citizens. Between 1978 and 1983, the number of U.S. citizens earning engineering doctorates actually declined by about 100, or 8 percent. This loss was more than offset, however, by the growth of nearly 400, or 36 percent, in the number of non-U.S. citizens who earned degrees. Foreign students received 1,490, or 56 percent, of the Ph.D. engineering degrees awarded in the United States in 1983, record highs for both number and proportion. Furthermore, foreign students have outnumbered U.S. citizens among engineering doctorate recipients for each of the past three years.

S/E doctorate recipients by field and sex: 1973 and 1983

Field	Women		Men	
	1973	1983	1973	1983
Total	2,450	4,460	16,550	13,440
	Percent			
Engineering	2	3	20	20
Physical sciences	11	10	23	22
Mathematical sciences	5	3	7	6
Life sciences	32	31	22	25
Social sciences	50	53	28	27

Source: National Science Foundation

Science/engineering doctorates by sex



Source: National Science Foundation