The Missing Women in Science, Math, Engineering, and Behavioral Science Jobs? Accounting for Gender Differences in Entrance into SMEB Occupations

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Abstract

Despite the investment of considerable money to increase women's representation in undergraduate science and engineering education, gender imbalance in the science workplace remains. Women are now more likely than men to obtain a college degree, and in science, math, engineering and behavioral science (SMEB)-related fields of study, women's graduation rates since the 1970s have increased between two to ten times (Bell, 2010). Despite these educational gains, women's representation in the SMEB workforce remains low. As of 2003, women were only 27% of the SMEB workforce (National Science Board, 2008). In this paper, we examine the factors associated with entering into SMEB occupations and how this differs by gender. We assess whether differences in attitudes towards gender and family roles account for gender disparities in the likelihood of entering into SMEB occupations among young adults who received college degrees and majored in SMEB fields.

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* This research was supported by Grant Number 5R01NR011988-02 from the National Institute of Nursing Research (NIH). The content is solely the responsibility of the authors and does not

necessarily represent the official views of the National Institutes of Health. This paper is a working draft. Please do not cite without permission of the author. For additional details, contact Sharon Sassler (ss589@Cornell.edu), 120 MVR Hall, Department of Policy Analysis & Management, Ithaca, NY 14853, 607-254-6551.

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Accounting for Gender Differences in Entrance into SMEB Occupations

In the United States, considerable amounts of money are devoted to training particular sectors of the labor force deemed of value to national productivity and prestige. In particular, in 2009 the National Science Foundation (NSF) committed nearly 800 million dollars for education and training programs. The Commerce, Justice, and Science Appropriations Subcommittee argued at the time for a strong support for undergraduate science and engineering education, given declines in enrollment in Science, Technology, Engineering and Math (STEM) fields. Given these investments and the role of research and development in the US and the global economy, retention in the labor force in the STEM fields, especially the optimal participation of women in the science workplace, has become an important issue.

Of late, the underutilization of women in the science workforce has emerged as an important issue of concern to policy makers (e.g. National Institute for Health, 2008, Committee on Maximizing the Potential of Women in Academic Science and Engineering, 2006; Committee on Prospering in the Global Economy of the 21st Century, 2007). Already a decade ago (in 2001), women surpassed men in their educational attainment, with 57% of all Bachelor degrees conferred to women (Freeman, 2004). In 2010, some reports assert that women were just over 50% of all doctorate recipients (Bell, 2010). In science, math, engineering and behavioral science (SMEB)-related fields of study, women's graduation rates since the 1970s have increased between two to ten times (ibid); by 2001, in some SMEB fields, like life sciences or business, women's graduation rates have surpassed those of men .

Women's representation in the SMEB workforce, however, is lagging behind their educational gains. Compare them to women overall; the proportion of all women involved in the paid labor force has increased substantially over time, rising from 43% in 1970 to nearly 60% by 2007, with women accounting for nearly half (46%) of workers in the labor force (Lee and Mather, 2008). In SMEB occupations the numbers are less encouraging: In 2003, women were only 27% of the SMEB workforce (National Science Board, 2008). Some fields, such as engineering, computer science and physical sciences are particularly slow to change (National Science Board, 2008). In this paper, we examine the factors associated with entering into SMEB occupations and how this differs by gender. We assess whether differences in choice of major, ascribed attributes, and attitudes towards gender and family roles account for gender disparities in the likelihood of entering into SMEB occupations among young adults who received college degrees.

Understanding Under-Representation: Educational and Career Pathways

Most researchers who study women's representation in the science labor force utilize a feminist theory perspective, which suggests that women's careers in the sciences are socially structured. This framework is premised on studies that show that the role of parents and teachers, the structure of peer groups, male-oriented learning models, conflict between household responsibilities and job demands discourage women from pursuing careers in science or retaining their jobs in science-related professions. A common analogy likens women's pathway into science careers, to water flowing through a channel, the "pipeline" model, and argues that at each education and professional level (from high school to college to graduate school to early career)

the "flow" of women is weaker (Levin and Stephan, 2005). In this model, the focus is on crucial pipeline barriers (Bystydzienski, 2006) such as negative educational experiences, discouragement in pursuing science careers, or structural discrimination.

But what happens when women study science-related occupations? Among those committed enough to major in a particular area of interest, what possible factors deter or encourage them to pursue employment in that field? In this paper we focus on two primary factors affecting women's employment in scientific and engineering occupations after the requisite period of education and training: (1) Attitudes and expectations towards work and family; and (2) Work-Life Balance challenges, or women's reluctance to transition into jobs in which they cannot maintain a balance between career and family demands. The broader literature on women's employment suggests that young adults' attitudes towards family roles and maternal employment are predictive of their future investments in schooling, careers, and family roles, and also predict their later work hours and earnings (Corrigall and Konrad, 2007). Support for egalitarian family roles for men and women is positively associated with women's fulltime employment and both men's and women's delayed entry into marriage and parenthood (Cunningham, et al., 2005; Sassler and Schoen, 1999). The influx of mothers into the paid labor force during the 1960s and 1970s was instrumental in altering the gender socialization of children (Brewster and Padovic, 2000; Moen, Erickson, and Dempster-McClain, 1997). For example, maternal employment is positively related to gender egalitarianism in both sons and daughters (Davis and Pearce, 2007; Hoffman, 1989; Thornton, Alwin, and Camburn, 1983). This literature suggests that the increasing likelihood of experiencing maternal employment, in conjunction with the liberalization of gender role attitudes on the part of men and women, should increase the likelihood of women's pursuit of occupations in traditionally male-dominated fields. Men's participation in the paid labor force, as well as pursuit of particular occupations, should be less responsive to gender role attitudes expressed in young adulthood, because gainful employment remains normative for men (Gerson, 1993; Kaufman and Uhlenberg 2000).

Attitudes and Expectations

According to those proffering supply-side explanations for gender differentiated labor force participation rates and earnings differentials, women with more traditional attitudes towards work and family are more likely to focus their pursuits on family responsibilities, and deemphasize employment and career aspirations (Becker, 1971; Firestone, Harris, and Lambert, 1999). Men's participation in the paid labor force, however, should be less responsive to their gender role attitudes, because withdrawal from the labor force is a less acceptable option for men than it is for women (Gerson, 1993; Kaufman and Uhlenberg, 2000). In fact, research utilizing data from the National Longitudinal Survey of Youth found that stronger adherence to traditional gender ideology negatively affected the earnings of white and black women, though they do not have a similar effect for white men (Christie-Mizell, 2006).

Work-Life Balancing Act

Although adherence to more egalitarian gender role beliefs delays entry into both marriage and parenting, and increases the likelihood of cohabiting (Clarkberg, Stolzenberg, and Waite, 1995), the majority of young adults eventually do wed (Schoen and Standish, 2001). The union and parental status of the female labor force have changed in important ways over time. Whereas unmarried women (including never married, widowed, and divorce women) historically

were substantially more likely to work in the paid labor force than were married women (Mellott and Sassler, 2007; Golden, 1990), in recent decades married women – particularly mothers – have experienced dramatic increases in labor force participation (Bianchi and Cohen, 1999). The majority of mothers, even those with pre-school aged children, are now employed in the paid labor force (Bianchi and Cohen, 1999; Downs, 2003). For example, over three-quarters (77%) of mothers with school-aged children were employed in the labor force in 2005, as were well over half of mothers with pre-school aged children (Lee and Mather, 2008). As a result, the majority of American women work upon completing their education, after getting married, and even subsequent to becoming mothers. Recent research documents that the difference in employment rates between mothers and childless women in professional and managerial occupations has shrunk across cohorts (Percheski, 2008). But a growing body or research is emerging that finds that academic science and medicine are fields in which women have fewer children than they desire (Mason and Goulden, 2002; Long 2001), and that women in these fields face considerable time pressures and productivity demands during precisely the period of marriage and family formation (Jacobs and Winslow, 2004).

In addition to marital status, which was once the dominant signal of reduced work orientation for employers, a growing body of evidence suggests that among recent cohorts the primary signifier is now parental status (Hewlett, 2002; Stone, 2007). Changes in parental status are strongly linked to women's employment patterns (Rindfuss, Cooksey, and Sutterlin, 1999). The arrival of children brings an increase in women's domestic labor. The introduction of children into the family system also reorients both men's and women's labor force hours; children decrease women's hours of paid work, while they have the opposite effect for men (Kaufman and Uhlenberg, 2000). Because many families transition to a more traditional division of household labor upon the arrival of a first child (Becker and Moen, 1999), women are more likely than men to alter employment behavior to accommodate the increase in child care and housework growing families introduce. The implications of this shift to more traditional gender roles on women's careers and occupational attainment are clear; women's transition to greater parenting responsibility negatively affects occupational mobility, earnings, and career success (Hersch & Stratton, 2002; Kaufman & Uhlenberg, 2000; Stone, 2007). In a study of science career paths for bachelor's degree holders, Xie and Shauman (2003) found that married women, particularly those who have children, were much more likely to exit from both school and work than were men and women in other family statuses (p.116).

The Current Paper

In this paper, we seek to determine the factors predicting entry of SMEB majors into related SMEB occupations. Our sample of interest thus consists of only those women and men who graduated from college with a SMEB major. We propose to assess the impact of young adult's gender role attitudes and family expectations, family background characteristics (including mother's and father's education and employment), and union status on choice of first occupation after graduation. We compare women and men who obtained SMEB majors, as well as women who obtained SMEB majors and those who did not in terms of their retention in the paid labor force.

Data and Measures

Data are from the 1979 National Longitudinal Surveys of Youth of (NLSY79) (1979-2008), an ongoing panel survey of a nationally representative sample of 12,686 young men and women who were aged 14-22 in 1979. Data were first collected in 1979 and respondents were re-interviewed annually through 1994 and biennially from 1996 to the present. In the past several rounds the cohort has aged into midlife, enabling us to explore the career trajectories of women who studied SMEB-related topics when they attended undergraduate colleges in the 1980s and early 1990s. The NLSY79 employed a multistage stratified random sampling design to construct a sample that is representative of the entire population of youth age 14 to 22 as of December 31, 1978 and residing in the U.S. on January 1, 1979. With a few exceptions, such as special populations (military personnel and economically disadvantaged whites), all members of the sample have been eligible for re-interview in subsequent years. Response rates for the initial interview of the NLSY79 were high (87%) and retention rates have ranged from 77.5% to 96.1%.

A particular strength of the NLSY79 for the proposed study is the availability of information on young adults' work aspirations at a young age, detailed information on their fields of study, and occupational pursuits over time. We are able to follow this cohort as they transition into occupations and family roles. In addition, by 2008 the survey offers a long enough time span to follow women into mid-career, and covers the bulk of family decision-making (marriage and children).

Measures

We measure the dependent variables, i.e., entering a SMEB-related occupation vs. entering a non-SMEB in the two survey waves following the completion of their highest degree attained, rather than at each survey wave. Using the NLSY79, we examine two labor force outcomes: entering into a SMEB-related occupation following degree receipt or final year of education vs. entering into a non SMEB-related occupation. We construct a dummy variable with these categories: (1) SMEB-related occupation -- Using the 1970, 1980, and 2002 Census occupational classification codes we classify occupations after college completion as SMEB related from the following codes: computer specialists, engineers, mathematical specialists, life and physical scientists, physicians, dentists and related practitioners, nurses dietitians, and therapists, social scientists, teachers in colleges and universities, managers and administrators. (2) Non SMEB-related occupation: We consider non SMEB-related employment as all occupations other than ones noted above.

Our primary independent variables include two control variables: (1) Gender – a dichotomous variable indicating whether biological sex of respondent was female or male; and (2) field of study in college: The NLSY collects data about respondents' field of study in college. We classify SMEB-related majors if respondents studied biological sciences, business & management, computer and information sciences, engineering, mathematics, physical sciences, and social sciences.

Other controls include: (3) Family Background Characteristics, such as family structure respondents lived in at age 14, the occupation of the respondent's primary parent(s) at age 14, and the highest degree completed by respondent's mother and father; and (4) Gender Role Attitudes and Occupational Expectations. Respondents were asked a series of questions in 1979,

when the panel was 14 to 21, designed to measure attitudes to a variety of factors that could affect occupational aspirations and achievement. Gender role attitudes were measured by a series of eight questions about women's and men's role in the workforce and family. Occupational expectations will tap two aspects of career orientation; the first omponent assesses the occupation the respondent expects to hold at age 35, while the second assesses respondent's expectation of achieving their occupational goal. We also utilize two measures ascertained in the NLSY79 that assess expectations to achieve occupational aspirations by age 35, and expectations to delay or forego marriage (with delay being marrying at age 30 or later, or never desiring to wed). (5) Union status: The NLSY79 collects detailed data at each wave on union status and transitions. (6) Parental status: A dummy variable indicating the presence of dependent children under 18 in the respondent's residence is available at each survey wave; (7) other socio-demographic associated with our outcome are also controlled and include: a) Age, indicated by year of birth; b) Race/ethnicity, c) Nativity – birthplace, and d) respondent's educational attainment.

Analytic Approach

We utilize logistic regression techniques to estimate the effects of the explanatory variables on the dichotomous dependent variable. For ease of interpretation, we present odds ratios (the anti-logs of the coefficients) in our main analysis. They can be interpreted as the change in the likelihood of working in a SMEB occupation associated with each independent variable. An odds ratio greater than 1.0 indicates an increased likelihood of working in a SMEB job relative to the reference group, while the (more common) odds ratio of below 1.0 depicts a reduced likelihood of being employed in a SMEB occupation.

Results

The majority of men and women who graduated college majored in a field that we considered SMEB-related, as can be seen in Figure 1. Less than half of both women and men majored in something that was not classified as SMEB, though a much greater proportion of women than men are non-SMEB majors. The largest group of college majors studies Business, which accounted for nearly a quarter of all women college graduates, and approximately a third of all men; as expected, male college graduates were significantly more likely to have been business majors than their female counterparts. Men also accounted for a significantly greater share of those who majored in Engineering and Computer science. Women, on the other hand, were significantly better represented among those who specialized in Health. There are no salient gender differences for those who majored in biology and those from the social sciences.

[Figure 1 about Here]

What proportion of those who majored in SMEB-related fields entered into SMEB occupations? Figure 2 depicts the shares from each major who worked in SMEB-related occupations within the first two years of college graduation, and how that differs by gender. Women who majored in biology and health related subjects were more likely than their male counterparts to enter into such occupations, though sizable proportions who major in this field select other occupational pursuits, and this is even greater for men than it is for the women. Women who majored in the social sciences were also more likely to enter into a SMEB-related occupation than their male counterparts. However, for most categories, larger proportions of

men who majored in other SMEB fields entered related occupations. For example, sixty percent of the men who majored in Computer Science went into a SMEB field, as did nearly 80% of men who majored in Engineering. Men who majored in health and business were also somewhat more likely than their female counterparts with similar majors to work in SMEB-related jobs. Despite these apparent differences, only three are statistically significant. Men who majored in computer science, business, and non-SMEB majors are significantly more likely than their female counterparts majoring in these subjects to go into related occupations.

[Figure 2 about Here]

Descriptive results for our sample are presented in Table 1. Over half of all women and men pursued SMEB related majors while attending college, though men were significantly more likely to have majored in SMEB than their female counterparts (68.5% vs. 54.3%, $p \leq .01$). Over one-third of both women and men obtained advanced degrees, though the results indicate that non-SMEB majors were more likely to have pursued additional schooling after college, regardless of their sex.

Demographic attributes of the women and men in our sample suggest something of a cohort effect, as both women and men who work in SMEB-related occupations are significantly younger than their counterparts who do not hold SMEB occupations. Black women are also significantly more likely to college graduates than are Black men, consistent with other research, though they do not differ in terms of their representation in SMEB or non-SMEB pursuits. There are no significantly differences in our sample between the sexes or across occupations in terms of family structure as a child, and the percent currently married. Women college graduates are significantly more likely than male college graduates in our sample to have children, however, and there the differences within gender across occupations are highly significant. Women who were not employed in SMEB were much more likely than those in SMEB to already have children, whereas men who did not work in SMEB-related fields were also significantly more likely than their male counterparts in SMEB jobs to be parents.

We also find important attitude differences across groups, both across the sexes and within by occupational choice. For example, men are significantly more likely than their female counterparts to expect to marry either after age 30 or never. Over ten percent of men anticipated as young adults that if they ever wed it would be after they had turned 30, compared with only 7.3% of the women. Men also expressed significantly higher levels of self-esteem, though there were no differences in self-esteem for those who worked in SMEB occupations and those who did not. Finally, as in other studies men expressed significantly higher agreement with traditional gender role attitudes; we do not, however, find any real sex variation between women who worked in SMEB and those that did not, or men who did and did not work in SMEB jobs.

[Table 1 about Here]

Preliminary Results

Results from our logistic regression analysis of entrance into a SMEB occupation are presented in Table 2. These results are only preliminary, as they do not include all of the demographic variable. We first examine the pooled model. Our results reveal that women are

only about three-fourths as likely as men to enter into SMEB occupations after accounting for their majors. Relative to those who majored in the hard sciences, those who majored in Biology are only 47.7% as likely to work in SMEB occupations shortly after completing school, while those who studied computer science are only 57.4% as likely, and business majors only 59.9% as likely. Social Science majors are the least likely to those who studied SMEB-related fields to actually enter into SMEB occupations, as only 20.3% of them do relative to their counterparts who majored in the hard sciences. In fact, there is no significant difference in the odds of entering into SMEB majors between social science majors, and non-SMEB majors.

Black college graduates are significantly less likely than their white counterparts to enter into SMEB occupations, though we find no statistically significant difference between Hispanic and White graduates. As expected, respondents with an advanced degree are far more likely to enter into SMEB jobs as those who have a college degree, with odds 1.7 times greater of working in a SMEB-related occupation. Expectations in adolescence clearly play a role in whether respondents enter into SMEB jobs; those who hope to work in SMEB-occupations are 1.64 times more likely to actually enter into such a position as those with no such expectations. Finally we find no regional effects on the likelihood of working in SMEB occupations.

Results disaggregated by sex are largely consistent with the pooled model. There are, however, some interesting differences. Women who majored in biology are no less likely than those majoring in the hard sciences to enter into SMEB occupations, though men who earned college degrees in Biology are only one-third as likely as those whose degrees were in the hard sciences to work in a SMEB occupation. The rest of the outcomes differ more in magnitude than in significance level. Interactions of sex and major (Table 3) reveal that women who majored in Social Science fields are significantly more likely than men who majored in the social sciences to be working in a SMEB-occupation, and this difference is large and highly significant. We find no other significant differences by gender in the relationship between college major and subsequent employment, even for biology or engineering.

Even among men and women who major in SMEB, women are significantly less likely to subsequently enter into jobs in SMEB occupations (Table 3, Column 3). We also find additional racial and ethnic disparities in majoring and working in SMEB jobs, as Blacks and Hispanics who majored in such fields are significantly less likely to be working in related occupations. Not surprisingly, those who majored in SMEB and have advanced degrees are over twice as likely to be working in a SMEB occupation as SMEB majors without additional educational credentials. Finally, the results from Column 7 indicate that women with more traditional gender role orientations are less likely to be working in SMEB occupations, though this is only weakly significant ($p \leq .10$).

Future Work

Future models will examine interactions by sex and major, sex and advanced degree, sex and race, and sex and attitudes. These will enable us to assess which barriers serve as significant disincentives for women who clearly have a greater tendency to work in science related occupations by virtue of their major selection, but who may subsequently not enter into such occupations.

Table 1: Descriptive Statistics for College Graduates in our Analysis, by Sex and College Major

	WOMEN			MEN				
	All Women	Not in SMEB	In SMEB	All Men	All	Not in SMEB	In SMEB	Significant Difference?
% in SMEB major	54.3%			68.5%	61.2%			a
% with Advanced Degree	38.1%	51.0%	27.2%	39.1%	38.6%	55.1%	31.8%	b, c
Demographic Attributes								
Age	28.82	29.94	27.87	27.65	28.25	28.79	27.13	a, b, c
Race								
% Black	20.6%	18.9%	22.0%	17.3%	19.0%	18.4%	16.8%	a
% Hispanic	11.1%	12.0%	10.4%	10.3%	10.7%	10.4%	10.2%	
% White								
% Foreign-Born	6.3%	4.9%	7.4%	6.9%	6.6%	5.9%	7.4%	
% with Intact family at age 14	77.6%	79.5%	75.9%	78.9%	78.2%	78.9%	78.9%	
% Currently Married	17.0%	18.9%	15.5%	14.1%	15.6%	14.7%	13.8%	
% with Children	30.1%	34.6%	26.3%	21.4%	25.8%	25.4%	19.5%	a, b, c
Socialization Variables								
% with Father in STEM field	32.2%	34.9%	29.9%	34.7%	33.4%	35.6%	34.3%	
% with Mother in STEM field	10.7%	10.4%	11.0%	10.4%	10.5%	9.6%	10.7%	
Attitudes								
Expect to Achieve Occupational Aspirations	27.0%	25.9%	27.9%	27.9%	27.5%	26.7%	28.5%	
Expect to Delay or Forego Marriage	7.3%	7.2%	7.4%	10.8%	9.0%	11.2%	10.6%	a
Expect to work in SMEB field	24.3%	14.6%	32.4%	26.8%	25.5%	16.0%	31.7%	b, c
Hope to work in SMEB field	38.1%	30.0%	45.0%	50.7%	44.3%	38.2%	56.4%	a, b, c
Self-Esteem	3.377	3.389	3.368	3.42	3.398	3.404	3.427	a
Rotter scale	1.411	1.403	1.418	1.409	1.41	1.41	1.408	
Gender Roles Attitudes	1.985	1.994	1.977	2.201	2.09	2.176	2.212	a
Region								
Northeast	22.3%	22.0%	22.6%	18.8%		0.198	0.183	a
North Central	21.0%	19.8%	22.1%	26.0%		0.246	0.267	a
West	16.1%	18.0%	14.6%	17.7%		0.184	0.173	
South	38.0%	37.2%	38.6%	33.1%		0.313	0.339	a
N	1,240	567	673	1,188		374	814	

Source: 1979 NLSY college graduates

Note: [a] Significant difference between All Men and All Women at .05 level; [b] Significant difference between women in SMEB and women not in SMEB (at .05 level);

c Significant difference between men in SMEB and men not in SMEB at .05 level.

Table 2. Odds of Entrance into SMEB Occupations

	Pooled Models		Women		Men	
Female	0.777	***				
Major (0 = Hard Sciences)						
Social Science	0.203	***	0.3	***	0.129	***
Biology	0.477	**	0.64		0.33	**
Computer Science	0.574	***	0.486	**	0.65	*
Business	0.599	***	0.648	*	0.548	***
Non-SMEB major	0.212	***	0.231	***	0.188	***
Race (0 = Non-Hispanic White)						
Black	0.588	***	0.56	***	0.639	**
Hispanic	0.787		0.806		0.762	
Foreign Born	1.096		1.286		0.901	
Family Intact at 14	0.913		0.914		0.922	
Age	1.007		1.005		1.011	
Advanced Degree	1.701	***	1.47	***	1.979	***
Achieve Occ. Aspirations	1.011		0.96		1.05	
Attitudes and Expectations						
Delay Marriage	0.945		0.9		0.97	
Children (yes/no)	0.824		0.768		0.888	
Hope to work in SMEB	1.638	***	1.884	***	1.416	**
Expect to work in SMEB	1.225	*	1.03		1.459	**
Region						
South	0.936		1.048		0.848	
West	0.896		1.015		0.791	
North Central	1.184		1.263		1.144	
Constant						
Fit						
N						

Note: *** significant at .01 p-level, ** sig. at .05 level, * sig. at .10 level

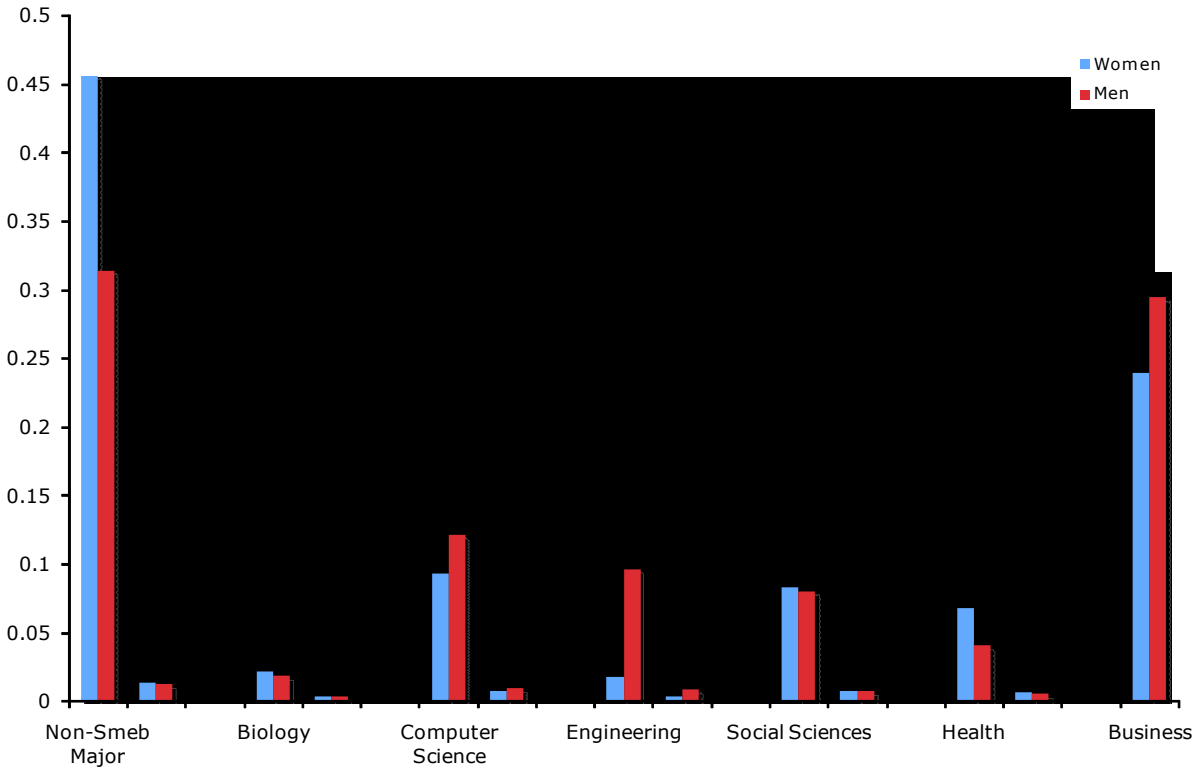
Table 3: Results from Logistic Regression on Employment in SMEB Occupations

	Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6		Col. 7	
	Model 1-1a Step 1: All Men and Women		Model 1-1a Step2: Women		Model 1-2 Step 1: SMEB majors only		Model 1-4a Step 1: Women Only		Model 1-4b Step 2: Women Only		Model 1-4c Step 3: Women Only		Model 1-4d Step 4: Women Only	
	Odds Ratios *(SE)*													
Female	0.632	*			0.614	*								
	0.315				*0.264*									
Black	0.613	***	0.582	***	0.605	***	0.584	***	0.583	***	0.582	***	0.570	***
	0.119		*0.166*		*0.151*		*0.167*		*0.166*		*0.166*		*0.167*	
Hispanic	0.748	*	0.803		0.700	*	0.802		0.803		0.805		0.787	
	0.150		*0.206*		*0.194*		*0.206*		*0.206*		*0.207*		*0.207*	
Foreign Born	1.162		1.383		1.119		1.387		1.380		1.384		1.404	
	0.183		*0.257*		*0.223*		*0.257*		*0.258*		*0.257*		*0.257*	
Family Intact at 14	0.936		0.915		1.075		0.914		0.915		0.915		0.916	
	0.110		*0.154*		*0.140*		*0.154*		*0.154*		*0.154*		*0.154*	
Age	1.005		1.006		1.020		1.006		1.006		1.006		1.006	
	0.010		*0.013*		*0.013*		*0.013*		*0.014*		*0.013*		*0.013*	
Married	1.108		0.951		1.359	*	0.950		0.952		0.950		0.954	
	0.128		*0.174*		*0.172*		*0.174*		*0.174*		*0.174*		*0.174*	
Cohabiting (not married, not cohab	0.931		0.575		0.949		0.574		0.575		0.571		0.539	
	0.555		*0.013*		*0.739*		*0.693*		*0.693*		*0.694*		*0.695*	
Children (yes/no)	0.792	*	0.767		0.765		0.764		0.771		0.767		0.770	
	0.126		*0.169*		*0.175*		*0.169*		*0.175*		*0.169*		*0.169*	
Advanced Degree	1.748	***	2.504	**	2.114	***	2.497	**	2.502	**	2.499	**	2.509	**
	0.141		*0.420*		*0.141*		*0.421*		*0.420*		*0.420*		*0.421*	
Social Science	0.117	***	0.261	***	0.114	***	0.261	***	0.261	***	0.262	***	0.266	***
	0.287		*0.364*		*0.291*		*0.364*		*0.364*		*0.364*		*0.364*	
Business	0.537	***	0.708		0.541	***	0.708		0.708		0.709		0.718	
	0.207		*0.281*		*0.209*		*0.282*		*0.282*		*0.282*		*0.282*	
Non-SMEB major	0.174	***	0.286	***			0.286	***	0.286	***	0.287	***	0.291	***
	0.205		*0.279*				*0.279*		*0.279*		*0.279*		*0.280*	
Biology	0.284	**	1.228		0.283	***	1.227		1.228		1.228		1.220	
	0.465		*0.556*		*0.470*		*0.556*		*0.556*		*0.556*		*0.556*	
Computer Science	0.604	**	0.550	*	0.622	*	0.549	*	0.550	*	0.552	*	0.571	*
	0.248		*0.318*		*0.252*		*0.319*		*0.318*		*0.319*		*0.319*	
Female*Social Science	2.326	**			2.331	**								
	0.404				*0.410*									
Female*Business	1.228				1.277									
	0.309				*0.312*									
Female*Non-SMEB	1.142													
	0.296													
Female*Biology	2.266				2.455									
	0.642				*0.650*									
Female*Computer Sci	0.755				0.764									
	0.368				*0.372*									
Advanced Degree*Social Science			1.110				1.112		1.110		1.109		1.117	
			0.603				*0.603*		*0.603*		*0.603*		*0.603*	
Advanced Degree*Business			0.900				0.901		0.901		0.904		0.863	
			0.513				*0.513*		*0.513*		*0.513*		*0.514*	
Advanced Degree*Non-SMEB			0.458	*			0.459	*	0.458	*	0.458	*	0.451	*
			0.456				*0.456*		*0.456*		*0.456*		*0.456*	
Advanced Degree*Biology			0.111	**			0.111	**	0.111	**	0.112	**	0.113	**
			0.981				*0.981*		*0.981*		*0.981*		*0.983*	
Advanced Degree*Computer Sci			0.402				0.404		0.402		0.403		0.387	
			0.765				*0.765*		*0.765*		*0.765*		*0.768*	
Delay Marriage							0.948							
							0.236							
Expect none or only one child									0.985					
									0.1415					
Achieve Occupational Aspirations											1.030			
											0.138			
Gender roles													0.792	*
													0.139	

Source: 1979 NLSY College Graduates

Note: *** significant at .01 p-level, ** sig. at .05 level, * sig. at .10 level

Figure 1. Distribution of women and men across fields of study



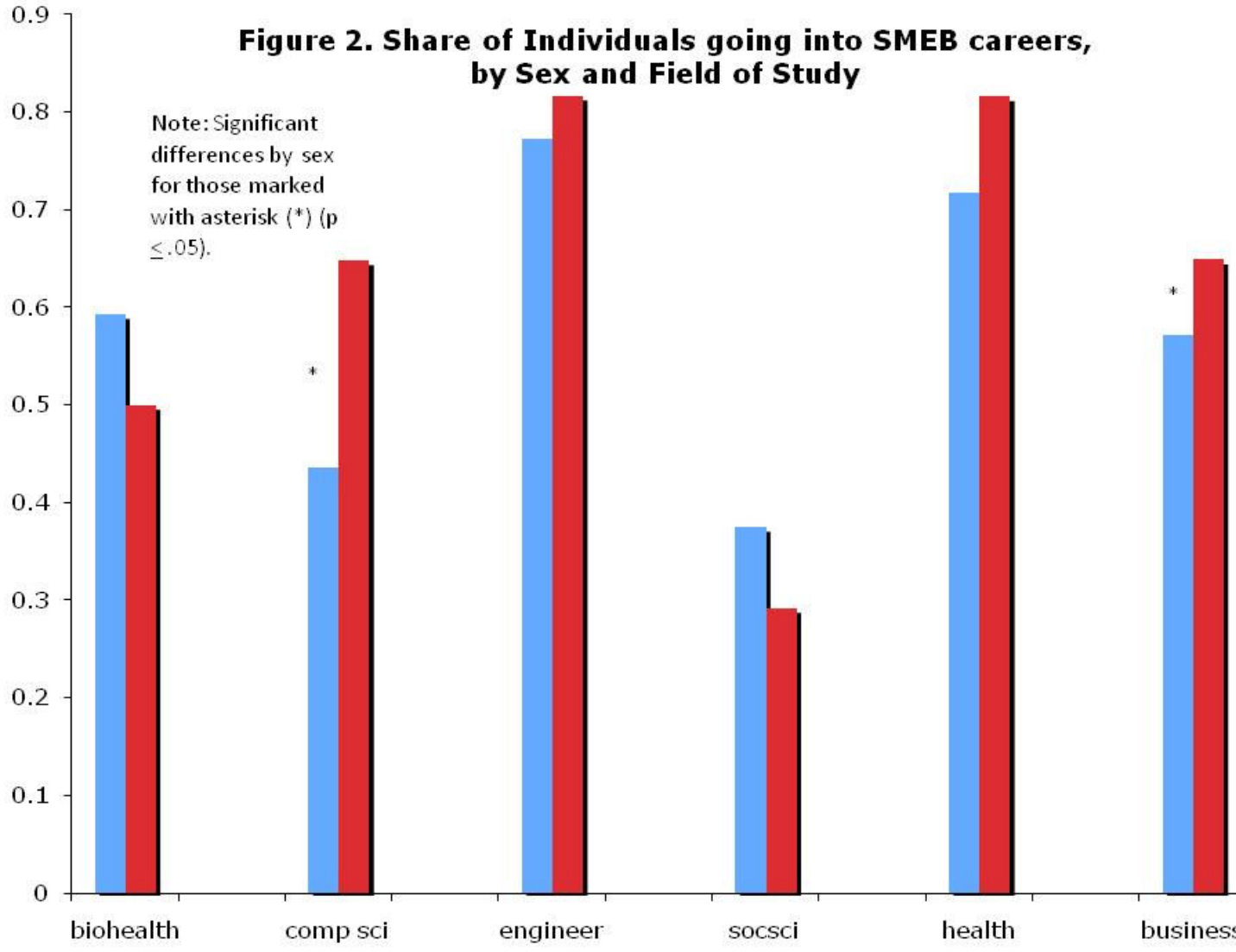


Figure 2. Share of Individuals going into SMEB careers, by Sex and Field of Study
Note: Significant differences by sex for those marked with asterisk (*) (p ≤.05).
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
*
*
biohealth
comp sci
engineer
socsci
health
business