Journal of Applied Psychology
2001, Vol. 86, No. 6, 1167–1178

0021-9010/01/$5.00 DOI: 10.1037//0021-9010.86.6.1167

Are Female Managers Quitters? The Relationships of Gender, Promotions, and Family Leaves of Absence to Voluntary Turnover

Karen S. Lyness
Baruch College, City University of New York

Michael K. Judiesch
Manhattan College

This study examined the relationships of gender, promotions, and leaves of absence to voluntary turnover for 26,359 managers in a financial services organization. Using Cox regression analyses and controlling for human capital, the authors found that, contrary to their prediction, female managers' voluntary turnover rates were slightly lower than those of their male counterparts. Managers who had been promoted were less likely to resign than nonpromoted managers only if the promotion had occurred within the past 11 months, and promoted women were less likely to resign than promoted men. The authors also found that managers who had taken family leaves had higher voluntary turnover rates than managers who had not taken leaves, and among family leave takers, managers with graduate degrees were less likely to resign than managers with less education.

Light and Ureta (1992) suggested that "employers may equate 'female' with 'quitter' because women have higher average turnover rates than men" (p. 156). However, because most of the prior research on gender differences in employee turnover did not focus on managers and did not distinguish voluntary from involuntary turnover, it is unclear whether managerial women have higher voluntary turnover rates than their male counterparts. Cotton and Tuttle's (1986) meta-analysis indicated that there is higher organizational turnover for women than for men and that gender is more strongly related to turnover of professional than nonprofessional employees. Thus, there is some reason to believe that gender differences in turnover rates may be found for managers. In one of the first articles to highlight gender differences in managerial turnover, Schwartz (1989) described the results of a corporate study as showing that "the rate of turnover in management positions is 2½ times higher among top-performing women than it is among men" (p. 65). We designed the present study to extend our understanding about these issues by examining actual voluntary turnover rates among a large sample of male and female managers through the use of event history analysis.

Research about gender differences in voluntary turnover among managers is important so that if beliefs about female managers' greater likelihood of voluntary turnover are mistaken or outdated, they can be corrected. According to statistical discrimination theory, employers' perceptions about groups, such as beliefs that women may be more likely to resign than men, can lead to discrimination against members of groups that are negatively perceived (Aigner & Cain, 1977; Blau, Ferber, & Winkler, 1998; Phelps, 1972). Statistical discrimination occurs if employers factor into decisions, such as hiring, promotion, or compensation, their beliefs that women are more likely than men to quit their jobs to care for children. For example, in a company in which the turnover rate for female professionals was twice the turnover rate for White male professionals, some male managers "acknowledged that they thought it was risky and foolish to offer women a variety of fast-track assignments since they 'usually quit to raise families' " (Hymowitz, 1989, p. B1). There is evidence that such beliefs persist and may even be applied to well-educated professionals. Support for this idea is provided by a recent study of accounting managers and professionals that found that their judgments about voluntary turnover of hypothetical candidates for accountant jobs reflected both gender and family structure, such that female candidates and married candidates with children were perceived to be more likely to resign than male or single, childless candidates (Almer, Hopper, & Kaplan, 1998).

There do not appear to be any published studies that have examined gender differences in actual voluntary turnover rates for managers in a private-sector organization, and it is unclear to what extent findings based on broader populations apply to managerial women who may have made greater investments in their careers than women holding nonmanagement jobs. Therefore, one objective of the present study was to examine gender differences in actual voluntary turnover rates for a large sample of managers. Also, studying men and women who worked for the same organization eliminated cross-company differences in industry, management hierarchy, and opportunity structure (Baker, Gibbs, & Holmstrom, 1994; T. H. Cox & Harquail, 1991) that may have confounded gender differences in turnover in some prior studies.

Karen S. Lyness, Department of Management, Zicklin School of Business, Baruch College, City University of New York; Michael K. Judiesch, Department of Management and Marketing, School of Business, Manhattan College.

Both authors contributed equally to this article. We thank our organizational clients for their support and insights throughout the project as well as their willingness to allow us to analyze proprietary data.

Correspondence concerning this article should be addressed to Karen S. Lyness, Department of Management, Zicklin School of Business, Baruch College, City University of New York, One Baruch Way, Box B9-240, New York, New York 10010. Electronic mail may be sent to karen_lyness@baruch.cuny.edu.

The literature has offered several explanations for managerial women's higher turnover rates, including more limited advancement opportunities for women (Stroh, Brett, & Reilly, 1996) and women's greater commitment to family responsibilities (Schwartz, 1989) as compared with their male counterparts. Therefore, to further our understanding of why there might be gender differences in voluntary turnover, we examined actual recent promotions and family leaves of absence (LOAs) as additional predictors. Our research was guided by the following questions: Are voluntary turnover rates higher for female managers than male managers? Are managers who receive promotions less likely to resign than managers who do not receive promotions? Are female managers who receive promotions less likely to resign than male managers who receive promotions? Are managers who take family leaves more likely to resign than other managers? Among managers who take family leaves, are voluntary turnover rates related to human capital?

Literature Review and Predictions

Gender Differences in Voluntary Turnover

Although a number of studies have investigated gender as a predictor of turnover, there is very little prior research about gender differences in actual voluntary turnover among managers. Cotton and Tuttle's (1986) meta-analysis of 20 studies found that women had higher turnover rates than men and that the type of employee population moderated the gender and turnover relationship, with a stronger relationship between gender and turnover for professional employees than for nonmanagerial or nonprofessional employees. However, because Cotton and Tuttle's research is 15 years old and included few if any gender comparisons of turnover rates for managers, it is important to examine more recently published studies as well.

We could locate only two studies (Lewis, 1992; Stroh et al., 1996) that examined gender differences in actual turnover rates for managers, but in both cases, the turnover measure appeared to include involuntary as well as voluntary turnover. Stroh et al. studied 488 male and 127 female managers who had been previously transferred by 20 *Fortune* 500 organizations and found that even after age, company tenure, education, and prior mobility were controlled for, women were more likely to have changed companies than men during a 2-year period. However, it is unclear to what extent these findings would generalize to managers who had not been transferred by their organizations or whether cross-company differences may have confounded the results. In contrast, a study of middle managers in the U.S. federal civil service found no gender differences in turnover after salary grade, age, tenure, and education were controlled for (Lewis, 1992). Nevertheless, these findings about government workers may not generalize to managers in the private sector. In addition to using measures that included both voluntary and involuntary turnover, the studies by Stroh et al. and Lewis differed from our study in that they used logit analysis rather than event history analysis, as is currently recommended for more accurate predictions of turnover behavior (Dickter, Roznowski, & Harrison, 1996; Harrison, Virick, & William, 1996; Morita, Lee, & Mowday, 1989, 1993; Somers & Birnbaum, 1999).

Because there are so few studies of gender differences in actual turnover for managers, we also examined studies of gender differences in employment gaps and turnover intentions for managers. Research with master of business administration degree holders found that women were more likely than men to have had voluntary career interruptions (defined as a period when they were not employed) since receiving their degrees (Schneer & Reitman, 1990), and a recent study of 4,112 Australian managers and professionals also found that women reported more employment disruptions than did men (Tharenou, 1999). Two studies found greater turnover intentions for female managers or professionals than their male counterparts, but these differences in turnover intentions were no longer significant after the researchers controlled for human capital variables (Miller & Wheeler, 1992; Rosin & Korabik, 1995), and another study found no differences in reported turnover intentions of senior-level male and female managers who were matched on variables such as hierarchical level, age, line or staff job, and performance ratings (Lyness & Thompson, 1997). However, Stroh et al. (1996) found that even after they controlled for age, education, company tenure, number of prior companies, and perceived availability of employment at another company, reported turnover intentions of female managers were higher than those of male managers.

We supplemented the limited prior research about managers by reviewing some additional turnover studies that included both managers and employees at lower levels. A meta-analysis based on 15 studies (most of which may also have been included in Cotton & Tuttle's [1986] meta-analysis of 20 studies) did not find significant gender differences in overall turnover rates (corrected mean $r = -.07$, 95% credibility interval = $-.29$ to .16) and did not specify whether any of the samples were managers or what moderating variables may have accounted for the range of correlations (Hom & Griffeth, 1995). In contrast, Lewis and Park's (1989) 10-year examination of turnover for federal civil service workers found that among professional and administrative employees, women were more likely to quit than men, even after the researchers controlled for tenure, age, education, and salary. In addition, a 6-year longitudinal study that tracked turnover among 1,014 accountants who had been hired into entry-level positions at six accounting firms found significantly higher turnover rates for women than men (Sheridan, 1992).

One of the few published studies that examined gender differences in turnover among a large sample of employees in a single organization was Sicherman's (1996) analysis of white-collar insurance company employees from 1971 to 1980. Sicherman found higher departure rates (including voluntary plus involuntary turnover) for women than men, and this gender gap was reduced but still significant after he controlled for hierarchical level, time in level, company tenure, race, education, age, and marital status. Sicherman noted that the gender gap in turnover could be largely attributed to the fact that women held lower level jobs than men. This finding is consistent with Kanter's (1982) observation that hierarchical structure may sometimes provide an alternative explanation for apparent gender differences in employees' behavior. In other words, according to Kanter, some of the observed gender differences in work attitudes and behavior may be due to the fact that women's jobs tend to be lower in the organizational hierarchy (and offer fewer career opportunities) than men's jobs.

Some studies of broader U.S. samples, such as the National Longitudinal Survey of Youth, have also found gender differences in turnover. For example, Keith and McWilliams (1999) found

higher voluntary separation rates (defined as the number of job separations as a percentage of all jobs held) for women than men. Other studies of similar populations have identified human capital variables that help to explain gender differences in turnover behavior. For example, Royalty (1998) found that women had higher job-to-nonemployment turnover rates and lower job-to-job turnover rates than men. However, these observed gender differences appeared to be due to turnover behavior of less educated women (defined as having completed high school or less), and the more highly educated women (with more than a high school education) resembled men in their turnover behavior.

Thus, the available research suggests that women may be more likely to voluntarily leave their organizations than men but that gender differences may be reduced or disappear after controls for human capital and structural variables, such as hierarchical level, are introduced.

Hypothesis 1: Female managers will be more likely to voluntarily leave the organization than male managers.

Promotions and Turnover

In a meta-analysis, Carson, Carson, Griffeth, and Steel (1994) concluded that the overall corrected mean correlation between actual promotions and turnover was negative (corrected weighted $r = -.45$, 90% credibility interval = $-.69 \leq \rho \leq -.21$). However, their analysis was based on only three studies (with a total of 841 employees) that examined the relationship of actual promotions to turnover, and none of these studies examined this relationship for managers. A recent study of 5,143 exempt employees (with gender composition unspecified) in a petroleum products and services organization also found a significant negative relationship between average number of promotions per year and voluntary turnover (Trevor, Gerhart, & Boudreau, 1997). However, after partialing out the effects of salary growth (which was highly correlated with promotions, $r = .66$) in a proportional hazards analysis, Trevor et al. found that promotion rate was positively related to voluntary turnover and interpreted this finding as evidence that promotions make it easier for employees to find new jobs in the external market.

Although Stroh et al. (1996) did not measure actual promotions, they found that managers' perceptions of advancement opportunities at their current organizations were negatively related to their turnover intentions. We could not locate any empirical research about gender differences in the relationship between actual recent promotions and voluntary turnover for managers, but the available prior research suggests that the relationship is likely to be negative for both women and men.

Hypothesis 2: Managers who have been recently promoted will be less likely to voluntarily leave the organization than managers who have not been recently promoted.

Stroh et al. (1996) reported that turnover intentions were related to a significant gender by advancement opportunities interaction, indicating that "female managers with the same perceptions of future career opportunities as male managers were more likely to intend to leave" (p. 114) and suggesting that women may be less tolerant of limited promotional opportunities than men. Other research has found that female managers reported significantly less satisfaction with their promotional or career opportunities at their current organizations (Lefkowitz, 1994; Lyness & Thompson, 1997; Miller & Wheeler, 1992) and that men were more likely to benefit by changing companies than women (Brett & Stroh, 1997; Dreher & Cox, 2000). Given these prior findings indicating that women value advancement, that in general women may be more likely than men to perceive limited opportunities at their current organizations, and that women have no guarantee that changing companies will increase their opportunities, it seems likely that recently promoted women may be less likely to resign than their recently promoted male counterparts.

Hypothesis 3: Female managers who have been recently promoted will be less likely to voluntarily leave the organization than male managers who have been recently promoted.

Family-Related LOAs and Turnover

A number of studies have found that women are more likely than men to resign from their organizations because of family responsibilities (e.g., Keith & McWilliams, 1995; Sicherman, 1996), and these gender differences also have been found for graduates of master of business administration programs (Olson & Frieze, 1989; Schneer & Reitman, 1990). However, most of these data were collected in the 1970s and the 1980s, and it is unclear whether similar results would be found for today's managers.

Whereas in the past employees may have had to quit their jobs to give birth or to care for their children, many organizations now offer some form of family leave benefits that allow an employee to take an LOA, defined as a paid or unpaid period of time away from work during which the employee remains continuously employed (Judiesch & Lyness, 1999). These benefits have become available to many employees since the passage of the Family and Medical Leave Act (FMLA) in 1993. The FMLA requires organizations with 50 or more employees to provide up to 12 weeks of unpaid leave for childbirth, adoption, or caring for seriously ill family members as well as when the employee has a serious illness. The FMLA guarantees the same or a comparable job when an employee returns to work and is intended to help both female and male employees attend to family responsibilities without having to resign from their organizations. However, even before the passage of the FMLA, there were federal and state laws that encouraged employers to provide maternity or family leave. For example, the federal Pregnancy Discrimination Act of 1978 required that employers treat pregnancy like other disabilities, including provision of leave and compensation. Also, by 1993, 34 states had passed some type of family leave legislation, and 5 states had temporary disability insurance laws that covered non-work-related disabilities such as pregnancy (Kelly & Dobbin, 1999; U.S. Commission on Family and Medical Leave, 1996; Waldfogel, 1999). Many large companies responded to these laws and regulations, and the resulting press coverage, by offering some type of family leave benefits to their employees (Kelly & Dobbin, 1999; U.S. Commission on Family and Medical Leave, 1996; Waldfogel, 1999). A Catalyst (1986) survey of 384 large U.S. companies found that 95% provided short-term disability or maternity leave, 81% guaranteed a return to the same or a comparable job after the disability leave, and 52% offered other types of unpaid leaves (e.g., to allow new mothers and fathers to spend time with their babies). A

Bureau of Labor Statistics survey of private-sector establishments with 100 or more employees found that the percentage of employers offering paternity leave increased from 27% in 1991 to 54% in 1993 (Waldfogel, 1999).

An important reason for organizations to provide family leave benefits is presumably to allow employees to attend to family responsibilities without having to resign from their organizations. However, a national survey of FMLA-covered work sites indicated that only 5% reported a positive effect of the FMLA on employee turnover, and the majority (95%) reported no noticeable effect of the FMLA on turnover (U.S. Commission on Family and Medical Leave, 1996, Appendix E, Table 6.E).

Prior empirical research about the relationship between family leaves and turnover has been limited to maternity leaves, and we were unable to locate any studies that investigated this relationship for managers. Evidence of the value of these benefits was provided by research showing that women with paid or unpaid job-protected maternity leave benefits were more likely to return to their former employers after childbirth than women without these benefits (Waldfogel, 1997, 1998). In contrast, Klerman and Leibowitz (1999) concluded that the effect of a maternity leave statute, such as the FMLA, on employment continuity would be trivial because turnover rates for women who gave birth were not much higher than those of demographically similar women who did not give birth.

The limited literature on paternity leaves suggests that few men take formal family leaves (Hyde, Essex, & Horton, 1993; Pleck, 1993). Instead, men tend to take what Pleck termed "informal" paternity leaves, consisting of a few vacation or other paid discretionary days off when their children are born. However, the number of dual-career couples is increasing (Blau et al., 1998), and some men may be assuming a greater share of family responsibilities by either choice or necessity, suggesting that male managers should be included in our examination of the relationship between family leaves and turnover. Unfortunately, the number of men taking family leaves in the present study was too small to allow us to examine gender differences in the relationship between family leaves and voluntary turnover.

Limited guidance is offered by the literature about the relationship between family leaves and turnover for managers because prior research has been limited to maternity leaves, and the research has not been conducted with managers, who may be more invested in their careers than lower level employees. Therefore, we did not make predictions about whether voluntary turnover is positively related or unrelated to family leaves for managers. Instead, we posed the following:

> *Research Question 1*: Are managers who take family-related LOAs more likely to voluntarily leave the organization than other managers (i.e., managers who have not taken LOAs or who have taken LOAs for other reasons)?

According to human capital theory, people make investments, such as acquiring education, training, or experience, to improve their capabilities and potential to earn higher wages (Becker, 1964). The greater the investment an employee has made in acquiring human capital, the greater the potential cost of dropping out of the labor force, and thus, the less likely he or she will want to do so (Blau et al., 1998). Some evidence that predictions based on human capital theory may be relevant to employees taking LOAs has been provided by research showing that women with more of various types of human capital (e.g., education, work experience, organizational tenure, and income) were more likely to return to work after maternity leaves than women with less human capital (e.g., Glass & Riley, 1998; Greenstein, 1989; Klerman & Leibowitz, 1994; Waldfogel, 1997). On the basis of human capital theory and the prior research, we predicted the following:

> *Hypothesis 4*: Among managers who take family-related LOAs, those with greater human capital investment in their careers (i.e., those who have more education, receive higher wages, have higher level positions, or are older) will be less likely to voluntarily leave the organization than those with less human capital investment.

Method

Sample and Procedure

The sample included 30,059 managers who were working full-time for a large multinational financial services organization for all or part of the time period from January 1, 1992, to June 1, 1995. Because of missing data on one or more variables, the sample used in the analyses was reduced to 26,359 managers with complete data. The managers held diverse jobs, including both supervisory and professional positions, in 16 functional job families (e.g., accounting, sales, data processing, customer service, and human resources) and many different locations throughout the United States. The sample included 11,076 women and 15,283 men. They averaged 39 years in age and more than 9 years of tenure with the organization. Their base salaries averaged about $60,000 on January 1, 1992 (or on the hire date for those who joined the company after January 1, 1992), with a salary range from about $15,000 to more than $1,000,000. The majority were college graduates, with 38% holding bachelor's degrees and 23% holding graduate degrees. The sample was studied in previous research about managerial advancement and hiring (Lyness & Judiesch, 1999), and a subset of the sample was studied in research that examined the impact of taking an LOA on subsequent career success, as measured by promotions and merit salary increases (Judiesch & Lyness, 1999).

All data were obtained from archival databases maintained by the organization. In addition to age, salary, and gender, longitudinal data were available from January 1, 1992, to June 1, 1995, for LOAs, promotions, and merit pay increases. Like many large organizations, the organization that we studied provided family leave benefits in 1992, prior to the passage of the FMLA. We limited our sample to full-time employees, and all of them were eligible for job-protected family leave benefits according to company policies.

Measures

Voluntary turnover. We distinguished managers who left voluntarily (n = 4,423), defined as having resigned from the organization, from managers who left involuntarily (n = 3,418), defined as leaving due to dismissal, layoff, organizational divestiture, retirement, death, or illness. Consistent with prior research (e.g., Sicherman, 1996), and because we were investigating the relationship of family-related leaves and turnover, departures for family-related reasons were considered to be voluntary. As was done in other recent research (Trevor et al., 1997), managers who involuntarily left the organization were included in the sample to avoid potential bias and loss of information (Morita et al., 1993) but were treated as right-censored cases at the time they terminated (see the *Analyses* section).

Promotions. A promotion was defined as a move to the next hierarchical level. During this time period (from January 1, 1992, to June 1, 1995), 8,187 managers were promoted, including 35% of the women (n = 3,924) and 28% of the men (n = 4,263). Because Maertz and

Campion (1998) suggested that the effectiveness of certain predictors may depend on when they are measured with respect to subsequent turnover behavior, we coded promotions as time-dependent covariates (see the *Analyses* section). In the analyses, we included a variable representing whether the manager received a promotion (1 = yes, 0 = no) and a variable representing time (in months) since the most recent promotion.

LOAs. LOA data included the dates when the leave started and ended and the reason for the leave, that is, illness, dependent care (including maternity leaves), or other type of leave. Family leaves were taken by 486 managers (female = 459, male = 27), and sick leaves were taken by 1,873 managers (female = 1,343, male = 530) during this time period (from January 1, 1992, to June 1, 1995). Because the relationship of LOAs to turnover may vary depending on the recency of the LOA, we coded family leaves and sick leaves as time-dependent covariates with the change in value from no LOA to LOA defined as occurring at the onset of the leave (see the *Analyses* section). In the analyses, we included variables representing whether the manager had taken family leave (1 = yes, 0 = no) or sick leave (1 = yes, 0 = no) and time (in months) since the most recent family leave.

Human capital variables. Human capital variables included age (representing years of work experience), educational attainment, salary, and organizational level. (Although hierarchical level can be considered a structural variable, it also reflects the individual's human capital, so we included it with the human capital variables.) Education data were limited to the highest degree obtained, and dummy variables were constructed for bachelor's degree and graduate degree. Initial salary data were either base salaries on January 1, 1992, or starting salaries for managers hired after that date, and we used the dates and the amounts of managers' merit pay increases between January 1, 1992, and June 1, 1995, to calculate salary as a time-dependent covariate with values that varied over time. Natural logarithmic transformations were applied to normalize the skewed salary data (Gerhart & Milkovich, 1990) prior to using them in the analyses. The participants' management positions spanned 10 hierarchical levels and were coded from 1 (*low*) to 10 (*high*), with a mean of 3.5. (Although the managers' levels changed over time, we did not treat this variable as a time-dependent covariate because changes in level were reflected in the promotion variable.)

Control variables. In addition to human capital, we controlled for other variables that have been found to be related to turnover, including percentage of women in the job family (Tsui, Egan, & O'Reilly, 1992) and marital status (e.g., Morita et al., 1993). We classified the participants' positions into 16 job families on the basis of organizational codes reflecting the nature of the work performed, for example, sales, marketing, human resources, and so forth. We calculated the proportions of women in each of the 16 job families and added this variable (proportion of women in a manager's job family) to each case. Percentage of women in the job family ranged from 16% in the general executive job family to 70% in human resources. We coded marital status as married (1) or not currently married (0).

Gender. Gender was coded as female (0) or male (1).

Analyses

Consistent with recent research and recommendations (Dickter et al., 1996; Harrison et al., 1996; Morita et al., 1989, 1993; Somers & Birnbaum, 1999; Trevor et al., 1997), we tested our hypotheses and research question with event history analyses rather than logistic regression analyses. Specifically, we used the continuous time version of D. R. Cox's (1972) proportional hazards model; our statistical software was the SAS partial likelihood regression procedure (PHREG; SAS Institute, 1999).

The PHREG approach takes time into account by measuring employee turnover as the duration of an employee's tenure (i.e., survival time or time until voluntarily leaving the organization) rather than as the binary variable (i.e., stayer or leaver) used in traditional turnover research (Morita et al., 1993; Somers & Birnbaum, 1999). Event history analysis allowed us to incorporate information about the timing of promotions, LOAs, and salary changes by treating these variables as time-dependent covariates for which values could change over time (for a discussion of these issues, see Allison, 1995; Morita et al., 1993). We used continuous rather than discrete event history analysis because we had exact dates of hire, termination, promotions, LOAs, and salary changes.

Another advantage of the PHREG approach is that it allowed us to avoid potential biases by incorporating information into the analyses about all managers who were employed during all or part of the period (from January 1992 to June 1995), including those who were involuntarily terminated and managers who joined the organization after January 1, 1992. Both managers who were still employed at the end of the observation period and managers who were involuntarily terminated were treated as right-censored cases. Right censoring occurs when all that is known about a variable is that it is more than some value. In the case of employees who were still employed at the end of the observation period, all that we knew was that their tenure when they eventually terminated at some point in the future would be greater than their tenure at the end of our observation period (June 1, 1995). Managers who were terminated involuntarily were also considered right-censored because they left the organization before they decided to voluntarily quit (Allison, 1995).

In addition, the PHREG program enabled us to include managers who were hired prior to the beginning of the observation period. Such individuals are typically excluded from turnover studies that use standard treatments of partial likelihood (e.g., Dickter et al., 1996) because it is assumed that every individual is at risk of turnover at Time 0 and continues to be at risk until either he or she terminates or the observation period ends, in which case the employee is treated as right-censored. Employees who were hired prior to the observation period were considered to be left-truncated because their presence meant that they could not have terminated prior to the start of the observation period. Thus, it would be inappropriate to assume that they were at risk of turnover for event times shorter than their tenure on January 1, 1992. PHREG solves the problem of left truncation by excluding such individuals from the risk set for event times (tenures) that are shorter than their tenure at the start of the observation period but including them in the risk set for all subsequent event times until they either terminate or are right-censored (Allison, 1995). For example, a manager hired on January 1, 1990 (2 years prior to the beginning of our observation period), would not be included in the estimation of the hazard function for the period from 0 to 2 years of tenure but would be included in the estimation of the hazard function from 2 years of tenure (January 1, 1992) until the time when the manager either terminated voluntarily or was right-censored (i.e., if he or she was involuntarily terminated or was still employed on June 1, 1995).

We entered the control variables (age, education, salary, level, percentage of women in the job family, and marital status) in Step 1, followed by gender in Step 2 to test Hypothesis 1. We tested Hypothesis 2 by entering promotion and time since the most recent promotion in Step 3, and we tested Hypothesis 3 in Step 4 by entering interaction terms for gender with the two promotion variables. We tested Research Question 1 by entering the variables for LOA type (family or sick leave) and time since the most recent family leave in Step 5. Finally, we tested Hypothesis 4 by entering the interaction of family leaves with human capital in Step 6. We used simultaneous entry of all variables within a step. Significance of the results was determined from the change in Wald chi-square associated with the variable or variables added in the last step as well as the significance of the beta coefficients. In addition, we carried out planned linear contrasts among focal variables (comparing sick leaves with family leaves and comparing family leave takers with graduate degrees versus bachelor's degrees).

Because the managers varied greatly in tenure and most were hired prior to the onset of the observation period, we stratified our proportional hazards analyses by hire year. This approach controlled for non-tenure-

related effects of hire year on turnover in a manner that allowed each hire-year cohort to be in proportion to a potentially different baseline hazard function (Allison, 1995; Trevor et al., 1997).

Results

Table 1 provides means, standard deviations, and intercorrelations of the variables. Table 2 displays the results of the Cox regression analyses, including the unstandardized regression coefficients for each step (used to test the hypotheses and research question) as well as the final model with all of the variables. As a group, the human capital and other control variables were significantly related to voluntary turnover, Wald $\chi^2(7, N = 26{,}359) = 743.80$, $p < .001$, and four of these variables (i.e., age, salary, hierarchical level, and percentage of women in the job family) were significantly related to voluntary turnover (Table 2, Step 1). Older and more highly paid managers were less likely to resign as were managers in job families with a higher percentage of women. Although the zero-order correlation between level and voluntary turnover was negative ($r = -.06$), level was positively related to turnover when the other control variables were included in the analysis. Thus, the Step 1 results indicated that managers with greater human capital were less likely to resign. We also conducted an exploratory analysis that included the interaction of gender by percentage of women in the job family, but this variable was not significantly related to voluntary turnover, $B = -0.001$, Wald $\chi^2(1, N = 26{,}359) = 0.21$, $p = .64$. The relationships of voluntary turnover with the human capital and control variables were relatively unchanged in the final model with all of the focal variables.

Gender Differences in Voluntary Turnover

Contrary to Hypothesis 1, which predicted that more women than men would quit the organization, we found that voluntary turnover rates were 17.0% for male managers and 16.5% for female managers. After we controlled for human capital (age, education, salary, and level), percentage of women in the job family, and marital status, the Cox regression results (Table 2, Step 2) also indicated that men were significantly more likely to voluntarily leave than women, and the hazard rate of turnover for men was 1.08 times the hazard rate for women, $B = 0.08$, Δ Wald $\chi^2(1, N = 26{,}359) = 5.31$, $p < .05$. Although the gender difference was statistically significant, the hazard rate indicated that the difference in turnover rates for men and women was relatively small and may have lacked practical significance. The hazard functions (Figure 1) indicated that voluntary turnover for both male and female managers declined with organizational tenure. Although we found a significant gender difference in hazard rates, examination of the hazard functions for men and women suggested that they were similar at most levels of tenure.

Promotions and Turnover

Consistent with Hypothesis 2, we found that 12% of managers who had been promoted within the time period (from January 1, 1992, to June 1, 1995) had voluntarily left the organization versus 23% of those who had not been promoted during this period. However, these percentages greatly underestimated actual voluntary turnover rates for promoted managers as compared with rates for managers who were not promoted during this period. Although

Table 1
Means, Standard Deviations, and Intercorrelations of the Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	36.40	8.86	—												
2. Bachelor's degree (vs. no college degree)	0.38	0.48	−.20	—											
3. Graduate degree (vs. no college degree)	0.23	0.42	.06	−.42	—										
4. Base salary[a]	10.86	0.50	.36	−.06	.38	—									
5. Hierarchical level	3.47	1.54	.39	−.06	.34	.89	—								
6. Marital status	0.61	0.49	.29	−.09	.05	.23	.25	—							
7. % of women in job family	41.88	14.48	−.06	−.01	−.12	−.32	−.27	−.10	—						
8. Gender[b]	0.58	0.49	.09	.02	.10	.28	.27	.16	−.28	—					
9. Promotion	0.31	0.46	−.17	.03	−.02	−.09	−.27	−.06	.08	−.08	—				
10. Family leave	0.02	0.13	−.07	.02	.00	−.04	−.03	.04	.04	−.15	.02	—			
11. Sick leave	0.07	0.26	.01	−.02	−.05	−.09	−.09	.02	.07	−.17	.04	−.04	—		
12. Organizational tenure[c]	9.46	8.55	.60	−.17	−.05	.23	.25	.17	.05	.01	−.01	−.01	.06	—	
13. Voluntary turnover	0.17	0.37	−.17	.06	−.01	−.10	−.06	−.06	−.01	.01	−.09	.02	−.05	−.22	—

Note. $N = 26{,}359$. $rs \geq .01$, $p < .05$, two-tailed.
[a] Natural logarithm of base salary on January 1, 1992, or hire date. [b] Coded female = 0 and male = 1. [c] Measured in years.

Table 2
Cox Regression Analyses Predicting Voluntary Turnover With Human Capital, Gender, Promotions, and Leaves of Absence

Predictor	Step			Final model		
	B	Hazard ratio	Δ Wald χ^2	*B*	*SE*	Hazard ratio
Step 1: Control variables			743.80**			
Age	−0.03**	0.97		−0.02**	0.00	0.98
Bachelor's degree	0.05	1.05		0.04	0.04	1.04
Graduate degree	−0.01	0.99		0.00	0.05	1.00
Salary[a]	−1.52**	0.22		−1.53**	0.07	0.22
Hierarchical level	0.47**	1.61		0.47**	0.02	1.60
Marital status	−0.03	0.97		−0.05†	0.03	0.95
% of women in job family	−0.01**	0.99		−0.01**	0.00	1.00
Step 2: Gender			5.31*			
Gender	0.08*	1.08		0.06†	0.04	1.06
Step 3: Promotion			56.09**			
Promotion	−0.31**	0.73		−0.41**	0.08	0.67
Promotion × Time Since Promotion[b]	0.03**	1.03		0.03**	0.00	1.03
Step 4: Gender × Promotion			5.27*			
Gender × Promotion	0.18*	1.20		0.18*	0.07	1.20
Step 5: Family leave			45.75**			
Family leave	0.84**	2.31		1.19**	0.20	3.29
Family Leave × Time Since Leave[b]	−0.03*	0.97		−0.03*	0.01	0.97
Step 6: Family Leave × Human Capital			20.43**			
Family Leave × Bachelor's Degree	−0.30	0.74		−0.30	0.21	0.74
Family Leave × Graduate Degree	−1.04**	0.35		−1.04**	0.31	0.35

Note. Δ Wald χ^2 = Δ Wald χ^2 due to entry of variables in step. N = 26,359. The degrees of freedom for Δ Wald χ^2 corresponding to each step are equal to the number of additional variables in that step.
[a] Natural logarithm of base salary on January 1, 1992, or hire date. [b] In months.
† $p < .10$. * $p < .05$. ** $p < .001$.

the observation period started on January 1, 1992 (unless managers were hired after that date), managers who received promotions were not observed as promoted managers until after the dates of their promotions. Thus, the observation periods during which promoted managers could terminate were shorter than the observation periods for nonpromoted managers. However, coding promotions as time-dependent covariates allowed the Cox regression program to remove this bias in estimating turnover hazard rates.

To more accurately investigate the relationship between promotions and turnover, we carried out a Cox regression analysis with human capital, percentage of women in the job family, marital status, and gender as control variables and found that, contrary to our prediction, the main effect for promotion was not significantly related to voluntary turnover, B = 0.04, Wald $\chi^2(1, N = 26{,}359) = 0.90$, $p = .34$. However, when we added the interaction variable representing time since the most recent promotion (Table 2, Step 3), both of the promotion variables were significantly related to voluntary turnover, Δ Wald $\chi^2(2, N = 26{,}359) = 56.09$, $p < .001$. The main effect for promotions was negatively related to voluntary turnover, $B = -0.31$, Wald $\chi^2(1, N = 26{,}359) = 24.12$, $p < .001$, hazard ratio = 0.73, and time since promotion was positively related to turnover, $B = 0.028$, Wald $\chi^2(1, N = 26{,}359) = 66.35$, $p < .001$, hazard ratio = 1.03. With time since promotion added to the model, the main effect indicated the immediate effect of receiving a promotion on turnover, and the time since promotion variable indicated the monthly rate of change in the turnover hazard as the time since promotion increased. Taken together, these results indicated that the immediate effect of a promotion was to reduce the turnover hazard by 27% for promoted managers in comparison to nonpromoted managers. However, the negative effect of promotions on turnover was reduced by 2.8% per month so that when a promotion had occurred 11 months ago, there was no longer a negative effect on turnover, and managers who had been promoted more than 11 months ago were more likely to resign than managers who had not received a 1992–1995 promotion.

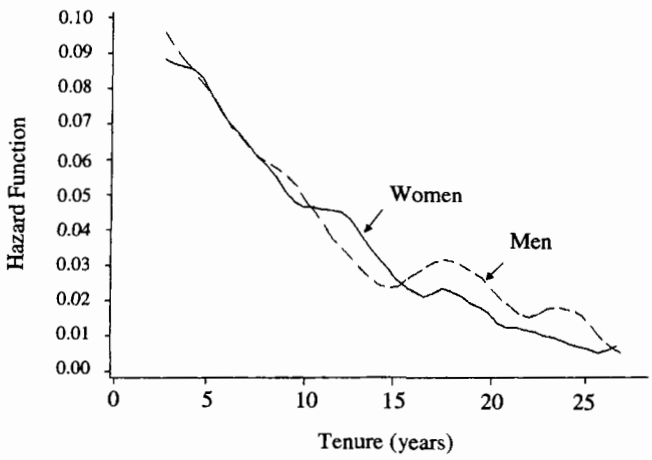

Figure 1. Baseline turnover hazard functions for male and female managers.

We tested Hypothesis 3 by entering the interaction of gender with the main effect for promotion (Table 2, Step 4) and found that gender by promotion was significantly related to voluntary turn-

over, $B = 0.18$, Δ Wald $\chi^2(1, N = 26{,}359) = 5.27$, $p < .05$, hazard ratio = 1.20. When we added the interaction term for gender by time since promotion, the gender by promotion interaction remained significantly related to voluntary turnover, $B = 0.32$, Wald $\chi^2(1, N = 26{,}359) = 7.17$, $p < .01$, hazard ratio = 1.38. However, the gender by time since promotion interaction was not significantly related to turnover, so we did not include it in Table 2. The positive coefficient for the gender by promotion interaction was consistent with Hypothesis 3, indicating that female managers who had been promoted during this time period were less likely to resign than male managers who had been promoted during this time period. In fact, the unstandardized coefficients indicated that the immediate effect of promotion reduced the turnover hazard by 34% for women but by only 20% for men. As we discussed above, the negative effects of promotions on turnover diminished by 2.8% per month for both men and women. However, because of the gender differences in the initial effect sizes, the negative effect of promotions on turnover persisted for 15 months for women but only 8 months for men.

Family-Related LOAs and Turnover

We found that 24% of the managers who took family-related 1992–1995 LOAs terminated during this time period versus 11% of the managers who took sick leaves and 17% of the managers who did not take LOAs. As with the promotion analyses, these percentages underestimated actual voluntary turnover rates for managers who took leaves because the observation periods during which leave-taking managers could terminate were shorter than the observation periods for managers who did not take leaves. However, coding family and sick leaves as time-dependent covariates allowed the Cox regression approach to remove this bias.

We tested Research Question 1 regarding the relationship between family leaves and voluntary turnover by carrying out a Cox regression analysis with human capital, marital status, percentage of women in the job family, gender, the promotion variables, and gender by promotion as control variables, followed by the main effect for family leave. The results indicated that managers who had taken family leaves were significantly more likely to resign than managers who had not taken family leaves, $B = 0.59$, Wald $\chi^2(1, N = 26{,}359) = 34.76$, $p < .001$, hazard ratio = 1.81. When we added the interaction variable representing time since the most recent family leave (Table 2, Step 5), both family leave variables were significantly related to voluntary turnover. Taken together, these results indicated that the immediate effect of a family leave was to increase the turnover hazard by 231% for leave-taking managers in comparison to managers who had not taken leaves, $B = 0.84$, Wald $\chi^2(1, N = 26{,}359) = 31.12$, $p < .001$, hazard ratio = 2.31. However, the effect of family leaves on turnover was reduced by 2.7% per month so that when a leave had occurred 31 months ago, there was no longer a positive effect on turnover, $B = -0.027$, Wald $\chi^2(1, N = 26{,}359) = 4.14$, $p < .05$, hazard ratio = 0.97.

The hazard rate for managers who had taken 1992–1995 family leaves was 1.81 times greater than the hazard rate for managers who had not taken family leaves. However, in a separate analysis with the same control variables, we found that sick leaves were only marginally related to turnover, $B = 0.14$, Wald $\chi^2(1, N = 26{,}359) = 3.28$, $p = .07$, hazard ratio = 1.15, and our planned linear contrast indicated that the difference between the relationships of voluntary turnover and family leaves versus sick leaves was significant, Wald $\chi^2(1, N = 26{,}359) = 14.39$, $p < .001$.

Hypothesis 4 predicted that among managers who took family leaves, those with greater human capital investment in their careers would be less likely to resign. The Cox regression results indicated that the addition of the family leave by human capital interaction variables significantly improved the model chi-square, Δ Wald $\chi^2(5, N = 26{,}359) = 20.77$, $p < .001$, but only the family leave by graduate degree coefficient was significant, $B = -1.17$, Wald $\chi^2(1, N = 26{,}359) = 11.48$, $p < .001$, hazard ratio = 0.31. Because some of the human capital variables were correlated, we repeated the Cox regression analyses with each of the nonsignificant interaction terms entered by itself in Step 6, and we found the same results. The lack of significant interactions, other than for education, indicated that the Step 1 results showing that managers with more human capital were less likely to resign applied to managers who had taken family leaves, and these main effects provided support for Hypothesis 4.

Additional support for Hypothesis 4 was provided by the significant family leave by graduate degree interaction. To facilitate interpretation of the family leave by education interactions, we ran the analysis again without the other family leave by human capital interactions (Table 2, Step 6). The negative coefficient for the family leave by graduate degree interaction indicated that among managers who took family leaves, those with graduate degrees were less likely to resign than were managers with less education. Specifically, the hazard rate for family leave takers with graduate degrees was only 35% as great as the hazard rate for family leave takers without college degrees, $B = -1.04$, Wald $\chi^2(1, N = 26{,}359) = 11.43$, $p < .001$, and only 48% as great as the hazard rate for family leave takers with bachelor's degrees, Wald $\chi^2(1, N = 26{,}359) = 6.21$, $p < .05$. Also, the sum of the unstandardized coefficients for the family leave main effect ($B = 1.19$) and the family leave by graduate degree interaction ($B = -1.04$) indicated that the immediate effect of taking a family leave was close to zero ($B = 0.15$) for graduate degree holders. We carried out an additional survival analysis contrasting family leave takers with graduate degrees to nonfamily leave takers and found that there was not a significant difference between their turnover hazards either with, $B = 0.15$, Wald $\chi^2(1, N = 26{,}359) = 0.28$, $p = .60$, or without, $B = -0.10$, Wald $\chi^2(1, N = 26{,}359) = 0.14$, $p = .70$, the time since family leave variable in the analysis. These results suggest that the significant main effect for family leave was largely due to greater turnover for family leave takers with less education than a graduate degree.

Discussion

We began this article by asking whether female managers are more likely than their male counterparts to be quitters, as has been suggested by some previous research (e.g., Cotton & Tuttle, 1986; Stroh et al., 1996). With or without controls for human capital, we found that, contrary to our prediction, female managers' actual voluntary turnover rates were slightly lower than those of male managers. In addition, we tested hypotheses related to previous explanations for the gender gap in turnover by examining promotions and family LOAs as predictors of voluntary turnover. We

found that the relationship of promotions to voluntary turnover depended on the timing of the promotion; managers who had been promoted were less likely to resign than managers who had not been promoted only if the promotions had occurred within the past 11 months. There was also a significant gender by promotion interaction, indicating that promoted women were less likely to resign than promoted men. In addition, we found that managers who had taken family leaves had higher voluntary turnover rates than managers who had not taken leaves or managers who had taken sick leaves. Among family leave takers, managers with graduate degrees were much less likely to resign than managers with less education.

Although the gender difference in voluntary turnover was statistically significant, the small effect size suggested that the turnover rates for male and female managers were very similar. This finding raises questions about why we did not find higher turnover for women as we had predicted on the basis of prior research (e.g., Lewis & Park, 1989; Sicherman, 1996; Stroh et al., 1996). Some authors have suggested that research findings showing higher turnover for female than male employees were due to lack of comparability in the jobs held by women and men, with women's jobs typically providing less incentive to remain at their organizations because they were lower in the hierarchy with fewer advancement opportunities and lower salaries than men's jobs (e.g., Blau et al., 1998; Sicherman, 1996). It is possible that the female managers whom we studied were more comparable to their male counterparts than women in earlier studies or broader populations. However, the men in our study had greater human capital (i.e., education, salary, and hierarchical level) than the women, and the women were more likely to work in female-dominated job families (see Table 1). Nevertheless, we found no evidence of higher turnover for women whether or not we controlled for human capital, marital status, and percentage of women in the job family.

Also, some prior turnover studies used samples from multiple organizations (e.g., Stroh et al., 1996), which may have resulted in unmeasured differences in jobs or opportunity structures for men and women, whereas conducting our study in a single organization helped to control for some of these factors. In addition, with the exception of Stroh et al.'s study, most prior research on gender differences in turnover used data from the 1970s or the 1980s; our findings may reflect changes that have occurred over the past decade in women's lifestyles or commitment to their careers.

In addition to examining gender differences in turnover for managers, our results shed some light on predictors of turnover for female employees. Previous research has shown that female managers who were dissatisfied with their advancement opportunities reported higher turnover intentions than male managers with comparable opportunities (Stroh et al., 1996). However, to our knowledge, this is the first study to examine gender differences in the relationship of recent promotions to actual voluntary turnover for managers. Our finding that recently promoted women were less likely to resign than recently promoted men provides some insights for employers about what they might do to retain talented women.

The finding that managers taking family leaves had higher turnover rates than managers who took sick leaves or no leaves is not too surprising in view of the challenges associated with trying to balance family responsibilities with a demanding managerial career. However, it is important to note that although their turnover rates were higher than those for other groups, less than one fourth of family leave takers resigned, and those with graduate degrees were no more likely to quit than their non-leave-taking counterparts. Prior research with broader samples has found that maternity leave benefits can mitigate the negative consequences of family responsibilities on women's earnings if they return to work at their same employers after childbirth (Waldfogel, 1998). Although there is research evidence that managers who took leaves incurred wage penalties compared with their non-leave-taking counterparts (Judiesch & Lyness, 1999), these penalties were much smaller than those found in other research to be associated with career interruptions for managers (e.g., Schneer & Reitman, 1997).

As we mentioned in the literature review, some turnover studies have underscored the importance of human capital variables as predictors of attachment to the workforce as well as to specific organizations. In addition, women with less of certain types of human capital have been found to account for some of the observed gender differences in turnover behavior (e.g., Royalty, 1998; Sicherman, 1996). The present study contributes to this body of research with the interesting finding that managers with graduate degrees who took family leaves were no more likely to resign than non-leave-taking managers.

Our findings suggest that family leave-taking managers who had made the investment required to earn graduate degrees appeared to be committed to their careers and organization, and that they had found a way to balance their work and nonwork responsibilities (associated with family leaves). These managers (most of whom were women) also represent an interesting deviation from the prediction of the human capital model that women who anticipate interrupting their labor force participation for child rearing are less likely to invest in advanced education than women or men who do not anticipate career interruptions (see Blau et al., 1998, for a discussion). Our data raise the question as to whether these women obtained graduate degrees because they did not anticipate having children or because they planned to have children without interrupting their careers. In any event, our finding that managers with graduate degrees who took family leaves were no more likely to resign than non-leave-taking managers provides some good news for organizations because these well-educated managers are likely to be employees who companies would like to retain. These results also underscore the need to view family leave takers as individuals rather than making stereotypic assumptions about them as a group.

Our data illustrate the importance of using event history analysis in turnover research so that the effects of variables that change over time can be studied. For instance, we found that higher turnover rates for managers taking family leaves persisted for about 31 months after the leaves, but lower turnover rates for promoted managers persisted for only 11 months after the promotions. If promotion had been analyzed only as a main effect, we would have reported a nonsignificant relationship between promotions and voluntary turnover that would have been much less accurate or useful than our finding about the changing nature of the relationship over time. Also, our significant main effect for family leaves would have obscured the fact that this relationship with turnover diminishes over time.

Our interesting results concerning the changing nature of the promotion and turnover relationship over time suggest that this relationship may be more complex than has been indicated by the prior literature. On the one hand, we found that promotions were negatively related to voluntary turnover only if they had occurred

within the past 11 months, suggesting that the positive effects of promotions on retention may be less long-lasting than many employers assume. On the other hand, we found that managers who had received promotions more than 11 months ago were more likely to resign than managers who had not received promotions during the 41-month period that we studied. One possible interpretation is that a "What have you done for me lately?" effect is operating, such that a promotion creates an expectation for the manager that he or she will continue to advance. If another promotion is not received within the expected time period, the manager's unmet expectations may cause him or her to begin an external job search. Also, as Trevor et al. (1997) pointed out, promotions may make it easier for employees to obtain new jobs at other companies because promotions serve as indicators of potential worth to external employers (e.g., Schwab, 1991). These findings may be particularly important for employers who are struggling to retain talented employees in today's tight labor market, and a possible implication is that employers who want to use incentives as retention tools need to consider providing other types of incentives, such as stock options, where the benefits to employees are delayed rather than immediately realized as with promotions.

Limitations and Future Research Suggestions

Additional research is needed to determine the extent to which our findings are generalizable to other organizations. However, the limitations that typically apply to studies in a single organization were somewhat mitigated by the fact that our sample came from a wide variety of functional areas (e.g., accounting, sales, customer service, and human resources) and work locations throughout the United States. Our results are more likely to generalize to large organizations that provide family leave benefits because of company policies or coverage under the FMLA. If companies do not provide job-guaranteed family leaves, it is possible that they may experience higher turnover rates for female managers than male managers, and future research might be conducted to examine relationships of benefit policies to turnover. Another limitation is that we could not determine how the use of family leave benefits at this organization compares with that at other organizations. However, it is likely that the percentage of managers taking family leaves at this organization (in which all full-time employees were eligible for leaves) is more typical of other large organizations with similar family leave policies than organizations following the FMLA requirements in determining eligibility (e.g., employees must have 12 months of organizational tenure) for family leave benefits. In addition, because only 27 (0.2%) of the men in our sample took family leaves, we could not determine whether there were gender differences in the relationship between family leaves and voluntary turnover.

Another limitation of our research is the unavailability of detailed information about the specific reasons for voluntary turnover of the managers in our sample. The organizational codes indicated that the majority of voluntary turnover occurred because managers obtained other employment but did not indicate why individual managers sought to change companies (e.g., for better advancement opportunities vs. more flexibility to attend to nonwork responsibilities). The limitation of available organizational data about turnover reasons is consistent with Campion's (1991) research, which revealed that deficient information is often due to the organizational practice of recording only a single reason for turnover.

Although we were able to identify important predictors of voluntary turnover, the relatively low correlations of these predictors with voluntary turnover suggest that there were other important unmeasured predictors that should be included in future studies. For instance, future research should clarify the psychological processes associated with voluntary turnover for managers. Recent research testing an unfolding model of voluntary turnover (Lee & Mitchell, 1994) found that nonwork events, such as pregnancy, were sometimes involved in decision paths leading to resignation for nurses (Lee, Mitchell, Wise, & Fireman, 1996), and it would be interesting to find out how the decision to take a family leave might enter into the decision process. It would also be useful to find out whether our findings about the changing nature of the relationship between promotions and voluntary turnover over time generalize to other organizations or to other types of incentives, such as stock options.

In the introduction, we said that statistical discrimination can occur if decisions about individual women are negatively affected by employers' beliefs about the employment stability of women in general. Our findings indicated, however, that during the 41-month period we studied, women were slightly less likely than men to voluntarily leave the organization. Also, recently promoted women were less likely to resign than recently promoted men. Although the majority of managers taking family leaves were women, it is important to keep in mind that only a small number of the female managers took family leaves during the time period we studied and most of them did not resign. Thus, our results suggest that the gender gap in turnover behavior that was observed in some prior research (e.g., Cotton & Tuttle, 1986; Stroh et al., 1996) did not appear to hold for the female and male managers whom we studied.

References

Aigner, D. J., & Cain, G. G. (1977). Statistical theories of discrimination in labor markets. *Industrial and Labor Relations Review, 30,* 175–187.

Allison, P. D. (1995). *Survival analysis using the SAS system.* Cary, NC: SAS Institute.

Almer, E. D., Hopper, J. R., & Kaplan, S. E. (1998). The effect of diversity-related attributes on hiring, advancement and voluntary turnover judgments. *Accounting Horizons, 12,* 1–17.

Baker, G., Gibbs, M., & Holmstrom, B. (1994). The internal economics of the firm: Evidence from personnel data. *Quarterly Journal of Economics, 109,* 881–919.

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education.* New York: Columbia University Press.

Blau, F. D., Ferber, M. A., & Winkler, A. E. (1998). *The economics of women, men, and work* (3rd ed.). Saddle River, NJ: Prentice Hall.

Brett, J. M., & Stroh, L. K. (1997). Jumping ship: Who benefits from an external labor market career strategy? *Journal of Applied Psychology, 82,* 331–341.

Campion, M. A. (1991). Meaning and measurement of turnover: Comparison of alternative measures and recommendations for research. *Journal of Applied Psychology, 76,* 199–212.

Carson, P. P., Carson, K. D., Griffeth, R. W., & Steel, R. P. (1994). Promotion and employee turnover: Critique, meta-analysis, and implications. *Journal of Business and Psychology, 8,* 455–466.

Catalyst. (1986). *Report on a national study of parental leaves.* New York: Author.

Cotton, J. L., & Tuttle, J. M. (1986). Employee turnover: A meta-analysis and review with implications for research. *Academy of Management Review, 11,* 55–70.

Cox, D. R. (1972). Regression models and life tables. *Journal of the Royal Statistical Society (Series B), 34,* 197–220.

Cox, T. H., & Harquail, C. V. (1991). Career paths and career success in the early career stages of male and female MBAs. *Journal of Vocational Behavior, 39,* 54–75.

Dickter, D. N., Roznowski, M., & Harrison, D. A. (1996). Temporal tempering: An event history analysis of the process of voluntary turnover. *Journal of Applied Psychology, 81,* 705–716.

Dreher, G. F., & Cox, T. H., Jr. (2000). Labor market mobility and cash compensation: The moderating effects of race and gender. *Academy of Management Journal, 43,* 890–900.

Family and Medical Leave Act, Pub. L. No. 103-3, 139 C.R. (1993).

Gerhart, B., & Milkovich, G. T. (1990). Organizational differences in managerial compensation and financial performance. *Academy of Management Journal, 33,* 663–691.

Glass, J. L., & Riley, L. (1998). Family responsive policies and employee retention following childbirth. *Social Forces, 76,* 1401–1435.

Greenstein, T. (1989). Human capital, marital and birth timing, and the postnatal labor force participation of married women. *Journal of Family Issues, 10,* 359–382.

Harrison, D. A., Virick, M., & William, S. (1996). Working without a net: Time, performance, and turnover under maximally contingent rewards. *Journal of Applied Psychology, 81,* 331–345.

Hom, P. W., & Griffeth, R. W. (1995). *Employee turnover.* Cincinnati, OH: South-Western.

Hyde, J., Essex, M., & Horton, F. (1993). Fathers and parental leave: Attitudes and experiences. *Journal of Family Issues, 14,* 616–638.

Hymowitz, C. (1989, February 16). One firm's bid to keep Blacks, women: Corning battles to overcome ingrained biases. *The Wall Street Journal,* p. B1.

Judiesch, M. K., & Lyness, K. S. (1999). Left behind? The impact of leaves of absence on managers' career success. *Academy of Management Journal, 42,* 641–651.

Kanter, R. M. (1982). The impact of hierarchical structures on the work behavior of women and men. In R. Kahn-Hut, A. K. Daniels, & R. Colvard (Eds.), *Women and work: Problems and perspectives* (pp. 234–247). New York: Oxford University Press.

Keith, K., & McWilliams, A. (1995). The wage effects of cumulative job mobility. *Industrial and Labor Relations Review, 49,* 121–137.

Keith, K., & McWilliams, A. (1999). The returns to mobility and job search by gender. *Industrial and Labor Relations Review, 52,* 460–477.

Kelly, E., & Dobbin, F. (1999). Civil rights law at work: Sex discrimination and the rise of maternity leave policies. *American Journal of Sociology, 105,* 455–492.

Klerman, J. A., & Leibowitz, A. (1994). The work–employment distinction among new mothers. *Journal of Human Resources, 29,* 277–303.

Klerman, J. A., & Leibowitz, A. (1999). Job continuity among new mothers. *Demography, 36,* 145–155.

Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of employee turnover. *Academy of Management Review, 19,* 51–89.

Lee, T. W., Mitchell, T. R., Wise, L., & Fireman, S. (1996). An unfolding model of voluntary employee turnover. *Academy of Management Journal, 39,* 5–36.

Lefkowitz, J. (1994). Sex-related differences in job attitudes and dispositional variables: Now you see them, . . . *Academy of Management Journal, 37,* 323–349.

Lewis, G. B. (1992). Men and women toward the top: Backgrounds, careers, and potential of federal middle managers. *Public Personnel Management, 21,* 473–491.

Lewis, G. B., & Park, K. (1989). Turnover rates in federal white-collar employment: Are women more likely to quit than men? *American Review of Public Administration, 19,* 13–28.

Light, A., & Ureta, M. (1992). Panel estimates of male and female job turnover behavior: Can female nonquitters be identified? *Journal of Labor Economics, 10,* 156–181.

Lyness, K. S., & Judiesch, M. K. (1999). Are women more likely to be hired or promoted into management positions? *Journal of Vocational Behavior, 54,* 158–173.

Lyness, K. S., & Thompson, D. E. (1997). Above the glass ceiling? A comparison of matched samples of female and male executives. *Journal of Applied Psychology, 82,* 359–375.

Maertz, C. P., Jr., & Campion, M. A. (1998). 25 years of voluntary turnover research: A review and critique. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 13, pp. 49–81). New York: Wiley.

Miller, J. G., & Wheeler, K. G. (1992). Unraveling the mysteries of gender differences in intentions to leave the organization. *Journal of Organizational Behavior, 13,* 465–478.

Morita, J. G., Lee, T. W., & Mowday, R. T. (1989). Introducing survival analysis to organizational researchers: A selected application to turnover research. *Journal of Applied Psychology, 74,* 280–292.

Morita, J. G., Lee, T. W., & Mowday, R. T. (1993). The regression-analog to survival analysis: A selected application to turnover research. *Academy of Management Journal, 36,* 1430–1464.

Olson, J. E., & Frieze, I. H. (1989). Job interruptions and part-time work: Their effect on MBAs' income. *Industrial Relations, 28,* 373–386.

Phelps, E. S. (1972). The statistical theory of racism and sexism. *American Economic Review, 62,* 659–661.

Pleck, J. H. (1993). Are "family-supportive" employer policies relevant to men? In J. C. Hood (Eds.), *Men, work, and family* (pp. 217–237). Newbury Park, CA: Sage.

Pregnancy Discrimination Act of 1978, 42 U.S.C. § 2000e (1978).

Rosin, H., & Korabik, K. (1995). Organizational experiences and propensity to leave: A multivariate investigation of men and women managers. *Journal of Vocational Behavior, 46,* 1–16.

Royalty, A. B. (1998). Job-to-job and job-to-nonemployment turnover by gender and education level. *Journal of Labor Economics, 16,* 392–443.

SAS Institute. (1999). *SAS OnlineDoc* (Version 8). Cary, NC: Author.

Schneer, J. A., & Reitman, F. (1990). Effects of employment gaps on the careers of M.B.A.'s: More damaging for men than for women? *Academy of Management Journal, 33,* 391–406.

Schneer, J. A., & Reitman, F. (1997). The interrupted managerial career path: A longitudinal study of MBAs. *Journal of Vocational Behavior, 51,* 411–434.

Schwab, D. P. (1991). Contextual variables in employee performance–turnover relationships. *Academy of Management Journal, 26,* 418–436.

Schwartz, F. N. (1989). Management women and the new facts of life. *Harvard Business Review, 67*(1), 65–76.

Sheridan, J. E. (1992). Organizational culture and employee retention. *Academy of Management Journal, 35,* 1036–1056.

Sicherman, N. (1996). Gender differences in departures from a large firm. *Industrial and Labor Relations Review, 49,* 484–505.

Somers, M. J., & Birnbaum, D. (1999). Survival versus traditional methodologies for studying employee turnover: Differences, divergences and directions for future research. *Journal of Organizational Behavior, 20,* 273–284.

Stroh, L. K., Brett, J. M., & Reilly, A. H. (1996). Family structure, glass ceiling, and traditional explanations for the differential rate of turnover of female and male managers. *Journal of Vocational Behavior, 49,* 99–118.

Tharenou, P. (1999). Is there a link between family structures and women's

and men's managerial career advancement? *Journal of Organizational Behavior, 20,* 837–863.

Trevor, C. O., Gerhart, B., & Boudreau, J. W. (1997). Voluntary turnover and job performance: Curvilinearity and the moderating influences of salary growth and promotions. *Journal of Applied Psychology, 82,* 44–61.

Tsui, A. S., Egan, T. D., & O'Reilly, C. A. (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly, 37,* 549–579.

U.S. Commission on Family and Medical Leave. (1996). *A workable balance: Report to Congress on family and medical leave policies.* Washington, DC: U.S. Department of Labor, Women's Bureau.

Waldfogel, J. (1997). Working mothers then and now: A cross-cohort analysis of the effects of maternity leave on women's pay. In F. D. Blau & R. G. Ehrenberg (Eds.), *Gender and family issues in the workplace* (pp. 92–126). New York: Russell Sage Foundation.

Waldfogel, J. (1998). The family gap for young women in the United States and Britain: Can maternity leave make a difference? *Journal of Labor Economics, 16,* 505–545.

Waldfogel, J. (1999, October). Family leave coverage in the 1990s. *Monthly Labor Review,* 13–21.

Received November 17, 1999
Revision received January 28, 2001
Accepted January 30, 2001 ■