

If You're So
Smart, Why
Aren't You
the Boss?
Explaining the
Persistent
Vertical Gender
Gap in
Management

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Since 1970, women have made substantial inroads into management jobs. But most women are in lower- and middle-management jobs; few are in top-management jobs. Human capital theory uses three individual-level variables to explain this vertical gender gap: women acquire fewer of the necessary educational credentials than men, women prefer different kinds of jobs than men, and women accumulate less of the required work experience than men. The authors argue that cultural schemas, specifically gender roles and gender norms, explain most individual-level differences between men and women and that when cultural factors are ignored, any observed effects of these factors can be dismissed as spurious. This analysis is based on data on nationally representative samples and the results of published research.

Keywords: gender gap; management; culture

Over the past four decades, women have made substantial inroads into management jobs. But most women are in lower- and middle-management jobs; few are in top-management

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jobs (Reskin and Ross 1992; L. Cohen, Broschak, and Haveman 1998; Carter and Silva 2010). This vertical gender gap occurs even among those with elite educational credentials. Female graduates of highly ranked MBA programs take lower-status jobs than do their male counterparts, even after controlling for years of work experience, children living at home, industry, region, and aspirations to be senior executives (Carter and Silva 2010). Moreover, these female MBA graduates lag behind their male counterparts at all stages. This vertical gender gap in management has important implications. Because women are less likely than men to be in top management jobs, they tend to earn less than men and to have less formal authority than men.

Human capital theory (Mincer 1970; Becker 1975) predicts that women are less likely than men to be promoted to top management for three related reasons: women acquire fewer of the necessary educational credentials than men, women prefer different kinds of jobs than men, and women accumulate less of the required work experience than men. After discussing the impact of these individual differences on men's and women's advancement into the upper ranks of management, we argue that cultural schemas, specifically gender roles and gender norms, explain most of these gender differences.

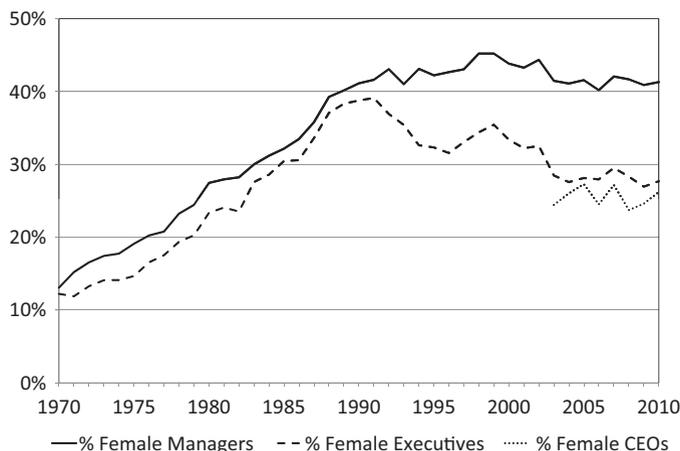
Our analysis focuses on managers in the private sector because over four-fifths of the labor force works in the private sector (U.S. Census Bureau 2010) and the most powerful and most highly compensated management jobs are in that sector. We analyze data on nationally representative samples, along with the results of published research, to reveal trends over the past four decades—when women began to enter the managerial workforce in large numbers.

The Vertical Gender Gap in Management

American women have entered management in increasing numbers. As Figure 1 shows, in 1970, only 13 percent of managers in the private sector were women; in 1998, 45 percent were women, based on estimates from the Current Population Survey (U.S. Census Bureau 2010).¹ At that time, women's representation in management almost equaled women's share of the civilian labor force, which was 46 percent (U.S. Census Bureau 2000, Table 646). In recent years, the percentage of female managers in the private sector declined, reaching 41 percent in 2010, even though women's share of the civilian labor force rose to 47 percent (U.S. Census Bureau 2011, Table 604).

This long-term trend toward gender equality in management, tempered as it is by a recent countertrend, is not seen at all ranks of management. Instead, women remain disproportionately segregated in lower levels of management and are scarcely represented at the top. As Figure 1 shows, 12 percent of executives in the private sector were women in 1970; that figure rose to 39 percent in 1991 and then dropped to 28 percent in 2010.² The upward trend in women's representation was less strong for executives (12 to 39 percent women, an increase of 225 percent) than for managers as a whole (12 to 45 percent women, an increase of 275

FIGURE 1
Percentage of Managers in the Private Sector Who Are Female, 1970–2010



SOURCE: U.S. Census Bureau (2010).

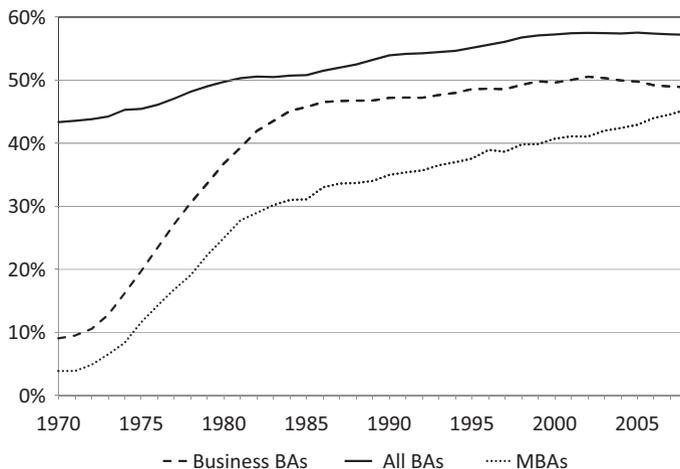
percent), and the recent downward trend was more pronounced for executives (39 to 28 percent women, a decline of 28 percent) than for managers as a whole (45 to 41 percent women, a decline of 9 percent). We wanted to conduct this trend analysis for chief executive officers (CEOs), but valid data for CEOs do not start until 2003. From 2003 to 2010, the percentage of female CEOs was stagnant, ranging between 24 and 27 percent.

The vertical gender gap is most pronounced in the largest firms. From 1992 to 2004, women constituted, on average, 1.3 percent of CEOs in Standard & Poor's 1,500 firms (Wolfers 2006). In 1995, the first year *Fortune* published a combined list for industrial and service firms, there were no female CEOs in the *Fortune* 500 and just two in the *Fortune* 501–1,000; in 2010, eleven *Fortune* 500 companies had female CEOs, while fourteen *Fortune* 501–1,000 companies did (Catalyst 2010). Thus, even today, women constitute a mere 2.5 percent of the top at the largest and most powerful private sector firms.

The Impact of Individual Differences between Men and Women

Human capital theory proposes that three differences between men and women explain their differing representation in management, especially in the top ranks: educational attainment, job preferences, and accumulated work experience. We review each in turn.

FIGURE 2
 Percentage of College Degrees Awarded to Women, 1970–1971 and 2008–2009



SOURCE: National Center for Education Statistics (2011).

Education. Higher education is an increasingly critical pathway into top management. An increasing fraction of managers have bachelor’s degrees; more and more also have advanced degrees. In 1970, 21 percent of managers in the private sector had bachelor’s degrees while 4 percent also had advanced degrees; in 2010, 35 percent had bachelor’s degrees while 19 percent also had advanced degrees (U.S. Census Bureau 2010). These higher-education credentials have always been far more common among managers than in the population at large. In 1970, 9 percent of Americans had bachelor’s degrees while 3 percent had advanced degrees. In 2010, 21 percent had bachelor’s degrees while 11 percent had advanced degrees (U.S. Census Bureau 2010).

Higher education credentials are especially important for top managers in the largest and most powerful firms. Analysis of 2,727 senior managers in 208 large manufacturing and finance firms taken from the 1977 *Fortune* lists (Useem and Karabel 1986) revealed that 83 percent of senior managers had bachelor’s degrees while 44 percent also had advanced degrees. In that same year, among private sector firms of all sizes, only 26 percent of managers had bachelor’s degrees while 6 percent also had advanced degrees (U.S. Census Bureau 2010).

Over the past 40 years, American women’s educational attainment has outpaced men’s. As Figure 2 shows, women earned 43 percent of bachelor’s degrees in 1970–1971 (National Center for Education Statistics 2011). In 2008–2009, women earned 57 percent of bachelor’s degrees. This trend was evident at all levels: women earned 40 percent of master’s degrees and 14 percent of doctorates in 1970–1971, compared to 60 percent of master’s degrees and 52 percent of

doctorates in 2008–2009. In 2010, women made up just over 50 percent of the civilian workforce with college degrees (U.S. Census Bureau 2010).

The change in women's educational attainment has been especially rapid in the field of business, the training ground for many managers. As Figure 2 shows, women earned 9 percent of business BAs and 4 percent of MBAs in 1970–1971, compared with 49 percent of business BAs and 45 percent of MBAs in 2008–2009. Thus, women are almost as likely as men to earn MBAs, given that they constitute 47 percent of the labor force (U.S. Census Bureau 2011, Table 604). The remarkable correspondence between Figures 1 and 2 suggests that American women's increased educational attainment in the field of business has given them easier entrée into management. Through the mid-1990s, the increase in women earning business BAs and MBAs paralleled the increase in women in management. But in recent years, trends for women's educational attainment and representation in management diverged, as the percentage of female managers declined slightly, while the percentage of women earning business BAs and MBAs continued to rise.

Although overall, women's educational attainment has exceeded men's, educational attainment can still help to explain the vertical gender gap in management. Educational fields continue to be gender-segregated, with women less likely to be in fields that require mathematical skills. In 1970, women earned just 18 percent of bachelor's degrees in the fields of science, technology, engineering, and mathematics (STEM); in 2004, women earned 38 percent of bachelor's degrees in STEM fields (National Science Foundation 2007). Although women's representation among graduates of STEM fields doubled, in 2004 women constituted only 25 percent of the STEM workforce (Carrell, Page, and West 2009). Among MBAs, women are less likely to acquire expertise in the mathematics-heavy field of finance (Bertrand, Goldin, and Katz 2010). Women's underrepresentation in STEM fields and finance has kept them out of pipelines to upper management. Starting in the 1970s, the top ranks of large American corporations have been increasingly filled by people with backgrounds in finance (Fligstein 1987; Zorn 2004). And beginning in the 1980s, the top ranks of large corporations have been increasingly filled by people with backgrounds in production and technology (Ocasio and Kim 1999), which usually require education in STEM fields.

Women's access to business education is stratified by institutional prestige, which can also help to explain why female managers are generally at lower levels than male managers. Women constitute a smaller fraction of students in the highest-ranked MBA programs than in lower-ranked programs. Only 31 percent of MBA students in the top U.S. business schools are female (*Financial Times* 2010), compared with 45 percent across all MBA programs.³ Students from top MBA programs have easier access to the best management jobs, due to their schools' reputations and their ability to foster ties to other elite students, so the scarcity of women in top MBA programs means that women have less easy access to the highest-status positions. Thus educational stratification—fewer women in top-ranked MBA programs and more in lower-ranked programs—helps to maintain gender inequality in management (S. Lucas 2001).

Job preferences. There is some evidence of gender differences in job preferences. Longitudinal analysis of high school seniors' value orientations along three dimensions (concern and responsibility for the well-being of others, emphasis on material benefit and competition, and concern with finding purpose and meaning in life) revealed substantial and persistent gender differences on all three measures (Beutel and Marini 1995). From the mid-1970s through the early 1990s, young women were consistently more likely than young men to express concern and responsibility for the well-being of others, less likely than young men to accept materialism and competition (the values that are strongly held in corporate America), and more likely than young men to indicate that finding purpose and meaning in life is extremely important. There was no evidence that young men's and women's values converged over time.

Perhaps more relevant to the question of male versus female managers' job preferences is a pair of studies analyzing data on adult workers from the General Social Survey (GSS). The first analyzed all workers from 1973 to 1993 (Rowe and Snizek 1995); the second, married workers only from 1973 to 1994 (Tolbert and Moen 1998). Both examined preferences for five job characteristics: high income, job security, opportunities for advancement, a sense of accomplishment, and short hours. Human capital theory would predict that men would prefer the first three job characteristics more than women, while women would prefer the last two job characteristics more than men. The first study offered little support for human capital theory. Men and women had the same rank-order preferences among job characteristics. Moreover, gender differences in the ranks assigned to job characteristics were very small. After controlling for age, education, marital status, occupational prestige, job satisfaction, spouse's work status, and year, there were few differences between men's and women's work values. Men were slightly less likely than women to value job security and short hours. Regardless of gender, preferences for particular job characteristics depended mostly on age, education, and occupational prestige.

The second study offered partial support for human capital theory. After controlling for age, education, race, occupation, number of children, and time period, married men valued promotion opportunities and job security more than married women, while married women valued a sense of accomplishment more than did married men. Counter to human capital theory, there were no significant differences between married men's and women's preferences for high incomes or short hours. As in the first study, most statistically significant gender gaps in job preferences were small in magnitude. Gender gaps were widest among young married workers, and there was no evidence that they declined over time; both findings are consistent with previous research on high school students (Beutel and Marini 1995).

The situation is complicated by the fact that any differences we observe between men's and women's job preferences may not be exogenous; they may instead be due to the jobs men and women currently hold and those they held in the past (Kanter 1977; Brief, Rose, and Aldag 1977; Rowe and Snizek 1995). Since women, including

female managers, tend to work in lower-status positions than men, women may react by placing less value on their careers (Kanter 1977); if so, women may prefer short hours and a sense of accomplishment more than men. Much evidence supports the hypothesis of endogenous job preferences: after taking into consideration differences between men's and women's jobs, there are no gender differences in attitudes toward work (Brief, Rose, and Aldag 1977; Bielby and Bielby 1989; Rowe and Snizek 1995). Men and women engaged in similar work have almost equal commitment to work, and men and women engaged in similar family roles have almost equal commitment to family (Bielby and Bielby 1989). A study of female finance executives found that the most successful of these women had the strongest devotion to work; indeed, female executives' attitudes toward work were virtually identical to those of their male counterparts (Blair-Loy 2003).

Work experience. Four decades ago only 41 percent of American women were in the labor force, compared to 76 percent of American men; by 2009, the figures for men and women had converged slightly: 54 percent of American women and 65 percent of American men were in the labor force (U.S. Census Bureau 2011, Table 586). Married women entered the labor force alongside single women: for single women, labor force participation rates rose from 57 percent in 1970 to 64 percent in 2009; for married women, these rates rose from 41 percent in 1970 to 61 percent in 2009 (U.S. Census Bureau 2011, Table 596). As a result of married women's entry into the labor force, the percentage of two-income couples rose from 50 percent in 1986 (the earliest year such data are available) to 55 percent in 2009 (U.S. Census Bureau 2011, Table 600). Not only have women entered the labor force in greater numbers, they have increasingly worked full time: among female workers, the ratio of full-time to part-time workers rose from 2.5 in 1972 to 3.3 in 2008 (GSS 2010). Moreover, in more and more households with young children, both men and women work: the percentage of working married mothers with husbands present and children under six rose from 30 percent in 1970 to 59 percent in 1990 and 62 percent in 2009 (U.S. Census Bureau 2011, Table 598). Taken together, these trends indicate that women's lives have come to resemble those of men's: women are increasingly likely to work for pay, full time, even when they have young children and husbands present.

Notwithstanding these trends toward gender equality, women tend to accumulate less of the work experience that is needed to get into management than men do. We do not have good data on work experience, but we do have data on one component of work experience—tenure with one's current employer. In 2008, median firm tenure for male workers 20 years and older was 4.5 years; median firm tenure for female workers was 4.2 years (U.S. Census Bureau 2011, Table 611). To the extent that women take more time out from work than men to tend to children, gaps between men's and women's work experience will increase with age. We see such a pattern across most age ranges. Median tenure for men ages 25–34 was 2.8 years; for men ages 35–44, 5.2; for men ages 45–54, 8.2; and for men ages 55–64, 10.1. For women, median tenure was lower for all age groups, and the gap between

men's and women's tenure generally widened with age: median tenure for women ages 25–34 was 2.6 years (0.2 years less than men); for women ages 35–44, 4.7 years (0.5 years less than men); for women ages 45–54, 7.0 years (1.2 years less than men); and for women ages 55–64, 9.8 years (0.3 years less than men). Such increasing gaps in accumulated experience can help to explain the vertical gender gap in management (Bertrand, Goldin, and Katz 2010).

Since many managers have college degrees, it is worthwhile to assess differences in work experience for male and female college graduates. In the first decade after leaving college, women tend to have about the same amount of work experience as men; after that point, female college graduates tend to work fewer hours than males, and female college graduates are more likely than males to interrupt their careers to raise children (Black et al. 2008). Thus, over their careers, female college graduates accumulate less work experience than males. But this accumulated experience gap has declined over time, at least for those with elite educational credentials. Among Harvard graduates, spells of women's nonemployment, explained by the presence of young children, were longest for 1970 graduates, intermediate for 1980 graduates, and shortest for 1990 graduates (Goldin and Katz 2008).

Cultural Factors Are the Cause of Individual Differences: Gender Roles and Gender Norms

Widely held cultural schemas about what is appropriate for men and women to do (gender norms) and what it is that men and women do well (gender roles) may be the root cause of differences between men's and women's educational attainment, job preferences, and work experience. If so, cultural schemas would explain gender differences in managers' career trajectories. We focus on three cultural schemas that are especially relevant to the vertical gender gap in management: (1) men are better than women at math and science, (2) men belong at work and women belong at home, and (3) men are more natural managers and leaders than women.

Gender and mathematics/science. Culture can explain women's reluctance to study fields that require mathematical skills and that are gateways to top management jobs. There is only weak evidence of actual gender differences in mathematics skills (Hyde, Fennema, and Lamon 1990; Baker and Jones 1993). Moreover, any gender differences that do exist in actual mathematics skills have been attributed to cultural factors, such as women's social status (Penner 2008). But even today, most college students believe men are better at mathematics than women (Nosek, Banaji, and Greenwald 2002).

Widely held beliefs about competence bias individuals' perceptions of their own competence at career-relevant tasks and so shape their decisions about field of study. In particular, gender stereotypes about mathematics skills affect students'

attitudes toward, participation in, and performance in mathematics and science courses (Eccles 1987; Hyde et al. 1990; Spencer, Steele, and Quinn 1999). Even those female students who believe they are good at mathematics are susceptible to this stereotype (Nguyen and Ryan 2008). Thinking more broadly, if most people—parents, teachers, and students—perceive female students' mathematics skills to be inferior to male students', female students will be influenced by these widely held stereotypes and will be less likely than male students to study fields that require mathematical skills (Correll 2001, 2004).

Finally, powerful stereotypes associate careers in science and engineering, which have increasingly led to upper-management jobs, with men and not with women. These stereotypes are held by men and women equally (Smyth, Greenwald, and Nosek 2010) and are reinforced by experience—by men's domination of science and engineering jobs, which shapes men's and women's career choices (Xie and Shauman 2003).

Gender and work/family. As married women have entered the workforce in ever greater numbers, Americans have increasingly accepted the idea of married women working. In Gallup polls, acceptance of married women working was 55 percent in 1969 (Ersikine 1971); in the GSS, acceptance of married women working rose to 68 percent in 1972 before dropping to 65 percent in 1977 (Spitze and Huber 1980).⁴ Analysis of related GSS questions between 1977 and 1996 revealed that both cohort succession and within-cohort attitude shifts led to increasingly positive attitudes about women, including mothers, working (Mason and Lu 1988; Brewster and Padavic 2000). Still, most Americans continue to believe that married women with young children belong at home, not at work. The most recent data we have on this specific gender schema come from 1994, when 84 percent of Americans approved of married women without children working full time, but only 11 percent approved of married women with pre-school-age children working full time; a further 34 percent approved of married women with pre-school-age children working part time, and 55 percent preferred they not work at all (Treas and Widmer 2000).

Cultural schemas create behavioral traces that allow us to pinpoint temporal shifts. One behavioral trace of the gender and work-family schema involves use of time for paid work, housework, or leisure. Because traditional gender roles involve women doing more housework and childcare than men, working women who fulfill their expected gender role are forced to take on a "second shift" of housework and childcare after working hours, while working men who fulfill their expected gender role can concentrate more on work or spend more time on leisure (Hochschild 1989). These behavioral traces of traditional gender roles have persisted, even though more married women work and more work full time. Time-diary studies covering the years 1965, 1975, and 1998 reveal that women continue to do more housework than men, although men increasingly help with core household duties such as cooking, cleaning, and childcare (Bianchi et al. 2000; Sayer 2005; Bianchi 2011). Male-female differences in time use are especially pronounced for parents. Compounding the effect of stable gender roles for time

use, especially for parents, is the fact that managers work ever longer hours (Jacobs and Gerson 2004; Collinson and Collinson 2004). A recent survey showed medians of 56 hours per week for male managers and 52 hours per week for female managers; moreover, 29 percent of male managers and 11 percent of female managers worked over 60 hours per week (Brett and Stroh 2003). This suggests that female managers experience especially strong work-family conflicts (Jacobs and Gerson 2004).

In the middle and upper-middle classes, from whose ranks most managers are drawn, there is increasing cultural pressure for mothers to tend to their children themselves, rather than working full time and delegating childcare to nannies, preschools, boarding schools, or babysitters (Epstein 2004; Stone 2007). These mothers are expected to make the switch from managing bureaucracies to managing their children's increasingly bureaucratized lives: to tutor children after school, help schools raise funds, coach children's sports teams, and chauffeur children around (Lareau 2003; Lareau and Weininger 2008). There are many journalistic accounts of highly educated and high-achieving women leaving managerial jobs to stay home with their children (e.g., Belkin 2003; Story 2005). But the news media have not just reported on this trend; they have also accentuated it, by excoriating women who hire others to care for their children (e.g., Flanagan 2004). This recent cultural backlash against middle- and upper-middle-class mothers delegating childcare intensifies the already-strong work-family conflicts that female managers experience.

Because cultural schemas affect the amount of time men and women spend at work rather than home, they affect the type and amount of work experience men and women accumulate. The persistence of the gender gap in housework and childcare creates role conflicts for working women, especially those with children. Women may try to "balance" work and family by choosing jobs with lower time commitments and greater flexibility, by working fewer hours, and by staying at home when their children are very young. Thus, traditional expectations about gender roles at work versus at home, especially for married women with young children, may explain why female managers accumulate less work experience than their male counterparts and so may help to explain the vertical gender gap in management. This conclusion is supported by research showing that women in management often got there by forgoing marriage and children altogether: female managers are less likely to be married than their male counterparts (Davidson and Burke 2000). And a study of female executives in finance showed that after women have children, their choices of career trajectories—to pursue senior-management positions, stay at home, or work part time—are influenced by two conflicting cultural schemas: family devotion and work devotion (Blair-Loy 2003). The work devotion schema characterizes the culture of the finance industry; it demands that executives put the firm and clients first by working long hours. The family devotion schema characterizes children as vulnerable and in need of attention, particularly from their mothers. Women who try to have it both ways and go part time are marginalized for their lack of devotion to the firm and cut off from promotion to upper management.

Gender and management. Cultural schemas about men and women at work also shape perceptions of who should be in positions of corporate leadership and so may explain the dearth of female managers in the top managerial ranks. People who score high on three of the “big five” personality traits—conscientiousness, extraversion, and openness to experience—are more likely to become leaders and to be effective leaders (Judge et al. 2002).⁵ Men and women exhibit similar levels of extraversion, openness to experience, and conscientiousness, although there are differences between men and women on subcomponents of extraversion and openness to experience (Costa, Terracciano, and McCrae 2001). Therefore, personality differences cannot explain women’s underrepresentation among corporate leaders. Perhaps differences in interpersonal skills can. People who have greater emotional intelligence, meaning greater ability to perceive emotions, understand emotions, use emotions to facilitate thought, and regulate emotions (Mayer et al. 2001), may be more likely to be leaders. Women tend to score higher than men on emotional intelligence (Brackett et al. 2006), so if this skill helps people to get into formal leadership positions, we would expect women to outnumber men among managers. This is especially likely in the top ranks because senior management jobs have a large symbolic component (Selznick 1957; Pfeffer 1981). In sum, little evidence suggests that differences between men and women in personality traits and interpersonal skills can explain women’s underrepresentation in top management; instead, such differences are due to cultural factors.

Powerful stereotypes associate managerial roles with men and not with women. Put simply, when people “think manager,” they “think male” (Schein 2001). Such stereotypes are reinforced by experience; the fact that men dominate the ranks of management, especially at the top, contributes to this stereotype (Marini and Brinton 1984). Because of this stereotype, people expect managers to do things that are typically associated with masculinity, such as competing with peers, imposing their wishes on subordinates, behaving assertively, and standing out from the group (Miner 1993; Atwater et al. 2004). That is why people who assess “men,” “women,” and “successful managers” rate managers and men as similar on many individualistic and agentic characteristics, such as being competitive, self-confident, aggressive, and ambitious (Schein 2001; Sczesny 2003). In contrast, ratings of women and managers are similar on only a few communal characteristics, such as being intuitive and helpful.

Because cultural schemas constrain behavior, men and women exhibit different leadership styles, despite having similar personality traits. Women are “outsiders” to management and must negotiate two roles—woman and manager—and reconcile the communal qualities people prefer in women with the agentic qualities that people expect in managers. As a result, female managers are more likely than male managers to have democratic, participative, and collaborative styles (Eagly and Johnson 1990). But the gender gap in managerial style is narrower among more senior managers. Moreover, between-gender differences are small compared to within-gender variation.

Women who embrace the “think manager–think male” stereotype are less likely to aspire to managerial positions (van Vianen and Keizer 1996; Davies, Spencer,

and Steele 2005). Even women who reject this stereotype and aspire to management may perform more poorly compared to men, due to stereotype threat (for a review of research on stereotype threat, see Steele, Spencer, and Aronson 2002). If women are not expected to be managers, especially not top managers, and if women are aware that others believe this stereotype, then women are at risk of confirming this stereotype. Simply being aware of this stereotype may create concerns about fulfilling it, which may hinder task performance. Stereotype threat has been shown to diminish female MBA students' performance in many managerial tasks, such as negotiating (Kray, Thompson, and Galinsky 2001).

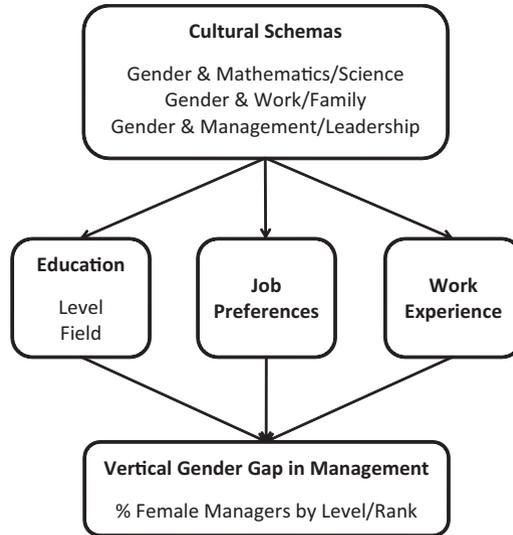
When those who evaluate potential managers for promotion embrace the stereotype of managers as male, they are less likely to perceive female candidates for managerial jobs—especially at the top, where women are rare—as positively as their male rivals (Eagly and Karau 2002). To be promoted to upper management, one must demonstrate competence. But surveys and laboratory experiments alike reveal that people perceive men as more competent than women (e.g., Heilman et al. 1989; J. Lucas 2003). Even when women enter management positions, they are in a double bind: as women, they are expected to be communal, collaborative, and democratic; but as managers, they are expected to be agentic and authoritative. The situation is complicated by the fact that higher-ranking managerial jobs tend to involve greater uncertainty—they focus more on strategy and less on tactics to achieve a strategic goal. Such uncertainty should accentuate decision-makers' reliance on gender as an indicator of competence (Gorman and Kmec 2009).

Conclusion

Widely held cultural expectations about what men and women can and should do—gender stereotypes about who can do mathematics, who should work and who should care for children and the home, and who should lead—are the basic cause of observed gender differences in educational attainment, job preferences, and work experience. Figure 3 shows our causal model. It makes clear that research on the vertical gender gap in management that seeks to show effects of education, job preferences, or work experience must account for these cultural factors. If cultural factors are ignored, any observed effects of these factors can be dismissed as spurious. And as Figure 3 indicates, the individual differences that human capital theory focuses on have common cultural origins; therefore, their effects cannot be entirely separated. In addition, the cultural schemas we highlight feed stereotypes about men as managers that prevent women from aspiring to or getting into management positions, especially at the top.

Our basic conclusion is that, contrary to human capital theory, it is not all about choices. Instead, choices—including what field to study, how much education to get, whether to work outside the home, how much to work, and what kind of job is most desirable—are constrained by culture. We risk sounding unoriginal

FIGURE 3
The Impact of Cultural Schemas on Human Capital and the Vertical Gender Gap in Management



by echoing Duesenberry's (1960, 233) quip that "Economics is all about how people make choices. Sociology is all about why they don't have any choices to make." But we take this risk because our point is one that many scholars seem to have forgotten. We read a plethora of studies that take behavioral indicators of "managerial" talent (e.g., mathematics test scores, years of experience) at face value and ignore the power of culture to drive men and women to display different amounts of such talent.

Policy implications. If the root cause of the vertical gender gap in management is culture, then corporate or public policies that seek to reduce this gap must focus on culture. In general, to change culture, you have to change people's hearts and minds. Therefore, culture is arguably the hardest thing to change through policy. In the United States, policies that target a single group, such as women, have been subject to backlash and retrenchment (Skocpol 1991; Alesina and Glaeser 2006). Americans simply refuse to pay for something that does not benefit them (Korpi and Palme 1998). One way around this is to nest policies that benefit women within policies that benefit both men and women. For instance, family-friendly policies could place a ceiling on working hours for all salaried workers (e.g., 50 hours per week) or mandate on-site employer-sponsored childcare for workplaces over a certain size, while education policies could create programs, available to both sexes, to foster student participation in science and mathematics programs in secondary schools as well as in colleges.

Notes

1. This figure includes all Census Bureau occupation codes that are relevant to the private sector: occ1990 = 4, 7, 8, 13, 14, 15, 16, 17, 18, 19, 21, and 22. Similar trends are seen when using data from the decennial census and the Equal Employment Opportunity Commission (P. Cohen, Huffman, and Knauer 2009).

2. Before 2003, the Current Population Survey had a valid count for executives, but not for CEOs (Mary Bowler, U.S. Census Bureau, personal communication, December 2010). Occupation codes were revised between 2002 and 2003, when a valid code for CEO was created (occ = 1, which improved on occ1990 = 4). Before 2003, figures for executives are based on the occupation code “managers n.e.c.” (“not elsewhere classified,” occ1990 = 22); most executive-rank employees are in this category, and most employees in this category are executives (Mary Bowler, U.S. Census Bureau, personal communication, December 2010). After 2003, figures for executives include both managers n.e.c. (occ1990 = 22) and the new CEO code (occ = 1/occ1990 = 4).

3. Fifty-six of the top U.S. schools were in this global top one hundred list; almost all were in the *Business Week* or *U.S. News and World Report* top fifty.

4. The Gallup Poll question was “Do you approve of a married woman earning money in business or industry if she has a husband capable of supporting her?” The GSS added “or disapprove” to this question, so the two surveys are quite comparable.

5. Conscientiousness involves achievement orientation and dependability. Extraversion involves sociability, assertiveness, activity, and positive emotions. Openness to experience involves creativity, nonconformity, autonomy, and unconventional qualities. The personality traits that have not been empirically linked to leadership are neuroticism and agreeableness. Neuroticism involves poor emotional adjustment and negative emotions, while agreeableness involves caring, trusting, compliant, and gentle qualities.

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