

Gender Differences in Managerial Careers: Yesterday, Today, and Tomorrow

Catherine Kirchmeyer

ABSTRACT. This longitudinal study of mid-career managers compared the career progression of men and women during the 1990's. Unlike the subjects of many earlier studies, these men and women had similar education and experience profiles. Women's income changes were less than men's and reflected the greater financial strides and greater returns from promotions for men prior to 1995. The income gaps between men and women were explained by gender differences in career determinants, such as work hours, career interruptions, and having a nonemployed spouse. There was evidence of subtle forms of workplace discrimination against women in the past but not over the most recent four-year period. Women's family situations, however, continued to present obstacles to progression. In addition, a recent decline in women's priorities for promotion, a predictor of actual promotions, signalled an impending decrease in their rate of promotion relative to men's.

KEY WORDS: career advancement, managerial careers, women's careers

Introduction

Interest in the careers of female managers remains strong among both scholars and practitioners. The central question is whether the hiring, development, and promotion practices of employers that discriminated against women in the past have been remedied or continue in more subtle forms to impede women's success. Studies of managers have found that compared to men

women earn lower incomes (Jacobs, 1992; Judge et al., 1995; Schneer and Reitman, 1995; Stroh et al., 1992; Tharenou et al., 1994), are less likely to reach top levels (Cox and Nkomo, 1991; Reitman and Schneer, 2000), gain less financial returns from job transfers (Stroh et al., 1992) and changing employers (Dreher and Cox, 2000), and value earnings and responsibility less (Konrad et al., 2000). Common gender differences in work experiences, family responsibilities, and career interruptions have failed to explain the poorer progression of women in management (Brett and Stroh, 1997; Schneer and Reitman, 1995; Stroh et al., 1992). However, before ongoing discriminatory practices can be considered as an explanation, several methodological shortcomings in the existing body of research must be resolved.

First, studies of managerial careers typically have sampled women who have education and experience profiles different from those of male subjects (Brett and Stroh, 1997; Dreher and Cox, 2000; Melamed, 1995; Judge et al., 1995; Tharenou et al., 1994; Lyness and Judiesch, 1999). To correct for this sampling bias, it is not simply a matter of accounting for gender differences with the appropriate control variables, such as university majors and years of work. Unique education and experience profiles for women could mean they are on career paths separate from men's. In addition, control variables may not correct for differential rates of progression across career stages and across age cohorts. To achieve fair comparisons of men's and women's careers, researchers should match male and female subjects according to key experience and education variables (e.g., Stroh et al., 1992).

Second, indicators of career progression for managers are often measured as income or hier-

Catherine Kirchmeyer is a Professor of Organizational Behavior at the School of Business, Administration, Wayne State University in Detroit. She is currently studying gender differences in managerial careers.

archical level achieved at one point in time. To compare men's and women's career success, indicators should be measured as changes in progression over a period of time. This is advisable given the discrimination women often experience at time of hire and the long-term impact of poor starting positions (Gerhart, 1990; Hull and Nelson, 2000). Shenhav (1992) warned that managerial progression measured at one point in time "cannot separate egalitarian promotion systems introduced by employers in recent years from earlier wrongdoings" (p. 890). In other words, studies that are cross-sectional in nature reflect both early and recent career experiences and both old and current employer practices. This problem becomes particularly troublesome when attempting to gauge women's progression beyond the early career stage.

A third shortcoming involves the years that most data were collected. Findings on progression in managerial careers that were published up until the late 1990's typically are based on data collected in the early years of that decade or earlier (e.g., Brett and Stroh, 1997; Dreher and Cox, 2000; Huffman and Velasco, 1997). They provide a picture of women's progression prior to 1990. However, there is little evidence of how women progressed during the most recent decade. In addition, many women in these previous studies began their careers before the 1980's. Given that time of entry is a known determinant of women's career experiences and advancement (Hull and Nelson, 1999), the career outcomes of these early entrants may not accurately reflect those of the many women who began managerial careers over the past twenty years.

Fourth, studies that track female managers as they progress through the mid-career stage, such as those of Schneer and Reitman (1990, 1993, 1995), remain a rarity. Yet it is at this stage where achievement gains and rates of promotion are greatest (Blair-Loy, 1999) and where institutional barriers may be most potent (Hull and Nelson, 2000; Schneer and Reitman, 1995). Studies of executives (e.g., Judge et al., 1995; Lyness and Thompson, 1997) do little to explain why few women reach top levels. More research that compares men and women during mid-career is

required to understand the gaps between men's and women's progression.

Lastly, trying to understand women's careers in terms of male formulae for success may be a case of comparing apples and oranges (Kirchmeyer, 1998; Melamed, 1995; Tharenou et al., 1994; Stroh et al., 1992). Stroh et al. (1992), for example, found female managers who had "all the right stuff" according to the traditional formula failed to earn the same returns as male counterparts. Such differential effects across gender can signify the presence of subtle forms of workplace discrimination. In my earlier study of career determinants (Kirchmeyer, 1998), explanations of the greater effects of work experience on progression for men, and of the greater effects of gender roles for women, were based largely on perceptual distortions and cognitive biases. Researchers must compare not only men's and women's progression in management but the factors that determine progression as well. It is still discrimination if women have to be better educated and more committed to earn the same returns at work as men.

In the present study of managerial careers, I tried to overcome the aforementioned shortcomings and provide the basis for a fair comparison of men's and women's progression during the 1990's. The sample comprised mid-career managers whose education and experience profiles were the same for men and women. All had earned an M.B.A. degree in the 1980's. Progression was examined over three periods to present pictures of the past, the present and the future. Past progression was measured as changes from the time of M.B.A. graduation to the mid 1990's, present progression was measured as changes over the most recent four-year period, and future progression was measured by the managers' predictions about changes over the upcoming three years. I employed three indicators of success, the commonly-used objective measures of progression, income and promotion, and a subjective indicator called perceived success. Including both objective and subjective indicators allows testing of the possibility that traditional indicators of success are less important to women's personal definitions of success (Powell and Mainiero, 1992).

The main aims of the study were to examine how men's and women's careers unfolded during the 1990's and to answer three questions: 1) Are there gender differences in career outcomes? 2) Can known determinants of career success account for the differences? and 3) Do the determinants affect men and women differently? The hypotheses that are outlined below were set to challenge the assumption that the past barriers to women's success in management no longer exist.

Research hypotheses

Gender differences in career outcomes

The most consistent finding among earlier comparisons of men's and women's managerial careers is the higher income earned by men (e.g., Judge et al., 1995; Melamed, 1995; Stroh et al., 1992; Tharenou et al., 1994). Findings concerning rates of promotion, the other common measure of progression, are mixed. Some studies report women to have lower rates (Judge et al., 1995), others report men to have lower rates (Lyness and Judiesch, 1999), and still others report no difference between men and women (Jaskolka et al., 1985). Such inconsistencies can be attributed somewhat to comparing men and women who are at different career stages. Rates of promotion tend to accelerate up to mid-career and then decline in the more advanced stages (Blair-Loy, 1999). However, the key distinction between men's and women's promotions may not be rate, but financial pay off, with women earning less returns from promotions than men (Hersch and Viscusi, 1996). In the past, women's promotions often did not involve the same increases in responsibility and level as men's (Stewart and Gudykunst, 1982). Evidence of a glass ceiling for female managers (Lyness and Thompsom, 1997) suggests that regardless of rates of promotion women will achieve lower levels overall.

Despite poorer income progression, and lower returns from promotion, female managers may perceive their careers to be as successful as do male managers. Relative deprivation theory explains that nontraditionally-employed women

make social comparisons with women in general as opposed to men in the same occupation, and perceive their work situations to be relatively favorable (Major, 1989). In addition, female managers value achievements other than upward advancement, such as establishing work relationships, more than men (Konrad et al., 1996), and may hold broader definitions of career success (Powell and Mainero, 1992).

The question for this study was whether or not the past differences between men's and women's careers in management, persisted during the most recent decade. A specific hypothesis was advanced to test the possibility that women continue to experience poorer progression than men.

Hypothesis 1: Men's career progression will be greater than women's, although perceptions of success will be the same for men and women.

If women face unique obstacles in managerial careers particularly at the upper levels (Lyness and Thompsom, 1997), then gender differences in progression should become more pronounced as managers proceed through their careers. That is, income and promotion gaps should widen over time. In addition, due to growing disparities between men's and women's objective success over time, women's perceptions of success may decline in the more advanced career stages. A second hypothesis was set to test for widening gaps across the three periods of this study.

Hypothesis 2: Gaps between men's and women's career outcomes will increase over time.

Determinants of career success

Gender differences in managerial careers have been attributed to women lacking the ingredients for success. For example, women may be less likely to have the professional degrees and work experiences that determine managerial progression (Jaskolka et al., 1985; Judge et al., 1995; Tharenou et al., 1994). Women also may lack

mentors at work (Kram, 1988) and demographically-similar peers (Tharenou and Conroy, 1994) whose support helps managers succeed. Furthermore, family responsibilities can impede women's progression (Ragins and Sundstrom, 1989). In previous studies, controlling for gender differences in career determinants and family responsibilities, failed to explain the lower incomes of women (Brett and Stroh, 1997; Judge et al., 1995; Schmeer and Reitman, 1995; Stroh et al., 1992). Hence, the likelihood that female managers faced unique obstacles remained.

Attempting to explain gender differences in managerial careers in terms of known determinants of success was another aim of this study. Five types of career determinants were examined, that is, human capital, individual, interpersonal, relational demography, and family. In brief, human capital determinants refer to personal investments in education and experience that enrich a manager's value in the labor market. Individual determinants include personality and other personal attributes that are associated with managerial success. Interpersonal determinants involve supportive relationships at work such as mentors who facilitate advancement. Relational demography focuses on how being similar to coworkers in terms of demographic attributes enhances career experiences. The final type, family determinants, encompasses family-status variables that affect careers. Controlling for the effects of five types of determinants simultaneously was a strength of the research design. To determine if gaps between men's and women's progression remain unexplained by career determinants, a third hypothesis was advanced.

Hypothesis 3: Gender differences in career progression will remain even after known determinants of success are considered.

Differential effects of career determinants across gender

The five remaining hypotheses of the study concern the effects of the five types of career determinants across gender. The supporting rationales for the hypotheses were drawn from my earlier study (Kirchmeyer, 1998) and largely

involve perceptual distortions and cognitive biases that lead to discrimination against women in the workplace. Understanding how career determinants specifically affect women's careers may be critical to explaining their progression during the 1990's. The hypotheses were set to test the assumption that discrimination against women continues to exist.

Human capital determinants. Personal investments in education and experience represent the strongest predictors of managerial progression (Jaskolka et al., 1985; Judge et al., 1995; Tharenou et al., 1994; Whitley et al., 1991). Human capital theory assumes perfect competition in the labor market and equal returns from investments for all groups in society (Morrison and Glinow, 1990). Studies of managers, however, have found education and experience to have stronger effects on men's progression than on women's (Tharenou and Conroy, 1994; Tharenou et al., 1994). Female managers also do not receive the same pay premiums as men when changing employers (Dreher and Cox, 2000; Brett and Stroh, 1997); suggesting their experiences are less valued. Furthermore, career interruptions reveal greater opportunity costs for male managers (Schmeer and Reitman, 1990).

Research on attribution theory has shown that the equivalent accomplishments of men and women are explained differently (Deaux and Emswiller, 1974). Women's accomplishments tend to be attributed to luck and external factors like affirmative action (Heilman, 1983) and men's to skill and ability. The latter have higher worth in the labor market. In addition, theories of statistical discrimination hold that employers expect lower productivity returns for professional women than for equally-qualified men based on probability estimates of turnover, work commitment, and skills from the population at large (Bielby and Baron, 1986; Kiesler, 1978). This thinking can lead to job assignments for women that involve limited skill and knowledge development.

Hypothesis 4: Human capital variables will have stronger effects on men's career outcomes than on women's.

Individual determinants. The gender role of masculinity and other individual characteristics, such as career ambition and work motivation, have been associated with success in management (Baril et al., 1989; Judge et al., 1995; Motowidlo, 1982; Schneer and Reitman, 1993; Whitley et al., 1991). Some evidence suggests that these characteristics may be stronger determinants for women. Correlations between masculinity and performance (Motowidlo, 1982) and between job involvement and progression (Lyness and Thompson, 1997), for example, appear to be stronger for women. In a laboratory study, gender roles also proved to be particularly important to decisions about women's promotions (Hartman et al., 1991). Because female managers are assumed not to possess the suitable traits for managing (Dubno, 1985; Heilman, 1983), it may be necessary for them to demonstrate masculine orientations and strong motivation levels to ensure others perceive them to be competent and fit the job demands. For men who are assumed to fit the job well, trait variance among them may be relatively unimportant to others' expectations and evaluations.

Hypothesis 5: Individual characteristics will have stronger effects on women's career outcomes than on men's.

Interpersonal determinants. Having a mentor has been found to facilitate career progression among managers (Cox and Nkomo, 1992; Turban and Dougherty, 1994; Whitley et al., 1991). The returns from mentoring, however, may be less for women (Koberg et al., 1994). Because the seasoned managers who provide mentoring tend to be male, female managers likely have male mentors, and the cross-sexual nature of such relationships may impair their quality and benefits (Ragins and McFarlin, 1990; Tsui and O'Reilly, 1989). At the same time, studies suggest that the effects of mentoring on perceived career success may be the same across gender (Fagenson, 1989; Turban and Dougherty, 1994). Simply having a mentor may make a manager feel special and view his or her career to be successful. This could be especially so for women who value relation-

ships at work more highly than do men (Konrad et al., 2000).

Hypothesis 6: Mentors will have stronger effects on men's career progression than on women's and the same effect on perceived success for men and women.

Relational demography determinants. The theory of relational demography is based on Byrne's (1971) similarity-attraction hypothesis and Turner's (1982) social-identity theory. It implies that being similar to coworkers will affect one's career favorably. Gender similarity has been associated with low turnover intent (Tsui et al., 1992), and with women achieving upper levels in management (Tharenou and Conroy, 1994). Other studies indicate that the effects of relational demography are not gender neutral. Women in male-dominated settings experience poor work conditions and low performance ratings, whereas men in female-dominated settings do not (Ott, 1989; Sackett et al., 1991). Among managers, the gender composition of work settings may be less important to men's career outcomes than to women's. Male managers are assumed to be competent and meet the job requirements (Heilman, 1983), and for them demographic identities may be less relevant for establishing relationships at work and gaining support for advancement.

Hypothesis 7: Gender similarity will have stronger effects on women's career outcomes than on men's.

Family determinants. In the case of family determinants, differential effects across gender may involve the direction and not merely the strength of the relationship. Having children affects income positively for men and negatively for women (Jacobs, 1992; Landau and Arthur, 1992). For men, marriage and children have been associated with personal stabilization that serves to support careers (Pfeffer and Ross, 1982). In particular, having a nonemployed wife has been shown to benefit men's progression (Pfeffer and Ross, 1986; Schneer and Reitman, 1993). In contrast, for women, marriage and children often

constitute burdens that limit careers (Marini, 1989). The inequitable division of household labor between employed men and employed women can account for the opposite effects of family variables (Ragins and Sundstrom, 1989). At the same time, marriage and children may have positive effects on women's perceptions of success. For women, the accomplishments and rewards from family life may be integrated into a broad view of career success.

Hypothesis 8: Children will have opposite effects on men's and women's career progression and the same effect on perceived success.

Methods

Sample and procedure

To survey mid-career male and female managers with similar education and experience backgrounds, self-administered questionnaires were mailed in 1995 to 1054 graduates who earned M.B.A. degrees during the 1980's from a mid-western university. The mailing list included all 477 female graduates and 577 men who represented every third male graduate. Thirty-one percent (30 for men, 32 for women) completed and returned the questionnaire; a rate consistent with the return rates of mailings to other alumni populations (e.g., Turban and Dougherty, 1994). The sample represented fairly the demographics and industry sectors of this graduate population based on comparisons to student profiles.

The initial sample comprised 153 men and 139 women. It did not include 17 nonemployed and 15 self-employed respondents. On average the alumni completed M.B.A. degrees nine years ago. Eighty percent were married. Years of age ($X = 38.48$, $SD = 5.65$) and work experience ($X = 15.35$, $SD = 5.88$) confirmed that these men and women were at the mid-career stage (Kram and Isabella, 1985). They worked for a wide variety of industries with manufacturing, health care, financial and other professional services, and banking being most common, and mostly in general management and the functional

specialties of accounting and finance, technical and professional support, and sales. Of them, 34 were members of an ethnic or racial minority with 15 African Americans being most prominent. The profiles of men and women were highly similar with no difference in career stage, type of degree earned prior to the M.B.A., years since M.B.A. graduation, company tenure, manufacturing sector employment, or general management experience.

I refer to data collection in 1995 as occurring at Time 1. It was at this time that demographic information and employment histories were gathered as well as career progression since M.B.A. graduation. Four years later, a second questionnaire was mailed to the 292 original respondents to gather updates on career progression and identify other variable changes. Seventy-two percent completed and returned this questionnaire, providing a sample of 207 (111 men, 96 women) at Time 2. Time 2 respondents did not differ from non-respondents on any Time 1 measure.

Measures

Career progression. At Time 1 managers were asked to report both current annual income and that earned in the year of M.B.A. graduation. Self-reports of income have been shown to correlate highly with company records (Turban and Dougherty, 1994). Income change at Time 1 was calculated as the difference between income in the year following graduation and income in 1995 divided by years since graduation, and measured in thousands of dollars. At Time 2, managers were asked again to report income and the change between that and income at Time 1 represented the second measure of income change.

Managers also were asked at Time 1 to report the number of promotions since M.B.A. graduation. Promotions were defined in the questionnaire as including not only increases in hierarchical level, but job changes and transfers involving significant increases in responsibility as well, in order to accommodate the flat organizational structures and lateral-type moves that

some managers today are experiencing. Promotion rate was calculated as the number of promotions divided by years since graduation. Later, at Time 2, respondents reported whether or not they had been promoted to a higher level job or experienced a significant increase in job responsibilities over the past 4 years. The variable, promotion, was dichotomous with 0 = no promotion and 1 = promotion.

Both at Time 1 and at Time 2, managers were asked about their expectations for progression in the upcoming three years. I believed three years to be a reasonable length of time for making predictions about career outcomes. The variable called future progression was measured with the following three items: "I am confident that my salary will increase by 15% within 3 years"; "I am confident I will receive a promotion within 3 years"; and "I am confident I will be at a higher level within 3 years". Managers indicated the extent they agreed with each item according to a 6-point scale. A Cronbach's alpha of 0.88 was achieved at Time 1 and of 0.82 at Time 2. The Time 2 measure was collected to gauge progression beyond the period of data collection. However, by measuring future progression at Time 1 as well, and comparing the scores to actual outcomes at Time 2, the measure's predictive validity could be established.

Perceived career success. This subjective indicator of success was measured at both times with four items adapted from Turban and Dougherty (1994). Examples are "I am satisfied with the success I have achieved in my career", and "Compared to my peers, my career progress has been good". Because managers may have difficulty distinguishing career success over a set period of time from career success in general, I simply asked how they viewed their careers now. A recency effect was assumed whereby the most recent experiences would have the greatest effects on perceptions (Aronson, 1972). A Cronbach's alpha of 0.92 was achieved at Time 1 and of 0.93 at Time 2.

Human capital variables. Four human capital variables were included. First, tenure was a measure of total years with the current employer. It served

as an indicator of experience in the organization as well as change in employers. Actual turnover between Time 1 and Time 2 was measured with a dichotomous variable with 0 = no turnover and 1 = turnover. Managers were asked why they changed employers, and because of differences in the effects of voluntary versus involuntary turnover, the two kinds of turnover were retained as separate variables. Career interruption was another dichotomous measure with 0 = continuous career and 1 = interrupted career. The Time 1 measure covered interruptions between M.B.A. graduation and 1995 and the Time 2 measure covered interruptions after 1995. Lastly, professional degree was a dichotomous measure of whether or not the degree earned prior to the M.B.A. was in the fields of engineering, law, or business, with 0 = nonprofessional and 1 = professional. Degrees with practical orientations are rewarded more highly than others in the labor market (Jaskolka et al., 1985) and may provide pay premiums prior to and upon M.B.A. graduation.

Individual variables. Measures of masculinity, ambition, and motivation were included. Masculinity, was measured with 15 items from the Bem Sex-role Inventory (Bem, 1974). The original scale was shortened by five items based on earlier factor loadings (Eichinger et al., 1991) to keep the questionnaire as unimposing as possible for busy managers. Shortened versions with as few as 10 items retain their original properties (Lubinski et al., 1983). A Cronbach's alpha of 0.88 was achieved. As in previous studies (e.g., Judge et al., 1995), hours worked per week was used to measure motivation level. Managers were asked how many hours they typically spend working per week. The final variable, progression priority, was used to measure ambition. Managers were asked to indicate the extent they agreed with the statement "Future promotion is a top priority among my career goals" according to a six-point scale.

Interpersonal variables. Consistent with others' measures of the incidence of mentorship (Fagenson, 1989; Ragins and Cotton, 1991), mentor was a dichotomous variable with 0 = no

mentor and 1 = mentor. In the questionnaires, a mentor was defined as a higher ranking, influential member of the organization or profession who is committed to facilitating the career of a less experienced person by providing support, guidance, friendship, and sponsorship. The respondent was asked at Time 1 whether or not he or she ever had a mentor, and at Time 2 whether or not he or she had a mentor over the past four years.

Relational demography variables. Managers were asked how similar they are to others at the same level in the organization in terms of gender according to a 4-point scale. Managerial level was selected as the referent rather than the entire managerial hierarchy. I believed that a manager could more readily determine his or her similarity to others across the same level. Cross-company comparisons have shown the representation of women at one managerial level to reflect their representation in the entire hierarchy (Blum et al., 1994). Measures were taken both at Time 1 and at Time 2. Assuming that there is little change in the gender composition of an organization over four years, and that values are altered little by managers' level changes, scores should correlate highly across time. A correlation coefficient of 0.64 indicated the measure had adequate test-retest reliability.

Family variables. Three family-status variables were included. Spouse was a dichotomous variable, with 0 = no spouse and 1 = spouse. Non-employed spouse also was dichotomous with 0 = no nonemployed spouse and 1 = nonemployed spouse. Because full-time and part-time employment of the spouse appear to affect managers' careers similarly (Peffer and Ross, 1982), no distinction was made between the two types of employment. Lastly, the children variable measured number of children.

Gender. This variable was dichotomous with 0 = male and 1 = female.

Age. Age was used as a control variable in the data analysis.

Data analysis

Gender differences in the variables were assessed by *t*-tests. Then multiple regression analysis was used to determine if gender differences in career outcomes remained once the effects of career determinants were considered simultaneously. Regression equations were set with the seven outcomes, that is, income change at Time 1, promotion rate, perceived success at Time 1, income change at Time 2, promotion, perceived success at Time 2, and future progression at Time 2, representing dependent variables.

A three-step moderated regression procedure was used to determine if the effects of the career determinants differed across gender. The determinant was entered in Step 1 and gender, or the moderator in this case, entered in Step 2; hence partialing out the main effects first. In the third step, the cross-product of the determinant with gender was entered. The significant contribution of the cross-product indicates an interaction effect. The procedure was repeated for each of the 13 determinants to determine its direct effects on career outcomes. The nature of an interaction effect was assessed by consulting the unstandardized regression coefficients from separate equations for men and women. Each coefficient reveals the degree of change in the dependent variable with a unit change in the independent variable, and, unlike correlation coefficients, remains constant over changes in the variability of the independent variable (Cohen and Cohen, 1975). This is a critical property when comparing relationships across gender where independent variables often have different ranges.

Results

Table I presents basic statistics of the variables and intercorrelations among them. Breakdowns of the variable means by gender revealed that men and women had similar degrees, the same years of work experience and of organizational tenure, the same incidences of turnover and of mentorship, similar masculinity scores, and the same promotion priority at Time 1. At the same time, compared to men, women were more likely to

TABLE I
Basic statistics and correlation matrix

Variables	Men ^a		Women ^b		1	2	3	4	5
	Means	s.d.	Means	s.d.					
1. Age	38.15	5.27	38.86	6.06					
2. Tenure	9.12	6.38	9.10	6.28	0.29***				
3. Professional degree	0.66	0.47	0.62	0.48	-0.13*	0.06			
4. Career interruption 1	0.20 ^c	0.40	0.34	0.47	0.05	-0.18**	-0.06		
5. Career interruption 2	0.14	0.34	0.24	0.42	-0.02	-0.06	-0.04	0.14*	
6. Voluntary turnover	0.29	0.45	0.27	0.44	-0.18**	-0.28***	-0.08	0.03	0.07
7. Involuntary turnover	0.08	0.27	0.04	0.17	0.12	-0.08	-0.06	-0.04	0.42***
8. Masculinity	5.48	0.65	5.41	0.62	0.00	-0.04	0.13*	-0.05	-0.01
9. Work hours	50.44	6.98	46.96	9.44	-0.10	0.03	0.11	-0.17**	-0.02
10. Promotion priority 1	3.85	1.64	3.80	1.70	-0.25***	-0.14*	0.02	0.06	0.12
11. Promotion priority 2	3.75	1.67	3.01	1.69	-0.36***	-0.21**	0.10	-0.03	-0.01
12. Mentor 1	0.50	0.50	0.51	0.50	-0.04	-0.13*	-0.09	-0.03	0.03
13. Mentor 2	0.22	0.41	0.28	0.44	-0.22**	0.01	0.02	0.01	0.02
14. Gender similarity	3.27	0.74	2.41	0.94	-0.02	0.00	-0.08	-0.03	0.06
15. Spouse	0.88	0.33	0.71	0.46	-0.04	0.00	0.02	0.04	0.11
16. Nonemployed spouse	0.36	0.47	0.02	0.12	0.03	0.04	0.07	-0.14*	-0.07
17. Children 1	1.65	1.17	0.96	1.03	0.15*	0.08	0.03	-0.05	-0.02
18. Children 2	1.84	1.22	1.22	1.09	-0.01	-0.02	0.06	-0.07	0.06
19. Income change 1	4.62	4.18	3.34	2.67	-0.05	0.06	0.13*	-0.20***	-0.07
20. Income change 2	30.82	31.47	22.66	19.44	-0.11	0.10	0.22**	-0.16*	-0.18*
21. Promotion rate	0.31	0.22	0.31	0.23	-0.30***	0.04	0.11	-0.11	-0.09
22. Promotion	0.71	0.45	0.62	0.48	-0.21**	0.09	0.25***	-0.05	-0.22**
23. Perceived success 1	17.48	4.89	17.91	5.17	-0.07	0.10	0.18**	-0.29***	-0.08
24. Perceived success 2	18.12	4.53	19.18	4.80	-0.07	0.09	0.13	-0.13	-0.13
25. Future progression 1	13.42	4.10	12.63	4.23	-0.30***	-0.19**	0.07	-0.04	-0.02
26. Future progression 2	12.96	3.76	11.88	4.34	-0.43***	-0.30***	0.04	0.00	0.00

^a For men, $N = 153$ at Time 1, $N = 111$ at Time 2.

^b For women, $N = 139$ at Time 2, $N = 96$ at Time 1.

^c Underlined means indicate significant differences between men and women.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE I (Continued)

Variables	6	7	8	9	10	11	12	13	14	15
1. Age	-0.15*									
2. Tenure	0.12	-0.05	0.21***							
3. Professional degree	0.10	0.03	0.13*	0.03						
4. Career interruption 1	0.12	-0.08	0.27***	0.14*	0.51***					
5. Career interruption 2	0.15*	0.07	0.19**	0.12*	-0.01	0.16*				
6. Voluntary turnover	0.19**	0.10	0.11	0.22**	0.14*	0.08				
7. Involuntary turnover	0.10	-0.04	-0.04	0.01	-0.04	0.06	0.15*			
8. Masculinity	-0.02	0.16*	-0.02	-0.06	0.01	-0.03	-0.08			
9. Work hours	-0.12	0.02	-0.02	0.18**	0.05	0.07	-0.03			
10. Promotion priority 1	-0.01	0.09	0.02	-0.01	0.05	0.07	0.02			
11. Promotion priority 2	-0.12	0.05	-0.02	-0.01	-0.05	-0.05	-0.08			
12. Mentor 1	-0.12	0.02	-0.02	0.00	0.01	0.01	-0.07			
13. Mentor 2	0.13	-0.02	0.18**	0.35***	-0.06	-0.02	0.18**	-0.08		
14. Gender similarity	0.05	-0.11	0.22**	0.20**	0.12	0.08	0.08	-0.02		
15. Spouse	0.12	-0.08	0.28***	0.25***	0.14*	0.25***	0.13*	-0.02		
16. Nonemployed spouse	-0.16*	-0.22**	0.18**	0.09	0.21**	0.13	-0.04	0.29***	-0.03	
17. Children 1	0.00	-0.02	0.35***	0.29***	-0.18**	-0.02	0.23***	0.23***	0.19***	0.23***
18. Children 2	0.11	-0.12	0.27***	0.14**	0.05	-0.10	0.09	0.23***	0.16**	0.38***
19. Income change 1	0.10	-0.08	0.32***	0.20***	0.33***	0.28***	0.11	0.25***	0.18**	0.40***
20. Income change 2	0.31***	0.03	0.25***	0.12	0.30***	0.52***	0.15*	0.27***	0.18**	0.08
21. Promotion rate										
22. Promotion										
23. Perceived success 1										
24. Perceived success 2										
25. Future progression 1										
26. Future progression 2										

TABLE I (Continued)

Variables	16	17	18	19	20	21	22	23	24	25
1. Age										
2. Tenure										
3. Professional degree										
4. Career interruption 1										
5. Career interruption 2										
6. Voluntary turnover										
7. Involuntary turnover										
8. Masculinity										
9. Work hours										
10. Promotion priority 1										
11. Promotion priority 2										
12. Mentor 1										
13. Mentor 2										
14. Gender similarity										
15. Spouse										
16. Nonemployed spouse	0.44***									
17. Children 1	0.39***	0.94***								
18. Children 2	0.31***	0.06	0.06							
19. Income change 1	0.24***	0.15*	0.12	0.45***						
20. Income change 2	0.01	-0.17*	-0.13	0.34***	0.28***					
21. Promotion rate	0.07	0.07	0.08	0.14*	0.26***	0.14*				
22. Promotion	0.11	0.01	0.01	0.40***	0.30***	0.26***	0.15*			
23. Perceived success 1	0.05	-0.01	-0.02	0.19**	0.34***	0.20**	0.20**	0.56***		
24. Perceived success 2	0.03	0.01	0.18**	0.18**	0.38***	0.38***	0.33***	0.33***		
25. Future progression 1	0.06	-0.08	-0.03	0.10	0.20**	0.27***	0.24***	0.20**	0.27***	0.45***
26. Future progression 2										

experience career interruptions ($t = 6.51, p < 0.05$ at Time 1 and $t = 3.40, p = 0.06$ at Time 2), were less likely to be married ($t = 13.52, p < 0.001$) and have a nonemployed spouse ($t = 65.58, p < 0.001$), had fewer children ($t = 28.05, p < 0.001$), more dissimilar peers ($t = 73.65, p < 0.001$), and lower promotion priority at Time 2 ($t = 9.62, p < 0.01$), and worked fewer hours ($t = 12.92, p < 0.001$). These differences are consistent with earlier comparisons of male and female managers (e.g., Schneer and Reitman, 1990; Tharenou et al., 1994).

Men and women also experienced differences in career progression and support for Hypothesis 1 was provided. Women reported less income change since M.B.A. graduation ($t = 8.75, p < 0.01$). Although women earned the same as men in the year of graduation, by Time 1 women earned \$63 000 and men earned \$76 000. Promotion rates since graduation, however, were identical for men and women, with promotion occurring about every three years. The dollar value of each promotion was calculated, and promotions earned significantly less financial returns for women. Men earned \$17 140 per promotion and women earned \$11 540 ($t = 9.86, p < 0.01$). Neither perceptions about career success nor predictions about future progression varied by gender at Time 1. Correlations between future progression and actual outcomes four years later ($r = 0.38$ for income change, $r = 0.33$ for promotion) indicate modest predictive validity for the measure.

At Time 2, income change again was less for women ($t = 4.82, p < 0.05$). Women's incomes had increased by 35 percent to \$80 000 and men's by 40 percent to \$102 000 over the 4-year period. Furthermore, women's incomes had declined from 83 percent to 79 percent of men's incomes. Women also were less likely to experience promotion but the difference did not achieve statistical significance ($t = 1.73$). In addition, when income change was examined only for those managers who received promotions, it did not differ significantly for men and women (\$34 360 for men and \$28 490 for women, $t = 2.08$); indicating that they earned similar returns from promotion. Women again perceived their careers to be as successful as did

men. However, women's predictions about progression over the upcoming three years showed a decline since Time 1, and although now different from men's priorities only at the 0.06 level of probability ($t = 3.55$), the change is still noteworthy. The increasing gap between men's and women's incomes as well as a new disparity in predictions about the future support Hypothesis 2.

Multiple regression analysis was used to test Hypothesis 3 and ascertain if career determinants could explain the gender differences in career progression. Time 1 measures of the determinants served as independent variables in both Time 1 and Time 2 equations, with the exceptions of career interruption, mentor, and children. The incidences of career interruption and of mentorship over the recent four-year period were conceptually more relevant for predicting outcomes at Time 2 than were incidences prior to 1995. The recent measure was used in Time 2 equations in the case of children as well. Nineteen percent of managers had a new child during the four-year period and this represented a substantive change that could alter the effects of the determinant over this time. In the case of future progression, Time 2 measures were used as the independent variables. Women's promotion priority, for example, had declined by the late 1990's and could possibly account for their lower predictions about future progression. Other determinants, such as work hours, gender similarity, and having a spouse changed little over the four years. The equations for perceived success also included income change and the promotion measure based on the assumption that such outcomes are important to managers' definitions of career success.

The results of the regression analysis are presented in Table II. At least 22 percent of the variance in a career outcome was explained. In the equations for income change, gender proved not to be significant. Hence, contrary to Hypothesis 3, gender differences in income could be explained by the career determinants. Gender also failed to contribute to the equations for promotion rate, promotion, and future progression. In contrast, gender did contribute significantly to both equations for perceived success.

TABLE II
Results of regression analysis^a

Variables	Income change 1	Promotion rate	Perceived success 1	Income change 2	Promotion	Perceived success 2	Future progression
Female	0.05	0.02	0.18**	-0.03	-0.10	0.17*	0.04
Age	-0.03	-0.26***	-0.10	-0.05	-0.13	-0.06	-0.22***
Tenure	0.04	0.06	0.07	0.12	0.09	0.08	-0.09
Professional degree	0.08	0.02	0.08	0.16*	0.16*	-0.01	-0.04
Career interruption ^b	-0.10	-0.05	-0.19***	-0.16*	-0.15*	-0.09	-0.03
Voluntary turnover				0.05	-0.19**	0.10	0.17**
Involuntary turnover				-0.02	-0.12	0.03	0.07
Masculinity	0.10	0.23***	0.27***	0.13	0.12	0.20**	0.09
Work hours ^c	0.26***	0.15*	0.12*	0.05	-0.03	0.03	0.13*
Promotion priority ^c	-0.09	0.04	-0.22***	0.08	0.15*	-0.04	0.34***
Mentor ^b	0.14*	0.05	0.13*	0.19**	0.22**	0.03	0.14*
Gender similarity ^c	0.10	-0.04	-0.01	0.03	-0.04	-0.11	0.01
Spouse	0.09	0.00	0.03	0.00	0.03	-0.03	0.04
Nonemployed spouse	0.26***	0.04	0.05	0.18*	0.00	0.05	0.03
Children ^b	-0.09	-0.12	0.03	0.05	0.03	0.01	-0.03
Income change ^b			0.22***			0.26***	
Promotion(rate) ^b			0.04			0.09	
R ²	0.26	0.22	0.39	0.23	0.29	0.24	0.45

^a N = 292 at Time 1. N = 207 at Time 2.

^b Independent variable in Time 2 equation differs from that in Time 1 equation.

^c Independent variable in Future progression equation differs from that in Time 1 and other Time 2 equations.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Being female meant higher levels of perceived success.

Moderated regression analysis was used to test the remaining hypotheses. Testing for differential effects of the 11 determinants at Time 1, and the 13 determinants at Time 2, on career change, the promotion variable, and perceived success resulted in a total of 72 3-step procedures. In 12 cases, the interaction term with gender explained variance below the 0.05 level of probability, and in another 12 cases, below the less conservative 0.10 level. These latter cases often reinforced the former ones, and given the rigors of the regression procedure, they too are reported below. That one-third of the tests revealed a significant gender difference below the 0.10 level, and that most effects were in the predicted direction, support the existence of subtle forms of gender discrimination. The results are described below according to the individual hypotheses.

Tenure and career interruption had differential effects on the careers of men and women and provided support for Hypothesis 4. The interaction term with tenure explained significant variance in Time 1 income change ($p < 0.05$). Consulting the regression coefficients in separate regression equations for men and women showed tenure to have a positive effect on men's incomes ($b = 0.10$) and a small, negative effect on women's ($b = -0.04$). The interaction term with career interruption was significant in the equations for promotion ($p < 0.05$) and for Time 2 perceived success ($p < 0.10$). The opportunity costs of discontinuous careers were greater for men as revealed by the larger effects on promotion ($b = -0.48$ for men, $b = -0.08$ for women) and on perceived success ($b = -3.28$ for men, $b = -0.75$ for women). The results suggest that men's work experiences were more highly valued than women's, but the same was not evident for education investments. Having a professional degree prior to the M.B.A. paid off equally for men and women.

Changing employers between Time 1 and Time 2 reduced the likelihood of promotion and did not carry a pay premium for managers as had been expected. Furthermore, the differential effects across gender depended on whether turnover was voluntary or involuntary. The inter-

action term with voluntary turnover explained significant variance in promotion ($p < 0.05$). Voluntary turnover had a significant negative effect only on women's promotions ($b = -0.03$ for men, $b = -0.33$ for women). The interaction term with involuntary turnover explained variances in promotion ($p < 0.05$) and in perceived success ($p < 0.10$). Involuntary turnover had a significant negative effect only on men's promotion ($b = -0.65$ for men, $b = 0.04$ for women) and on men's perceived success ($b = -0.62$ for men, $b = 1.89$ for women).

The differential effects of individual determinants were mostly consistent with Hypothesis 5. The interaction term with masculinity explained variance in perceived success at both times ($p < 0.10$, $p < 0.05$). As predicted, the effects of masculinity were stronger for women ($b = 3.50$ and $b = 3.11$) than for men ($b = 2.06$ and $b = 0.88$). The effects of work hours varied by gender in the cases of promotion rate ($p < 0.05$) and Time 1 perceived success ($p < 0.10$). More hours meant more promotions only for women ($b = 0.00$ for men, $b = 0.01$ for women), and contrary to prediction, the effect on perceived success was stronger for men ($b = 0.25$ for men, $b = 0.14$ for women). Promotion priority had the same effects on men's and women's career outcomes.

The financial returns of having a mentor were greater for men, but the interaction term with mentor achieved significance only at Time 1 ($p < 0.05$). Mentors increased incomes prior to 1995 annually by \$2010 for men and by \$460 for women. Because managers had been asked to identify the genders of their mentors, analyses could be undertaken to test the effects of male mentors and of female mentors separately. Over 80 percent of the mentors were male and their effects on progression were similar to those evident in the full analysis. Having a female mentor had a positive effect only on Time 2 income change for women and the financial return for them was the same as the return from having a male mentor.

The results for gender similarity were not consistent with the theory of relational demography. The interaction term with gender similarity explained variances in income change at both times ($p < 0.10$, $p < 0.10$) and Time 1

perceived success ($p < .05$). In all cases, the effects were positive for men ($b = 0.62$ for Time 1 income change, $b = 3.20$ for Time 2 income change, $b = 0.64$ for perceived success) and negative for women ($b = -0.37$ for Time 1 income change, $b = -4.82$ for Time 2 income change, $b = -1.15$ for perceived success). For both men and women, proportionally more male peers meant higher incomes and higher perceived success.

For the family determinants, opposite effects on men's and women's careers had been predicted. All three family variables produced effects consistent with Hypothesis 8. The interaction term with spouse explained variances in Time 1 income change ($p < 0.10$) and in perceived success at both times ($p < 0.05$, $p < 0.10$). The effect of having a spouse was positive for men ($b = 1.54$ for income change, $b = 0.64$ for Time 1 perceived success, $b = 1.11$ for Time 2 perceived success) and negative for women ($b = -0.26$ for income change, $b = -0.83$ for Time 1 perceived success, $b = -1.86$ for Time 2 perceived success). Likewise, the effects of having a nonemployed spouse on Time 1 perceived success was positive for men ($b = 2.29$) and negative for women ($b = -3.96$).

For the children variable, the interaction term with gender explained variances in income change at both times ($p < 0.05$, $p < 0.05$) and perceived success at both times ($p < 0.05$, $p < 0.05$). The effects were positive for men ($b = 0.40$ for Time 1 income change, $b = 4.91$ for Time 2 income change, $b = 0.78$ for Time 1 perceived success, $b = 0.59$ for time 2 perceived success) and negative for women ($b = -0.52$ for Time 1 income change, $b = -2.29$ for Time 2 income change, $b = -0.20$ for Time 1 perceived success, $b = -0.75$ for Time 2 perceived success).

Moderated regression analysis also was used to test for differential effects of career progression on perceived success across gender. There was no evidence that income changes or promotions were less important to women's definitions of success. In fact, promotion rate had a slightly stronger effect on women's perceptions at Time 1 ($p < 0.10$), with $b = 5.22$ for men and $b = 6.04$ for women.

Discussion

The findings of this study provide a clear picture of how managers' careers unfolded during the 1990's. Moreover, they help to ascertain if women continue to experience discrimination in the workplace and face other obstacles to success. Women and men earned the same incomes at the time of M.B.A. graduation, but approximately nine years later, men's incomes had risen more than women's, and over the next four years, the income gap widened further. Women also were less optimistic about future progression. It appears that the greater financial strides made by men in the past continue to place them in better financial positions now and in the near future. Many of these managers are moving into the advanced career stages, and with the income gap continuing throughout mid-career, the likelihood of women ever achieving the same financial success as men becomes remote.

In contrast, women achieved the same rate of promotion as men in the past and in the present. Prior to 1995, however, the financial returns from promotions were greater for men. Whether women's promotions involved lower increases in responsibility and level than did men's, or women simply were rewarded less for the same increases, remains unknown. Over the recent four-year period, women did achieve the same returns from promotions as men. Hence, the poorer financial positions of women reflect lower returns from promotions only before the mid 1990's.

The picture of women's careers in the future was less clear. Women's predictions about future progression were less optimistic than men's, although the difference achieved significance only at the 0.06 level of probability. Of more concern is the gap between men's and women's priorities for promotion that emerged over the four-year period. This gap helps to explain women's poorer predictions about the future. Managers' priorities for promotion can be expected to decline with age (Ornstein and Isabella, 1990), but the faster decline in women's priorities may signify an impending difference in promotions across gender. Promotion priority was a significant predictor of actual promotions over the recent four-year period. Other studies

have found the scaling back of careers to be more common among women than among men in general (Becker and Moen, 1999).

Although women earned lower incomes than men, they perceived their careers to be as successful. Once the effects of the career determinants were considered simultaneously, women's perceptions of success were even higher than men's. Women being "more satisfied with the same" is consistent with relative deprivation theory (Jackson, 1989). Major (1989), for example, reported that women in male-dominated occupations are more likely to compare themselves to women than to men. If so, the female managers of this study may have assessed their careers largely in terms of what other professional women or women in general achieve, and viewed their situations favorably. At the same time, income changes and promotions proved to be equally important to men's and women's perceptions of success.

The differences between men's and women's income changes were explained with the career determinants. In previous studies of the income gap between men and women in the same occupation (e.g., Gerhart, 1990; Jacobs, 1992), even though gender differences in variables such as hours of work explained a portion of the gap, the effect of gender remained. The inclusion of the nonemployed-spouse variable in the regression equations was a distinguishing feature of this study. Having a nonemployed spouse was a significant predictor of income and explained more variance than gender with which it shared considerable variance. Women also worked fewer hours and experienced more career interruptions, mostly due to family demands, and both factors worked against women's progression in the past and in the present. Hence, women's weaker financial position was explained largely by gender differences existing beyond the workplace in the family domain.

On the other hand, differential effects of the career determinants across gender suggest the presence of subtle forms of workplace discrimination particularly in the past. Length of time with the current employer was a determinant of income change by 1995 only for men; replicating the greater returns from work experiences for

male managers found earlier (Tharenou et al., 1994). Over the recent four years, there was no differential effect from tenure on income. In addition, career interruptions revealed greater opportunity costs for men. Interruptions had larger negative effects on promotions and perceived success over the recent four years for men. The differential effects could stem from gender differences in the causes of interruptions. Women's interruptions were mostly for maternity leave and men's resulted mostly from job loss.

The findings concerning the effects of turnover had not been predicted. Involuntary turnover due mostly to firm downsizing and restructuring hurt men's chances for promotion and perceptions of success but not women's. In this case, women's experiences demonstrated greater value in the external labor market. On the other hand, voluntary turnover hurt only women's chances for promotion. Other studies have found women's careers to be better served by internal labor markets where gender biases are less likely to arise than by external labor markets (Lyness and Judiesch, 1999). In this study, most of the managers who chose to change employers did so to pursue better opportunities elsewhere, and perhaps, for women, such opportunities were expected to occur in the long term. The association between voluntary turnover and predictions about future progression was positive for both men and women.

The stronger effect of masculinity on perceived success for women was consistent with the research hypothesis and some earlier, less rigorous testing (Motowidlo, 1982). For women to view themselves as successful in non-traditional occupations like management, the possession of personal traits commonly assumed to fit those occupations may be critical. Work hours, the indicator of work motivation, had a stronger effect on promotion rates for women until 1995. Although this finding supports the argument that women must demonstrate high motivation levels to earn advancement, such an interpretation requires caution at this time. Women's hours of work were significantly less than men's and spanned a wider range in this study. Work hours also had a differential effect on perceived success in 1995. In this case, work hours were more

important to men's perceptions. Over the recent four-year period, the effects of work hours were the same across gender.

Having a mentor produced greater financial returns for men, but the differential effect was significant only for 1995 income. The managers worked mostly in male-dominated environments with the majority of their mentors being male. For women, the cross-sexuality of the mentor relationship may have reduced its career advantages. Specific testing for the effects of female mentors revealed that they had no effect on incomes prior to 1995, and the same effect on women's incomes as that of male mentors over the next four years. Hence, women's careers were not better served by female mentors. It is possible that female mentors did not hold the same status and power as male mentors, and consequently were less able to perform important career-enhancing functions (Kram, 1988).

The differential effects of gender similarity on career outcomes were more consistent with the income penalty associated with female-dominated work settings (Huffman and Velasco, 1997) than with the theory of relational demography. For both male and female managers, male-dominated settings meant higher income change prior to 1995 and over the next four years, and higher perceived success in 1995. The findings support earlier evidence that work performed by women has less value in the labor market than work performed by men (Huffman and Velasco, 1997).

The family determinants had opposite effects on men's and women's careers. Having a spouse meant more income for men and less income for women in 1995, and higher perceived success for men and lower perceived success for women at both times. The effect of having a nonemployed spouse also was positive for men's perceived success and negative for women's in 1995. Differential effects of children on income and on perceived success existed at both times. Children had been expected to lower progression for women but not their perceptions of success. The greater responsibility for child care that women carry may lead to conflict between parenting and work roles and lower work-related attitudes. Men, on the other hand, may enjoy the positive

spillover from parenting to work that role theorists have described (Marks, 1977). The consistently negative effects of the family variables suggest that marriage and children continue to present unique obstacles to women's success in management.

In summary, this study of managerial careers over the 1990's has revealed both favorable and unfavorable aspects of women's progression. Women's financial positions are poorer than men's and are expected to remain so in the future. The present income gap largely stems from greater strides made by men prior to 1995, and the differential effects of organizational tenure, mentors, and individual traits support the presence of subtle forms of workplace discrimination in the past. There is little evidence of such discrimination by the late 1990's. Women's family situations, however, continue to present unique obstacles to women's progression. Although such obstacles do not stem directly from the workplace, employers can help to mitigate them with family-friendly practices. Finally, some uncertainty about women's progression in the future has been raised. A decline in women's priorities for promotion suggests that their rates of promotion may begin to decrease relative to men's. Premature slowdowns in women's progression would result in fewer of them eventually reaching the top levels in organizations.

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Wayne State University,
School of Business Administration,
Detroit, Michigan 48202,
U.S.A.
E-mail: c.kirchmeyer@wayne.edu