



A Matched Cohort Study of Career Progression:

Glass Ceiling Effect or Sticky Floors?

JEAVONS, Simone

(Curtin University of Technology)

&

SEVASTOS, Peter

(Curtin University of Technology)



p. 1

A matched cohort study of career progression:

Glass ceiling effect or Sticky Floors?

Abstract

The minority of women in senior management has led many researchers to investigate whether a glass ceiling effect exists, or whether other factors such as sexual discrimination, or females self selection out of the organization are at play. This study investigated whether the glass ceiling effect existed by using a matched cohort to measure progression via the number of promotions men and women had received. Ordinary least square and tobit regression analyses were conducted on a matched cohort, with participants being matched on initial job level and commencement date (N = 191). The study controlled for previous job experience, education, age, tenure, initial job level, and gender. The results showed that even levels of promotions existed for men and women. However, qualitative data showed that women were employed by the organization at a level that was lower than their qualifications, or lower than men doing the same job. Therefore, even with equal rates of promotion, women will not progress as far as men. Quantitative analysis on the entire sample (N = 441) showed that women were ≈ 12 times as likely to be recruited in low level job classifications. This study highlights the need to collect both quantitative and qualitative data when investigating an issue that may be of a covert nature.



p. 2

The term 'glass ceiling' effect was introduced in 1986 to describe the barriers that women experienced that resulted in a lack of promotional opportunities for women into management, more specifically from middle to senior management levels (Wajcman, 1999). The glass ceiling effect can be described as "a transparent barrier that keeps women from rising above a certain level in corporations" (Morrison, White, Van Velsor & The Centre For Creative Leadership, 1999, p. 299)

Women are often blamed for this lack of progression. This gender gap in career progression has been linked to institutional barriers, current managers expectations and attitudes toward women, women's personality characteristics, reluctance to relocate, family status, career choices, labour market economic forces, organizational structure, societal division of labour, male dominated organizational culture and the traditional link of managerial traits with male behaviours (Burke & McKeen, 1992; Melamed, 1995; van Vianen & Fischer, 2002).

Supporting research has found that differential rates of promotion exist for men and women, and even a small variance can impact greatly on the number of women that reach executive level (Day, Schleicher, Unckless, & Hiller, 2002; McDowell, Singell, & Ziliak, 1999) leaving women disillusioned and dissatisfied.

Heilman, Block and Martell (1995) found the persisting effects of gender status mean that women managers' efforts to assert authority over others is undercut by the continuing and implicit assumptions that women are not quite as competent in the role as men. Assumed lack of competency is one of the reasons suggested for low levels of promotion of women into senior management roles (Campbell, 2002; Lyness & Thompson, 1997; Ridgeway, 2001). In addition, research shows that biases in the attribution of success to ability rather than effort clearly favour men and success of women is attributed to effort or luck (Burke & McKeen, 1992; Greenhaus & Parasuraman, 1993 as cited in Melamed, 1995; Swim & Sana, 1996).

When the majority of the individuals in an organization are of one gender, the work culture that prevails will often be based on the attitudes and values of the dominant sex (Ayre, 2001). If the organization is male dominated, this will disadvantage women, as the underlying culture will be based on the way males communicate, and the way they function will reward and encourage stereotypic male behaviours. Furthermore, performance will be judged by the male definition of competencies, thereby creating a barrier for women, both on entry into the organization and for performance reviews once employed by the organization.

Organizational cultures have shown to be highly resistant to change and when the change is one that is not widely accepted, the cultural change programmes work only at a superficial level, leaving the traditional structures intact (Marshall, 1993). Marshall (1993) further suggests this resilience to change is rampant in the face of equal opportunities due to the ingrained dominance of male values, particularly in a male dominated culture. Women must prove themselves against a male benchmark, which is too often considered a management benchmark.

Within this culture, women do not have equal rights and this is permeated covertly through institutional patterns of power, such as communication styles and office politics (Marshall, 1993). For example, women may be ignored and ideas put forward may not be accepted unless



they are in line with a males perspective. This removes any source of power from the hands of women, within this organizational culture. However, this use of power may not be conscious and deliberate (Marshall, 1993).

To progress within organizations men often rely on informal networks (old boys network). These informal networks are often exclusive to men and revolve around social events, sporting events and/or drinking establishments. Career success is often built through these informal networks and women's access to these networks is restricted (Burke & McKeen, 1992; Davidson & Cooper, 1992; Melamed, 1995) which could assist in the explanation of the glass ceiling. Davidson and Cooper (1992) suggest that 50% of managerial jobs were gained through informal contacts, at the expense of women. In addition, the old boys club has been identified by the British Institute of Management (1992; 1997) as one of the most profound barriers for women attempting to break into senior management (as cited in Wajcman, 1999). Therefore, women's attempt to build career success through formal merit based procedures are thwarted. Furthermore, important decisions are often made at many of these informal gatherings, leaving female managers out of the decision making process.

Morgan (1998) investigated whether a glass ceiling or cohort effect existed, in relation to a gender earnings gap with a longitudinal sample of engineers. It was found that a cohort effect existed dependant on when the women began their careers. The earlier they began their careers, the larger the cohort effect, with currently a zero difference in wage earnings for those engineers beginning their careers. However, Alessio and Andrzejewski (1998) responded by stating Morgan's (1998) interpretation of the findings were biased, by disregarding supporting evidence of a glass ceiling effect. In addition, the sample suffered from sample attrition bias as a 13% attrition rate of female engineers existed in the sample. Therefore Alessio and Andrzejewski (1998) suggest that female engineers may be self selecting out of the organization, prior to reaching the glass ceiling.

Van Vianen and Fischer (2002) investigated the role of culture preferences in supporting the glass ceiling. Their study identified two barriers that prevented women from climbing to the top. Firstly, less women begin in a management role due to their weak masculine culture preferences, which are more inherent in management positions than feminine culture preferences. Secondly, women are less ambitious in moving from middle management to senior management due to the inability to have a work/life balance when filling this role, due to the stress and time investment (Van Vianen and Fischer, 2002). These findings lay the blame of perpetuating the glass ceiling at the feet of women and ignore the organization's role of promoting a culture which indirectly discriminates against women.

Melamed (1995) found that when controlling for relevant human capital, personality characteristics, demographic attributes, career choices, organization structure and labour market forces, over 55% of the gender gap in career success/managerial level was attributed to sex discrimination, and that 62% of the gender wage gap is due to sex discrimination. Even more disconcerting is the implication of these findings that a woman who models her career path

on a successful male manager, equal on education, personality and job relevant human capital attributes, will still attain lower levels of managerial status and salary than men (Melamed, 1995). This supports the notion of an underlying, systematic form of sexual discrimination that has been perpetuated through cultural norms (Melamed, 1995; Wajcman, 1999).

Rationale for the Current Research

This study attempted to extend on previous research that examined the notion of a glass ceiling effect and gender inequalities by examining progression by number of promotions. It, therefore, contributes to the body of research already in existence, by using both quantitative and qualitative data to investigate discrimination. Organizations can manipulate their procedures to mask unfair personnel practices, thereby creating a positive picture with the statistics that are provided to the public. However, qualitative data can uncover discriminatory practices and draw attention to the need to address the covert discrimination.

Aims and Hypothesis

The purpose of this study was to investigate whether a potential glass ceiling effect exists by examining the progression of men and women, with a matched cohort to determine whether gender inequalities existed.

It was hypothesised that men will progress further than women (when matched on date started, and entry job level) in the overall organizational sample (while controlling for age, gender, tenure, education, entry job level and previous experience). Therefore, the objective of this study was to determine whether significant differences existed between men and women in the number of promotions they had received.

Method

Sample

The sample utilised in this study were employees from a private, medium size international resources company, based in Australia. The organization is primarily male dominated, with 29.5% of employees being female and 70.5% being male. Figures showed that only 5.4% of management were female, and only 4.3% of senior management were female. Archival records of all 1428 permanent staff who were employed from 1995 onwards were collected from the Human Resources data base and a final matched sample of 119 (after deletion of 7 cases that were outliers) were used in the quantitative study. These cases were matched on entry job level and commencement date within a 3 month time span. The final sample consisted of 86 women and 105 men.

For the qualitative study, participant information sheets were randomly sent to seventy female employees, between the job levels of 9 to 15. The organizations job levels span from 1 to 20,



with women stopping at job level 15, and needing a degree to get to job level 9. Interviews were conducted with the 47 women who responded that they were willing to participate in the research. This represented a 67% response rate. Interview participants ranged in age from 25 years to 54 years ($M = 35.6$ years) and were from various business units, locations, and professions.

Measurement

All measures used in this study were obtained from archival data. In addition, a semi-structured interview was developed which addressed many areas of discrimination. These areas included: organizational culture, perceived barriers, experienced behaviours of both a positive and a negative nature, evidence of a glass ceiling effect within the organization, behaviours which are encouraged and rewarded, family and career orientation and the experience and tolerance of flexible working practices. Demographic data on age, job level, business unit, location and job title were also collected.

Procedure

Analyses

When the range of the dependent variable is constrained, the Tobit model, also referred to as “the censored normal regression model” (Maddala, 1992), is appropriate rather than the ordinary least squares (OLS) regression, which produces inconsistent estimates (Greene, 1993; Long, 1997). Interpretation of Tobit regression coefficients is not as straightforward as the interpretation of OLS. The reason is that a Tobit regression coefficient consists of two components that can be, nevertheless, decomposed to identify two sources of change in the censored outcome (McDonald and Moffitt, 1980). In the present study, cases that have values for promotion ≥ 1 , the suggested decomposition determines how the level of promotion is expected to change due to the influence of the independent variable(s), while for cases with zero values on promotions the effect of the independent variable(s) identifies the probability of being promoted (Roncek, 1992). To assist with the interpretation of the results, given that Tobit regression is not widely used in psychology, both OLS and Tobit regressions will be performed and reported.

Interviews were also conducted at the interviewees’ business premises, either in their office, or a meeting room in the building. Interviews with participants that were located in various other regions were conducted over the telephone. The researcher was given permission to tape record 40 of the 47 interviews and notes were taken as close to verbatim as possible, from all interviews. Content analysis was then conducted on all transcripts to determine the common themes.



Results

Table 1 shows summary statistics and inter-correlations among all study variables. Analyses for OLS and Tobit regressions were performed using the Shazam 8.0 (1997) econometrics computer program. Before the testing of the hypotheses, the data were explored for heteroscedasticity of the residuals. In the case of the censored variable model, Maddala and Nelson (1975) showed that if we ignore heteroscedasticity, the resulting estimates of the Tobit regression are not consistent.

TABLE 1 MEANS, STANDARD DEVIATIONS, AND INTER-CORRELATIONS AMONG STUDY VARIABLES

Variables	Means	SD	1	2	3	4	5	6	7	8	9
1. Salary (current)	72,692	18,107	1.00	.827	.107	.136	.859	.283	.357	.358	.371
2. Salary (initial)	58,729	15,555		1.000	-.354	-.304	.905	.216	.458	.417	-.129
3. Promotion	0.733	0.916			1.00	.954	-.285	.165	-.336	-.313	.565
4. Promotion (transformed)	0.585	0.627				1.00	-.226	.181	-.324	-.335	.534
5. Entry Level	8.314	1.874					1.00	.258	.390	.367	.075
6. Education	2.094	0.689						1.00	-.171	-.136	.058
7. Experience	7.155	5.323							1.00	.684	-.013
8. Age	34.021	6.711								1.00	.113
9. Tenure	2.600	1.532									1.00

Note: N = 191. Correlations $\geq .275$ significant at $p < .05$, and $r \geq .307$, $p < .01$

Heteroscedasticity was assessed through the Breusch-Pagan test (Breusch & Pagan, 1979), that analyses residuals following an ordinary least squares regression (OLS) procedure. The test of “no heteroscedasticity” is evaluated through the chi-squared statistic with degrees of freedom equal to the number of IVs in the analysis. Values of the test statistic smaller than a critical value indicate homoscedasticity

Assumption testing, based on the modified Breusch-Pagan test (Breusch & Pagan, 1979; Godfrey, 1978) showed that the distribution was homoscedastic ($X^2 = 11.008$, $df = 6$, $p > .05$) and, therefore, suitable for Tobit regression. All variables were also tested for normality of residuals based on the Jarque-Bera (1987) asymptotic LM normality test, which did not indicate any departure from normality ($X^2 = 3.287$, $df = 2$, $p > .05$). Of the 191 cases, 97 were at the limit (i.e., zero promotions).

For the OLS regression and Tobit analyses the study variables were entered in a hierarchical fashion. On Step 1 of the analysis age, tenure, education, prior job experience and entry job level were entered, followed on Step 2 by gender.

Table 2 shows the results of the OLS and Tobit regression based on the maximum likelihood (ML) estimator, which has superior and more powerful statistical properties than conventional tests (Harrison, 2002).



TABLE 2 HIERARCHICAL ORDINARY LEAST SQUARES (OLS) AND TOBIT REGRESSIONS WITH DV “PROMOTION”

Variables	OLS Regression		Tobit Regression		
	Step 1 β	Step 2 β	Step 1 β^{\wedge}	Step 2 β^{\wedge}	β
Age	-.303***	-.301***	-.101***	-.010***	-.004
Tenure	.574***	.576***	.622***	.624***	.224
Education	.156**	.155**	.351*	.349*	.125
Prior Job Experience	-.005 ns	-.002 ns	.019 ns	.020 ns	.007
Entry Job Level	-.196**	-.198**	-.173**	-.174**	-.062
Gender	–	-.027 ns	–	-.097 ns	-.035
ΔR^2	.483	.000			
σ	.457	.458	.992	.990	
Log Likelihood	-118.383	-118.251	-182.510	-182.350	
χ^2 (df)	125.894 (5)***	0.264 (1)ns	132.212 (5)***	0.320 (1)ns	

Note: N = 191. n.s. = not significant * p < 0.05; ** p < 0.01; *** p < 0.001. The censored DV was transformed for conducting the OLS regression by taking its square root; β is the regression coefficient for the OLS, and the Tobit estimated partial derivative at the mean with the truncation effect (McDonald & Moffitt, 1980); β^{\wedge} is the Tobit regression coefficient based on the maximum likelihood estimates without the truncation effect; σ is the standard error of estimate (sigma). Constant only model log-likelihood for OLS = -181.330 and for Tobit = -248.616. The fraction of the total effect of an IV that is attributable to the effect of being above the limit is 0.3591 (35.91%)

Results were consistent across both analyses. The hypothesis that gender is an important predictor for promotion was not supported. Statistically significant predictors of promotion, however, were “tenure” and “educational level”, while “age” and “entry job level” were negatively associated with promotions. “Prior job experience” before joining the organization did not have any impact on promotions. The calculation of the effects at the limit (i.e. for those with zero promotions) using the McDonald and Moffitt (1980) formula suggests that each additional unit of “tenure” (i.e., each additional year of service) and “education” (i.e., each additional higher qualification) implies a 25.14% and 14.06% higher probability of receiving a promotion, respectively. The probabilities for “age” and “entry job level” were negligible.

The results of both regressions reported earlier were replicated, this time using OLS, with the continuous variable “current salary” as DV, and the same IVs with the exception of “initial salary level” that replaced “entry job level” as a predictor. It can be concluded, therefore, that no gender bias existed that influenced promotional opportunities.

Qualitative Findings

Fifty one percent of women interviewed reported that they commenced employment with the organization at a job level that was too low for their qualifications, or was lower than the job level of a male doing exactly the same job. This topic was raised by 24 of the 47 women that were interviewed. This is a significant finding when taking into consideration that the researcher did not specifically ask a question about job levels. Table 3 lists the various situations encountered, specifically in relation to job levels, that women have experienced as barriers to progressing as far as they should have, within the organization.





The themes that arose centred around women being told they must prove themselves before being considered for a job level that was seen by management as appropriate for a man. Further barriers were identified as, for example, when women working part-time were put “on hold” and could not progress; or when the male dominated culture, and the inherent boys’ club that goes with it, prevented women from being part of the informal networking that was considered important in getting access to informal channels for promotions.

TABLE 3 UNSOLICITED REPORTS OF GENDER BIAS IN PROMOTIONS

Barrier	Number	%*
Entered at a job level that was readjusted up within a few months	5	20
Replaced a job at a lower job level that the person who left the job	3	12
Started at 1 or 2 job levels lower than men doing same job	8	32
Verbally offered/job advertised at one level , given a lower level	4	16
Told will get job level increase when proven oneself, but constantly put off	4	16

*Percentages do not equal 100% due to rounding.

Supplementary Analysis

To further establish whether discrimination occurred at the entry job level, we applied a multinomial logit model to the entire data set (N = 441). We argue that the statistically significant variables identified in the tobit regression on promotions (i.e., age and education) would also be important in assigning individuals to the appropriate organisational level on commencement of employment.

Four hundred and forty-one cases that had complete demographic information were included in a logit analysis, by specifying “entry job level” as the dependent variable, and “education” and “gender” as independent variables, with “age”, measured on an interval scale, as a covariate in the analysis. “Age” has the potential to act as a nuisance variable, because of its association with other relevant work variables, and its effects needed to be controlled. In logit analysis, the adjustment of the covariate is made for each cell of the matrix, by calculating the mean value of the covariate.

To simplify interpretation of results, each effect was recoded to have only two levels; that is “entry job level” was categorised 0 = low job classification, and 1 = high job classification; and “education” 0 = non-university educated, and 1 = university educated. Gender was coded 0 = female, and 1 = male.

Results of the logit analysis showed that the “goodness-of-fit” statistic, based on the likelihood ratio was not statistically significant $\chi^2(1 \text{ df}) = 1.167, p = .280$, suggesting that there was no discrepancy between the model and the data (i.e., the estimated frequencies in the matrix were not dissimilar to the observed frequencies).

Neither the interaction between gender and level, nor between gender and education were

statistically significant. However, the interaction between gender and job level was statistically significant (parameter estimate $\lambda = 1.239$, Z-value 5.79, $p < .001$). In logit analysis the statistically significant parameters are interpreted as the log of odds ratios. Since the recoded reference categories were low “job level” and “female”, this indicates that female employees are 2×1.239 , or ≈ 12 times as likely to be selected in the low job classifications. This result supports the qualitative comments expressed by the female employees in our sample.

Discussion

The results of this study fail to support the hypothesis that men will receive more promotions relative to women, when controlling for demographics and job relevant characteristics in a matched cohort. Therefore, differential levels of progression were not found to exist within the organization that was investigated. However, qualitative data suggested covert discrimination in the form of gender inequalities. Women were employed by the organization at a job level that was well below their qualifications, or was lower than that of male colleagues doing similar jobs. It appears that men are being accepted at face value, while women need to prove themselves. Campbell (2002), Lyness and Thompson (1997) and Ridgeway (2001) provide support for this finding as women are assumed to be lacking in competence, when compared to men. This assists in the explanation that women must prove themselves, prior to being accepted by the organization.

Although the statistics of the organization (4.3% of women in senior management) suggest that a glass ceiling may exist, the results show that these barriers exist upon entry to the organization, as opposed to being initiated at the middle and senior management level, where the glass ceiling is said to reside (Wajcman, 1999). Therefore, if women enter the organization at one or two job levels lower than men with equal qualifications, even with equal levels of promotion, women will not reach the level of senior executive. As Day et al., (2002) and McDowell et al., (1998) found, even a small variance in promotions can impact greatly on the number of women that reach senior executive level.

Another implication of the present finding, is that as women begin at a level below their capability, they are receiving more promotions than they should have, had they started on the correct level. This then raises the question: has this lower entry level impacted on the number of promotions women received, thereby manipulating the statistics, by showing no difference between men and women on their rate of promotion?

The implications of these findings is that the statistical data could be presented in a court of law and support the organization’s claim that gender discrimination does not occur within the organization. As this discrimination is covert as opposed to blatant, it is very difficult to detect and, therefore, address. However, this study highlights the usefulness of collecting qualitative data, to identify undesirable and discriminatory promotion and employment practices. The current study also highlights the importance to Equal Employment Opportunity professionals, of the need to use both quantitative and qualitative methodologies to investigate issues of discrimination.





An obvious limitation of the present study is the lack of generalisability due to the sample being from one organization, and the self-selection of the interviewees. Therefore, future research should investigate this issue across a number of organizations, in a range of professional and vocational fields using random samples. Furthermore, future research should be conducted in organizations that are given moratoriums by the EEO Commission to determine whether this covert discrimination is being perpetuated elsewhere in Australia.

The qualitative section of this study focused purely on women's personal experiences within the organization. However, quantitative analysis showed that women were 12 times as likely to be recruited in lower level jobs, thus supporting the contention that women were discriminated at the initial entry point. Therefore, future research needs to collect qualitative data from males to investigate whether men identify the same situations, or report other barriers to their progression, and determine whether the present findings are gender specific. An important point to emphasize is that the researcher did not deduce from the qualitative data that the women were being discriminated against. The women informed the researcher that women were being discriminated against when they entered the organization, and then provided examples of their own and other colleagues' experiences.

To conclude, these findings failed to identify differential promotion rates based on gender. Instead, the findings pointed to a more covert form of sexual discrimination.

References

- Alessio, J. C., & Andrzejewski, J. (1998). Comment and reply: Unveiling the hidden glass ceiling: An analysis of the cohort effect claim. *American Sociological Review*, *64*, 311-315.
- Ayre, M. (2001). Women engineers: the continuing crusade. *Transactions of Multi-disciplinary Engineering*, *GE 25*, 1-34.
- Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation, *Econometrica*, *47*, 1287-1294.
- Burke, R. J. & McKeen, C. A. (1992). Women in management. In C. I. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology*, (Vol. 7, p. 245-284). Chichester: Wiley.
- Campbell, K. (2002). The emancipated organization. *Harvard Business Review*, *80* (9), 20-21.
- Davidson, M. J., & Cooper, C. L. (1992). *Shattering the Glass Ceiling: The Woman Manager*. London: Paul Chapman Publishing.
- Day, D. V., Schleicher, D. J., Unckless, A. L., & Hiller, N. J. (2002). Self-monitoring personality at work: A meta-analytic investigation of construct validity. *Journal of Applied Psychology*, *87*, 390-401.
- Godfrey, L. G. (1978). Testing for multiplicative heteroskedasticity, *Journal of Econometrics*, *8*, 227-236.
- Greene, W. H. (1993). *Econometric analysis* (2nd ed.). N. Y.: Macmillan.
- Harrison, D. A. (2002). Structure and timing in limited range dependent variables. Regression model for predicting if and when. In F. Drasgow, & N. Schmitt (Eds). *Measuring and analysing behavior in organizations. Advances in measurement and data analysis*. San Francisco, Cal.: Jossey-Bass.
- Heilman, M. E., Block, C. J., & Martell, R. F. (1995). Sex stereotypes: Do they influence perceptions of managers? *Journal of Social Behavior and Personality*, *10*, 237-252.
- Jarque, C. M., & Bera, A. L. (1987). A test of normality of observations and regression residuals. *International Statistical Review*, *35*, 163-172.
- Long, J. S. (1997). *Regression models for categorical and limited dependent variables*. Thousand Oaks, Cal.: Sage Publications.
- Lyness, K., & 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.
- Maddala, G. S. (1986). *Limited-dependent and qualitative variables in econometrics*. N.Y.: Cambridge University Press.
- Maddala, G. S., & Nelson, F. D. (1975). Switching regression models with exogenous and endogenous switching. *Proceedings of the American Statistical Association*, 423-426.
- Marshall, J. (1993). Organizational cultures and women managers: Exploring the dynamics of resilience. *Applied Psychology: An International Review*, *42*, 313-322.
- McDonald, J. F., & Moffitt, R. A. (1980). The uses of Tobit analysis. *Review of Economics and Statistics*, *62*, 318-321.
- McDowell, J. M., Singell, L. D., & Ziliak, J.P. (1999). Cracks in the glass ceiling: Gender and promotion in the economics profession. *The American Economic Review*, *89*(2), 392-396.
- Melamed, T. (1995). Barriers to women's career success: Human capital, career choices, structural determinants, or simply sex discrimination. *Applied Psychology: An International Review*, *44*, 295-314.
- Morgan, L. A. (1998). Glass ceiling effect or cohort effect? A longitudinal study of the gender earnings gap for engineers, 1982 to 1989. *American Sociological Review*, *63*, 479-483.
- Morrison, A. M., White, R. P., Van Velsor, E., and The Centre For Creative Leadership. (1987). *Breaking the glass ceiling: Can women reach the top of America's largest corporations?* Reading, MA: Addison-Wesley.
- Ridgeway, C. L. (2001). Gender, status and leadership. *Journal of Social Issues*, *57*(4), 637-656.
- Roncek, D. W. (1992). Learning from Tobit coefficients: Extending a comparative analysis of political protest. *American Sociological Review*, *57*, 503-507.
- Shazam (1997). *User's reference manual Version 8.0*. Vancouver, B. C.: McGraw-hill.
- Swim J., & Sanna, L. J. (1996). He's skilled, she's lucky: A meta analysis of observers attributions for women's and men's successes and failures. *Personality and Social Psychology Bulletin*, *22*, 507-519.
- Van Vianen, A. E. M., & Fischer, A. H. (2002). Illuminating the glass ceiling: The role of organizational culture preferences. *Journal of Occupational and Organizational Psychology*, *75*, 315-337.
- Wajcman, J. (1999). *Managing like a man*. Allen and Unwin: St Leonards, Australia

