

ABSTRACT

JASON, KENDRA JEANEL. Organizational Inequality in Job Promotions. (Under the direction of Dr. Donald Tomaskovic-Devey and Dr. Michael Schulman.)

In this study I explore the distribution of promotion opportunities between jobs in a general sample of Australian organizations. Most empirical studies of promotion have focused on a single firm, a single occupation, or used an individual level analysis. Past studies often examine which types of workers are promoted, most often using human capital models or social closure explanations. Using ordinal logistic regression, I use data from the 2002 Australian National Organization Survey (AusNOS) and extend previous studies by examining which jobs are on job ladders, analyzing the mechanisms associated with the probability of promotions, and investigating if these mechanisms become stronger or weaker depending on organizational context. My argument is that promotion probability is a function of human capital investment, vacancy chains, status differentials, and organizational context. I found that these factors have different effects on promotion probability depending on organizational level.

ORGANIZATIONAL INEQUALITY IN JOB PROMOTIONS

By

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BIOGRAPHY

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INTRODUCTION

In this study I explore the distribution of promotion opportunities between jobs in a general sample of Australian organizations. Firms use internal promotions and job ladders to secure the commitment of their employees, to reduce turnover, and to amortize the training costs invested in workers. The utilization of internal job ladders significantly reduces the competition for promotions from those outside of the firm, and workers are promised the opportunity to move up the corporate ladder by staying with the firm to gain the experience and skills needed to obtain the rewards of upward mobility (Althauser and Kalleberg 1981) such as authority, increased income, and employment benefits. Some argue that examining promotions is a great strategic method to study workplace inequality because higher positions in the hierarchy are where more discrimination takes place and where employers are less likely to face litigation (Greenhaus et al. 1990). Interestingly, we know very little empirically about variation across firms and the use of internal labor markets (Pergamit and Veum 1999).

Most empirical studies of promotion have focused on a single firm, a single occupation, or used an individual level analysis. Past studies often examine which types of workers are promoted, most often using human capital models or social closure explanations. In this study, I extend previous studies by examining which jobs are on job ladders, analyzing the mechanisms associated with the probability of promotions, and investigating if these mechanisms become stronger or weaker depending on organizational and cultural context.

I begin with a discussion of the definition and consequences of promotions. The theoretical section then examines three general mechanisms that may influence the

frequency of promotions: the dynamics of the internal labor market; social closure processes; and the organizational context of the firm. Using ordinal logistic regression, I use data from the 2002 Australian National Organization Survey (AusNOS) to analyze labor processes and organizational factors that impact promotion probability of jobs. This dataset is optimal since it provides information on a diverse sample of jobs within a random sample of organizations.

I define promotions as upward mobility within a firm's job ladder. There are two types of promotions-grade and status. Grade, or step promotions, are those that are "automatic" over time such as for some government workers. Often, a grade promotion involves movement along a ladder within a job without changes in responsibility (Saporta and Farjoun 2003). This paper focuses on merit-based or competitive status promotions. Status promotions involve changes in responsibilities and typically require the existence of a vacancy. Therefore, they tend to be more visible than grade promotions. Status promotions include position upgrades, acquiring an old supervisor's job, being promoted to a higher job in a different section of the firm, or filling a newly created position with greater responsibility (Pergamit and Veum 1999). In many cases, promotions provide wage or authority increases. A promotion may also move an hourly employee to a salaried position or increase job benefits. In addition, a promotion may enhance a worker's perception of the firm or the job and, thus, increase job satisfaction (Pergamit and Veum 1999).

Promotions in the Internal Labor Market

Lazear and Rosen (1981) and Rosen (1986) modeled promotion as a "tournament". The promotion is the 'prize' and the probability of winning is a function

of productivity. The winner of the prize receives the salary, benefits, and prestige associated with the higher position. Therefore, the chance of promotion is an incentive to work hard. A similar approach argues that promotions are a consequence of human capital investment. Human capital refers to the experience, skills, and education that an individual possesses. Individuals invest in human capital for returns in status attainment and income. The higher the attainment level of a job, the higher the level of resources needed to gain access to that job (Sorenson, 1977). Therefore, a person's ability to gain access to a job is dependent upon the amount of time they have spent in the labor force to gain human capital essentials such as experience, higher education and on-the-job training.

Specialized human capital is based on investments specific to a particular employer (Tomaskovic-Devey and Skaggs, 2002). Becker (1975) conceptualizes specialized human capital or, firm-specific human capital, as both a source of productivity from a worker and an investment by the employer. Those workers who invest in firm specific training and human capital are more likely to advance between jobs than those who do not possess such skills. Training time is an example of firm-specific human capital. Jobs that do not require much training are routine and compensated at lower rates. These jobs also tend to be part time or temporary. These theories suggest that promotions are awarded in jobs where general and firm-specific human capital investment is high. Therefore, I propose:

Proposition 1: Frequency of promotion will be higher in jobs with high general and firm specific human capital.

Sorenson and Kalleberg (1981) contend that a major source of inequality among individuals lies external to the labor market and internal to the individual through education and firm-specific training, both of which produce skill differentiation. You can effectively increase an individual's skill level through education and on-the-job training, thus leading to an increase in income level and likelihood of advancement. Sorensen and Kalleberg (1981) also argue "labor markets are arenas for the matching of persons to jobs." They conclude that the rate of promotion peaks when there is a good match between a worker's skill background and the requirements of their current job, and it is lower when the match is poor. A poor match often leads to job turnover.

Turnover includes voluntary job separations, such as job search or pregnancy or involuntary job separations such as plant closings, the end of temporary and seasonal jobs and terminations (Shaw, Delery, Jenkins and Gupta 1998). Promotion rates have a direct effect on the amount of turnover in a job. Since a promotion may increase worker job satisfaction, it may also increase job attachment. Promotions also grant benefits such as status attainment and skill development. Job satisfaction, status attainment, and skill development all may be contingent on the individual staying in the same organization (Saporta and Farjoun 2003). A promotion may also increase job attachment indirectly through training (Pergamit and Veum 1999). Since training leads to promotion, and promotion leads to further training, firms use training as a mechanism to retain promoted workers who might otherwise leave the firm.

Employees with a record of past promotions are also less likely to quit the firm (Saporta and Farjoun, 2003). This argument emphasizes the importance of rewards, particularly promotions, in creating an employment environment that induces workers to

remain employed in the organization. Furthermore, past promotions can reinforce the expectation that the firm will reward the individual again. Given this, promotions can be used by firms to motivate workers. This is especially the case in firms where direct supervision of workers is difficult. A record of promotions can improve a worker's chances of promotion if their labor is less observable or firm specific by an employer who makes executive decisions in a formalized manner.

Job Vacancies and Vacancy Chains

A vacancy is a job opening in a firm. Employees compete for vacancies in higher positions and employers need the vacancies filled for productivity. How these vacancies are filled depends on who has control over the job (Sorenson and Kalleberg 1981).

Control is important for it determines the likelihood of a more or less closed employment relationship and because it influences the nature of competition among employees.

Sorenson and Kalleberg (1981) describe the degree of control over the job as a continuum. At one extreme the employee 'owns' the job and no one else has access to it unless he or she leaves it and a vacancy is established-the employment relationship is completely closed. These positions are usually higher-level jobs filled by highly skilled employees. At the other extreme-the open relationship- the employer can replace the incumbent at any time, the employment contract is reestablished in a very short interval of time, and the relationship is open to all outsiders. These job positions are usually at or near entry level and require little to no firm specific skill.

The amount of job vacancies is dependent upon the organizational context of the firm. A growing firm, for example, with more vacancies through the creation of new jobs and new job titles, is expected to have higher rates of promotion. A downsizing firm,

however, with few or no vacancies, would have lower promotion rates since there are fewer opportunities for advancement caused by elimination of jobs. Similarly, one would also expect larger organizations to have more vacancies and higher promotion rates than smaller firms where turnover is low. In addition, the desirability of a job affects the amount of job vacancies. In most cases, the most desirable jobs are those at higher levels of the organizational hierarchy. These jobs will tend to have low turnover. Conversely, lower level jobs are less desirable, have higher turnover rates, and more vacancies.

Whether it is voluntary or involuntary, when a worker leaves a job they produce a vacancy in the firm. When workers move from other jobs in the firm into the vacated job, a vacancy chain is formed (White 1970). White (1971) describes two types of moves. The first is moves by people from filled jobs to vacant jobs. This transition creates a new vacancy to be filled by others in the firm or new recruits. And secondly, vacancies move in the opposite direction of the moves by individuals. People move up and vacancies move down. It is assumed that open positions will be filled from outside the firm and from below. Jobs filled from below create new promotion opportunities (Sorenson, 1977). Furthermore, larger hierarchical firms not only have more vacancies, they will have longer vacancy chains due to the increased levels of hierarchy within the firm, and thus, should have higher promotion rates. Following this logic, my next propositions are:

Proposition 2: Frequency of promotion will be higher in larger and growing organizations because they generate more vacancies.

Proposition 3: Frequency of promotion will be lower in less desirable, low level jobs.

Social Closure Processes

Social closure is a conflict theory about struggle between status groups. This struggle is between groups rather than among those in the group. Cohesiveness is an important resource in this struggle, and power is gained by maintaining the social distance between groups by recruiting those with similar status characteristics and recruiting those who have been socialized to respect cultural superiority (Murphy 1984).

Tilly (1998) defines categorical inequalities that last from one social interaction to the next stretching over careers, lifetimes, and organizational histories as durable. He argues that large significant inequalities in advantages among human beings correspond to categorical differences such as black/white, male/female, citizen/foreigner, or Muslim/Jew, rather than to individual differences in attributes, propensities or performances (Tilly, 1998). In his model, durable inequality depends heavily on the institutionalization of categorical pairs. These processes make it easier and less costly for organizations to perpetuate inequality and preserve categories.

Actors establish or install a system of categorical inequality by the causal mechanisms of exploitation and opportunity hoarding. Both exploitation and opportunity hoarding allow actors to reap benefits from the exclusion of others by maintaining advantage, securing rewards, and sequestering resources. According to Tilly, exploitation occurs when “powerful, connected people command resources from which they draw significantly increased returns by coordinating the effort of outsiders whom they exclude from the full value added by that effort” and opportunity hoarding occurs “when members of a categorically bounded network acquire access to a resource that is valuable, renewable, subject to monopoly, supportive of network activities and enhanced

by the networks *modus operandi*” (Tilly, 1998:10). Opportunity hoarding is a process that monopolizes access to resources by exclusionary categorical distinctions. Categorical distinctions within organizations encourage opportunity hoarding, thus leading to barriers between jobs (Tomaskovic-Devey, Zimmer and Harding, forthcoming). Workers in the same job category are apt to belong to the same class, have equivalent levels of human capital, have similar lifestyles and share socioeconomic characteristics. Kanter’s (1977) theory of “homosocial reproduction” argues that organizational elites recruit those whose social attributes most closely match their own. In the hierarchical structure of a business organization, this homogeneity leads to closed relationships where certain persons are excluded from membership and subject to opportunity hoarding. Through social interaction or the lack thereof, those in power use the status differences of gender, ethnicity, and educational attainment to exclude individuals from more powerful positions and social networks.

Men often use their power to organize, protect, and maintain workplace advantages. The social closure explanation of gender segregation is simply that male employees attempt to monopolize privileged positions in workplaces (Reskin 1988; Tilly 1998; Tomaskovic-Devey 1993b). Social closure occurs when the advantaged status group has power over the selection process through which new workers are hired and trained¹. In male dominated positions men are more familiar with males than with females; hence, they see a male choice as less risky (Reskin and McBriar 2000) and a better long-term investment. Tomaskovic-Devey (1993a) found that an increase in the

¹ In a social closure model, on-the-job training periods are expected to be one of the most powerful mechanisms through which existing male workforces could exclude women from desirable jobs (Tomaskovic-Devey and Skaggs 2002).

quality of jobs leads to a decline in the proportion of women and a rise in the degree of gender segregation in those jobs.

Kanter (1979) argued that, in addition to women, minorities have low access to opportunity and power in organizations. Previous studies have consistently found that whites receive more supervisory positions, higher authority and higher pay than blacks (Kanter 1977, Pergumit and Veum 1999). In the U.S., racial segregation limits black workers' initial placement on job ladders to positions that ultimately offer relatively little opportunity for further advancement. Moreover, black workers tend to be isolated from certain jobs accessible to equally qualified whites. In an American study, Greenhaus et al (1990) found that the supervisory job complexity and skill requisites were lower when the job was held by large numbers of blacks. Furthermore, black workers tend to be channeled to "racialized" jobs (Maume 1999, Collins 1997) where they tend to be used as a liaison linking the company to the black community. Jones (1986) contends that these jobs are functionally important but they are not jobs that bring in revenue, promote growth, or prepare an executive to become a CEO. The channeling of blacks into these jobs leaves the more visible jobs for whites and they, in turn, have more opportunities to exercise higher order and reward relevant job functions (Wilson et al 1999).

Murphy (1984) describes exclusionary closure as a way to close off opportunities from an inferior or ineligible group based on any convenient or visible characteristic. Along with race and gender, the lack of particular school diplomas or credentials can be used to declare competitors as outsiders. He argues that education is better conceived as a status culture similar to ethnicity and social class. It is "treated as a 'pseudo ethnicity' in that it involves the imposition of a particular ethnic or class culture, and the education

class is treated as a 'surrogate ethnic group,' setting up job requirements in its own favor" (p.550) and discriminating against those outside their criteria. Some theorists go as far to contend that education has not necessarily been proven to have a relationship with on-the-job performance or job skills (Collins 1979, Murphy 1984). This leads me to my next proposition:

Proposition 4: The frequency of promotion will be higher in jobs with smaller differences in status characteristics between workers.

The probability of promotion can potentially be explained by internal labor market, vacancy chains, and social closure theories. To better understand the link between a theory and its outcome one should consider organizational and national context. Promotion rates and the influence of organizational mechanisms may vary depending on these factors.

Australia- National Context

I am using data from a sample of Australian workplaces in this study. Therefore, it is important to understand the cultural context of the Australian labor market. As with the United States, Australia has a significant civil rights history that must be addressed in order to understand women's and ethnic minorities' position in the labor market. For most of the 20th century, Australia set its wages based on principles that men would have a component for family support and women's wages were based on single persons without actual or potential family responsibilities (Jones, 1992). With a shortage of male labor due to WWII, women filled jobs previously filled by men. During this time, the Women's Employment Board managed to set higher rates for women's wages going from the previous 54% of the male wage to 75%-100%. However, after the war, the relative

wage stabilized at 75% of male wages. It was not until 1969 that the federal tribunal endorsed the 'equal pay for equal work' principle. Nonetheless, some thirty years after this decision, women continue to earn less than men², remain clustered in low-paid jobs, and in jobs offering fewer chances for promotion (Canberra Times, 1990).

In addition, as with the United States, Australia also has a history of racial and ethnic inequality that must be explored to understand the dynamic of the workplace. The clearest cases of ethnic inequality in the Australian labor market involve the Aboriginal Australians and Asian immigrants. In the early 1900's, Aborigines faced "gentle genocide" through a program of enforced eugenics³, understood by state officials to be a program hastening what was believed to be the fulfillment of an inevitable but distressing process (O'Malley, 1994). Presently, Aborigines subsist on the social, economic and geographical fringes of mainstream Australia (Jones, 1992).

The gold rush of the 1850's led to an influx of thousands of Chinese immigrants into Australia. Racial riots soon followed and this led to legislation restricting Asian immigration, but the Chinese continued to arrive via other Australian colonies. The Immigration Restriction Act of 1901, better known as the White Australia Policy, formalized discrimination against Asians by giving legal status to the widespread view that Europeans were intrinsically superior to other races (Yarwood in Jupp, 1988).

By 1960, Australia's economic interest moved away from Europe and toward Asia and the Pacific. Through the work of many political platforms such as the Australian

² A second equal pay decision in the early 1980's narrowed the wage gap to just over 90%. Women still earned less due to labor force participation (less seniority) and fewer promotion opportunities (Jones, 1992).

³ "Legislation such as the *Native Administration Act 1936* of Western Australia (for which parallels existed in other states) gave the Chief Protector of Aborigines direct control over Aboriginal peoples' sexual relations, social relations, marriage, geographical mobility, residence, employment, income, property ownership and management, education, custody of children - even over where they could camp and what the law referred to as their "tribal practices"(O'Malley 1994).

Labor Party, Department of Immigration, local government and Ethnic Affairs the Racial Discrimination Act of 1975 was passed which made it illegal for one person ... 'to discriminate against another, on grounds of race, color, descent of national or ethnic origin' (Australia, Commissioner for Community Relations, 1977: 5-6).

Based from the literature that ethnic prejudice affects employers' decisions concerning hiring, promotion and pay, Evans and Kelley (1991) performed a study specifically on Australian immigrant prejudice and discrimination in the labor market. The authors chose to test this theory in Australia because its immigrants are many, diverse and recent, with 21% of the population being foreign born and 18% being immigrants' children, with diverse races, language, and culture. They found that the most important difference between the groups of people is education- immigrants have less than natives.

Educational differences among workers have consequences in the internal labor market. Some people originate from small villages with poor schools not comparable to those in mainland Australia. Some foreign learned education imports local knowledge such as history and economy, which is less valuable in a new country. Some advance training is too country specific. There is a difference between foreign and domestic labor-force experience since some skills are knowledge acquired abroad may have little value to employers in the new country. (Evans and Kelley, 1991)

Organizational Context

There may be conditions under which gender, race, and educational distinctions become more or less salient within organization. Factors considered in past research include founding effects, formalization, equal opportunity effects and market sector.

Founding Effects. Organizations are shaped by and adapt to the environment present at the time they were founded (Stinchcombe 1965; Carroll 1984; Hannan and Freeman 1984). Even though organizations can change in response to their environment, practices are institutionalized early in their existence and later employment mandates are not easily integrated into existing policies. Baron et al. (1991) found that gender inequality in job assignment was greatest among older departments and organizations. Legal pressure may be required for older organizations to abide by equal opportunity practices, while in younger organizations these regulations may be taken for granted as standard policy.

Since the year of the firm's establishment is expected to influence organizational practices, one would expect racial inequality to be stronger in firms founded before the enactment of the 1975 Racial Discrimination Act and gender inequality to be stronger in firms founded before the 1969 Equal Pay Act. Promotions in these firms would be more likely to perpetuate gender and racial inequality than in firms founded after federal enforcement began. These laws and regulations de-legitimated the ideology that a person's sex and/or ethnicity should limit their opportunities and those employers who fail to provide equal opportunity are susceptible to federal regulation via fines and penalties. Therefore, I expect there to be less inequality based racial differences in organizations established after 1975 and less inequality based on gender differences in organizations established after 1969. Organizations uphold government regulations as a means to legitimate their business and to build legitimate relationships with other organizations. Organizations may also be fearful of economic repercussions from government sponsors, legal sanctions, and public scrutiny.

Proposition 5: Overall, the effects of status differences would be greater in older firms founded before the 1975 than in those established after 1975⁴.

Market Sector. Compliance with equal opportunity policies may encourage gender and racial integration within organizations. This compliance should vary with environmental pressures. Public organizations need to maintain a positive image and standing with those by which they do business and depend on for resources. Therefore, they are likely to follow legal, political and regulatory demands. Private organizations are mostly concerned with stockholders and customer satisfaction. This difference may be due to the fact that public organizations depend on government and political support they will not receive if they do not comply with government regulations.

Jones (1992) reports, that in Australia, women in government employment have relatively higher status jobs than their counterparts in private industry. Dobbin et al (1993) makes the claim that due to the “strong bureaucratic structures and vulnerability to political pressures government and nonprofit agencies are more likely to formalize personnel practices which would presumably benefit women and racial minorities”. In addition, nonprofits are more vulnerable to environmental pressures (Dobbin et al 1988). All of these factors lead me to my next proposition:

Proposition 6: Status difference effects will be greater in for-profit firms than in non-profit and government firms.

Formalization. The type of organization is linked to another important dynamic- the degree of formalization. More bureaucratic firms tend to be more complex and follow formal procedures. Bureaucracies should be less segregated than non-

⁴ Since racial and gender inequality faced federal regulation within a 6 year period, I chose to combine their effects and measure them both using 1975.

bureaucratic enterprises (Reskin 1993). These firms make explicit the criteria for hiring, promotions, and employment, and simultaneously reduce managerial discretion and ability to make status distinctions (Anderson and Tomaskovic-Devey 1995).

Formalization may also include mechanisms such as policies, rules, and training that support equal opportunity policies and affirmative action. More compliance is found in organizations that carry out due process, such as grievance procedures, associated with these policies and procedures (Sutton et al. 1994). Organizations that centralize personnel decisions have more balanced representation of women and minorities (Baron et al 1991). The personnel department can also be used to encourage worker integration with the use of formalized personnel policies such as standardized job descriptions, performance evaluations, salary classification systems, formalized training programs, and workshops (Dobbin, et al. 1993). Edelman (1990) found that organizations with personnel staff are more likely to institutionalize fair employment policies.

For example, in the United States, in an effort to eliminate employment discrimination, the federal government required government contractors to adhere to affirmative action to ensure the employment of women and minorities (Dobbin et al 1993). This has proved successful in that job opportunities for women and minorities were marginally better in organizations that depend on government support (Beggs 1994). Beggs (1994) also found that industries located in states with more progressive Equal Employment Opportunity histories have less racial and gender inequality in terms of access to high wages and white-collar jobs; his results were stronger for race than gender. Moreover, Tomaskovic-Devey (1993b) found that firms with formalized employment relations not only have lower levels of gender segregation, they also have

lower levels of earnings inequality. These findings lead me to the expectation that more formalized firms and firms with equal opportunity personnel will have less status difference effects in promotions. I anticipate that more formalized firms will have less promotion inequality based on racial, gender, and educational differences.

Proposition 7: Status difference effects will be greater in firms with less formalization.

Proposition 8: Status difference effects will be lower in firms with equal opportunity personnel.

RESEARCH DESIGN

Data

The Australian National Organization Survey (AusNOS) was administered by telephone in 2001-2002. The target population was all Australian workplaces with more than one full time employee. The sampling frame used to generate a list of workplaces was the 1999 and 2000 Australian National Social Science Surveys (NSSS). In that mail survey of individuals, respondents were asked to identify the name and address of their workplaces. That information was then converted into a list of respondent organizations, which were then contacted by telephone. The response rate was 57.4% and comparisons with industry distributions suggest the sample is representative of the Australian economy although larger firms are represented at slightly higher rates than are found in the population. This yielded a final sample of 618 establishments.

AusNOS is targeted at the chief decision maker (owner or top manager) in the establishment although in a few cases workplaces were complex enough to require multiple respondents. Questions were asked about the organization's products, suppliers,

customers, owning corporation (where appropriate), as well as internal procedures, goals, and structures.

Measurement

Since the original sampling frame was generated from a sample of employees, the odds of inclusion in the AusNOS sample is proportionate to employment size. The data are weighted to ensure a sample of organizations where regardless of employment size each organization has an equal probability of selection. This weight is the inverse of employment size with a scaling factor. In the analysis the sample is re-weighted to correspond to organizational units, by the sample formula:

$$\text{ORGWEIGHT} = 1/N * C$$

Where N is the employment size and C is the constant used to rescale the weight to represent the actual sample size of 618 cases⁵.

The total number of cases for my first dependent variable, movement into corejobs, is 436. Therefore, I multiplied the orgweight formula by 1.6208 to rescale the weight to represent the actual number of cases in my dependent variable, 436. This is shown by the formula:

$$\text{LOWWEIGHT} = (1/N * C) * 1.6208$$

The total number of cases for my second dependent variable, movement into management, is 573. Therefore, I multiplied the orgweight formula by 1.2566 to rescale the weight to represent the actual number of cases in my dependent variable, 573. This is shown by the formula:

$$\text{COREWEIGHT} = (1/N * C) * 1.2566$$

⁵ The organizations must have the three different jobs of low, core, and management in order to enter the analysis. Thus, smaller organizations are dropped and the basic organizational weight that comes with the dataset underestimates effective sample size.

Dependent Variables

Promotion Probabilities

“Core job” refers to the job title for the employees who are the most directly involved with the most important product or service produced in the establishment. They are not necessarily the most senior employees but are central to the production of the main product or service of the firm. Examples of such employees would be teachers in a primary school, bank tellers in a bank, and assemblers in a car plant. “Low job” refers to the lowest paid worker at the firm. The analysis focuses on promotion probability between low and core jobs and between core and management jobs.

My original sampling frame has a total of 618 cases. I have two dependent variables in this analysis. Movement from core jobs to management has a total of 573 cases. Forty-five cases were lost from the original sample because the manager job is to core job. From 573, an additional 137 cases were lost in computing the second dependent variable, movement from low jobs to core jobs, because there was no job that paid less than core job in that firm.

The dependent variable asks for the frequency that those in low job positions move into core job positions and the frequency that those in core job positions move into managerial positions. Thus, promotions are identified as career moves to a higher job level. The questions ask, “How often do low job employees move into core job positions?” And, “How often do core job employees move into management?” with the response categories of frequently, occasionally, rarely, never. These response categories were recoded 1-4 in ascending order from never to frequently. Thus higher numbers refer to higher probabilities of promotion. Movement from low jobs to core job has a mean of

1.882 with a standard deviation of .911 and movement from core jobs to management has a mean of 2.305 with a standard deviation of .961⁶. This tells us that more core job move into management than low job workers into core job positions.

Explanatory Variables

Human Capital Model

Education . Spilerman and Lunde (1991), show that an employee's educational biography, such as years of schooling and other educational measures, will influence his or her rate of advancement. The respondent was asked, "What is the typical education background of lowjob employees?", "What is the typical education background of corejob employees?" and "What is the typical education background of management?" This question yields typical educational background of workers by job level. The typical education of a low job worker is 10th to 12 grade. Core job workers have almost an even split between high school graduate and undergraduate degrees while managers overwhelmingly have undergraduate degrees as their modal category.

Training Time. Workers who invest in firm specific training are more likely to advance between jobs than those who do not possess such skills (Becker 1975, Tomaskovic-Devey and Skaggs 2002), therefore, I expect longer training time in the origin job to yield higher promotion probability. To measure training time AusNOS provides us with a measure that not only includes formalized training but also informal training. The question asks, "When a new person moves into ...Corejob or Lowjob...for the first time, how long does it take a typical person to learn to do the job reasonably well?" Response units are given weeks and logged. On average, the low job worker trains for 13 weeks and the core job worker trains for 34.

⁶ Missing data was replaced by the mean when formulating variables.

Vacancy Model

These data do not directly observe job vacancies; however, vacancy can be approximated through variables such as employment growth, amount of levels in the firm and turnover. These are the factors that make produce vacancies in firms.

Employment Growth. Employment growth is measured through the questions, “How many employees do you currently have and how many employees did you have two years ago?” I subtracted the number of employees two years ago from the number of current employees to measure employment growth or decline.

Levels. The amount of levels in the organization is comprised by adding two to the responses to the question, “How many levels of management are there at [the organization]”. This formula accounts for the levels of management plus one for corejob and one for lowjob.

Size of Organization. The size of the firm is a compound variable for the size of an organization influences many other aspects of that organization such as the complexity of hierarchy, the degree of formalization, the availability of vacancies, the number of employees, etc...The larger an organization is, the less likely it is theorized to have inequality between workers due to the presence of the above mentioned factors. I measured organization size by the total number of employees⁷. Even though employment size ranged from 1 to 15,000 employees the mean is reported as 317 employees. The variable size, however, did not make it to my final models. It was statistically not

⁷ This figure is given through the summation of the number of full time, part time and causal employees. I take this number and add 1 to account for the owner. Therefore employment size = the log of (number of full time workers + number of causal workers + number of part time workers + 1).

significant from zero at all points; in addition, inclusion of size produced multicollarity problems.

Turnover is also not observed. The turnover literature tells us factors influencing turnover are job satisfaction, status attainment, skill development, job and firm loyalty, commitment, previous promotions, rewards, good working environment, possession of authority, training, and job permanence (Saporta and Farjoun, 2003; Carson et al 1994; Shaw et al 1998). Two variables, however, that will help me measure turnover is percent of part-time worker and wage of the destination job. These variables will be used as controls. They give me an idea about the desirability of advancement. Part-time workers are more likely less trained and compensated at lower rates than full time employees. The benefits from a higher wage could deter turnover rates within the firm, thus reducing vacancies. On average, about 25% of low jobs are part time and 26% of core jobs are. The average wage of a low job is \$27,569, core job is \$46,757 and management is \$59,747.

Social Closure Model

Social closure occurs when an advantaged status group has power over the selection process through which new workers are hired and trained. Social closure from desirable positions within a firm can limit lower status groups' access to high wages, promotions, and skill-enhancing jobs. Kanter (1977) attributed white male domination in management to high-level managements' propensity to minimize risk in filling positions that involve uncertainty through homosocial reproduction or the selection of their social clones who they believe are likely to make decisions similar to the ones they would make.

Sex Difference between Jobs. AusNOS asks how many males are in a job. I am using difference measures to observe status differences between jobs. Therefore, I can directly observe the percentage of men in each job and use it to compute the sex difference between jobs. The measures of sex difference are given below:

*Sex difference core to manager: % Male (manager) % Male (core)

*Sex difference low to core: % Male (core) – % Male (low)

Sex between jobs shows an interesting trend. As the job level increases so does the number of men. Low job positions average 37% men while core jobs average 52% and manager positions average 66%. Therefore, as the prestige of the job goes up the number of women in those positions goes down.

Racial Difference between Jobs. AusNOS does not offer me an approximate measure of the racial identity of workers. Its main question on ethnicity asks, “What percentage of workers is from non-English speaking backgrounds?” Then it goes on to ask which percentage of those workers are Asian, European or from elsewhere. By referring to the historical context of Australia, we see that Australia was colonized by Europeans whereby English became the country’s national language. The 2001 Census reported that 79.1% of the population only speaks English inside their home. In addition, 5% of Australians were born in Asia and 20% report their origins as European (2001 Census), so I do not want to limit ethnicity to English and Asian. Since almost 80% of the population mainly speaks English, race will be measured in accordance to language background to establish a majority/minority racial dynamic. Spoken language is not the best measure of ethnicity and so may underestimate the effect of ethnic status promotion

probabilities. I use the variables English-speaking background verses non-English speaking background to measure race differences between jobs.

*Core to Manager: % English-speaking (manager) - % English speaking (core)

Low to Core: % English speaking (core) – % English speaking (low)

There are not large ethnic differences between jobs. There is only a 2% increase going from low to core jobs and a 4% increase from core to managerial positions. It is clear that males and English speakers dominate core job and managerial positions.

TABLE 1 ABOUT HERE

Educational Attainment Difference between Jobs. To examine the educational difference between jobs, I simply subtract the typical education level of the origin job from the typical education level of the destination job.

*Core to Manager: Education (manager)-Education (core)

*Low to Core: Education (core) – Education (low)

There is more of an educational difference between lowjobs and corejobs education (1.039) than corejobs and management (.743).

Organizational Context Control Variables

Founding Effects

I measured the founding effects of the firm by determining its' establishment year. To find out when the firm was established the open-ended question, "In what year did...NAME...start operations?" The responses ranged from 1812 to 2001. Stinchombe (1965), Carroll (1984) and Hannan and Freeman (1984) suggest that organizations are shaped by and adapt to the environment present at the time they were founded. Before the Equal Pay Act of 1969 and the Racial Discrimination Act of 1975, there was no federal

regulation to deter inequality in the workplace. Therefore, I use the establishment years of 1969 and 1975 to measure founding effects of the firm. The variables were dummy coded: Before 1969=0 and After 1969=1 and Before 1975=0 and After 1975=1. The mean year of firm establishment was 1969 with a standard deviation of 35 years.

Market Sector

Studies have documented that there are lower levels of racial and gender inequality in nonprofit than in private for profit firms (Pfeffer and Ross 1990; Anderson and Tomaskovic-Devey 1995, Wilson et al 1999). I expect to observe lower status difference effects in nonprofit than for-profit jobs. In dealing with market sector I will use the variables not-for-profit and for-profit. These variables are coded as dummy variables with government as my omitted category. About 60% of the firms are for-profit and about 20% are nonprofit.

Formalization

A high degree of formalization implies not only a preponderance of rules defining jobs and specifying what is to be done, but also the enforcement of those rules (Aiken and Hage 1967:499). More formalized organizations should have less status inequality. Using Pugh et al.'s (1968) indicators to measure the degree of formalization in an organization I will use the questions that follow the prompt, "Do any of the following documents exist at ...NAME...? (1) Written job descriptions for most jobs? (2) A written record of nearly everyone's job performance? (3) Documents explaining how employee performance evaluations are carried out? (4) Employment contracts? (5) Documents outlining hiring and firing procedures? (6) Documents outlining grievance procedures? (7) Documents outlining work procedures? The response categories are dummy coded as

no=0 and yes=1. I then produce an index scale measure formalization. In doing a reliability test, Chronbach's alpha for this scale was.819.

By adding the total from each organization, I can see which organizations are formalized and which are not. The range of formalization is from 0-7 with 0 being most very informal to 7 being the most formal. Most of the organizations follow formal policies and procedures. About 46% reported the modal category, 7 indicators of formalization, and about 33% had 5-6 indicators. Of the 618 organizations 489 had 5-7 indicators of formalization compared to 129 organizations that only had 0-4 indicators of formalization.

Equal Opportunity Office

Since the civil rights movement the public has been concerned with the fairness in workplaces and there has been less tolerance for unfair treatment of employees (Edelman 1990). Workplaces employ equal opportunity personnel to formally prevent the intentional or perceived discrimination. The presence of an equal opportunity office in a firm should deter negative effects of status differences between employees. In a question concerning activity within the organization, the survey asked, "Is there a separate department, work group or separate person within...NAME...responsible for equal opportunity or affirmative action expertise. The answer categories were coded as dummy variables 0 as 'Yes' and 1 as 'No'. About a fifth of organizations have an equal opportunity office.

FINDINGS

PROBABILITY OF PROMOTION TO COREJOBS

Table 2 presents three models that predict the log odds of increased promotions from low to corejobs. My purpose is to examine how human capital investment, vacancy chains, and social closure mechanisms explain the disparity in promotions between jobs independently before accessing their combined effect. I then include all explanatory variables including organizational context and turnover variables, as controls, in table 3.

In table 2 the human capital model is insignificant. At this level, educational attainment and training time have no effect on promotion probability.

The vacancy model shows that workers in firms with more job levels are more likely to be promoted. For each additional level in a firm, the odds of promotion increase by 14.91%⁸. Employment growth showed insignificant effects⁹.

The social closure model measured the difference in status effects between types of workers using sex, race, and education. This model shows that the larger the differences between jobs in sex and educational attainment status characteristics, the lower the on the possibility of promotion; racial differences showed insignificant effects. It shows that a one percent change in sex difference between jobs yields 1.88% lower odds of promotion and a one-degree change in educational difference yields 25.92% lower odds of promotion into core jobs.

⁸ Interpretations are given in odds. This is computed by taking the exponent of the log odds, subtracting 1, and then multiplying by 100. Given by the formula: $(\exp^N) - 1 \times 100$.

⁹ I tried several variations of the vacancy model. One variable considered was the ratio between the number of workers in the destination job divided by the number of workers in the core job. This variable was insignificant. I also ran a series of models testing interactions between the variables of vacancy. These include employment growth*levels, firm growth* levels, ratio*firm growth, ratio*% of workers in origin job and firm growth*% of workers in origin job. All were insignificant.

TABLE 2 ABOUT HERE

Table 3 has two models-the full model and the interaction model. Beginning with the full model, training time is now significant and shows that better trained workers will experience an increase by 17.58% over lesser-trained workers in the odds of promotion. Job levels lost significance and employment growth remained insignificant. All three social closure variables between jobs show significant effects. All were negative meaning that the greater the sex, racial and educational attainment differences between jobs, the less likely the worker will be promoted. Sex difference(-.018) has a slightly stronger effect than race difference (-.011): a one percent change in sex difference between jobs yields 1.78 lower odds of promotion; a one percent change in racial difference yields 1.09 lower odds of promotion into core jobs. For each one-degree difference in educational attainment between jobs, the odds of promotion from low jobs into core jobs decrease by 24.58%. Finally, foundational effects showed interesting results. In firms older than 1969, the odds of promotion decrease by 64.97%, for firms older than 1975, the odds increase by 112.65%. Therefore, government actions between 1969 and 1975 greatly reversed the effects of inequality in the workplace. All organizational context variables as well as the controls of part-time workers and wage were insignificant in this model.

The main differences between the full model and the interaction model are that training time and the 1969 and 1975 dummies lose significance and formalization and the control variable, percent part-time workers, gain significance. Status differences have stronger effects in this model. The odds of low job workers advancing to core jobs decrease by 5.35% based on gender differences between jobs, decrease by 1.19% based

on racial differences, and decrease by 25.55 % based on educational differences between jobs. Formalization effects show that the odds of promotion decrease by 16.56% for each additional degree of formalization. The percentage of part time workers coefficient is equal to zero.

The interaction between male difference between jobs and formalization (.008) was the only significant interaction effect ¹⁰. Even though the odds of promotion only increase by .80%, in more formalized the organizations, the effect of sex on the probability of promotion is greater when moving from low jobs to core jobs.

TABLE 3 ABOUT HERE

PROBABILTY OF PROMOTION TO MANAGEMENT

Tables 4 and 5 replicates the design of models 2 and 3. I first analyze the models independently and then examine all variables to test their combined effects. In table 4, the human capital model is significant and shows that education has significant effects. Better-educated workers in core jobs are more likely to be promoted into management. The odds that more educated workers will experience promotion will increase by 18.65 for each additional degree earned.

In the vacancy model, the number of levels in the firm, once again, shows positive effects (.359) and firm growth is insignificant. For each additional job level in a firm, the odds of promotion increase by 43.19%.

In the social closure model, only the educational difference variable has significant, yet negative effects. When advancing from core jobs to management, the greater the difference in educational attainment, the less likely a worker is to be

¹⁰ I ran a series of models to test interaction effects between each of the status characteristics of the social closure model with each variable in the organizational context model.

promoted. For each one-degree difference in educational attainment between jobs, the odds of promotion decrease by 19.02%

TABLE 4 ABOUT HERE

Table 5 has two models designed to predict the log odds of promotion from core to management jobs. Just as with table 3, we have a full model and an interaction model. In the full model, all of the human capital, vacancy chain, social closure variables and the 1975 dummy show insignificant effects. The odds of promotion decrease by 46.20% if a firm was founded before 1969. Compared to government organizations, in for-profit firms, the odds decrease by 105.85% and the odds decrease by 99.77%, in the non profit sector, when advancing workers from core jobs to management. Those in the nonprofit sector have a better chance of promotion than those in the for-profit sector. Furthermore, part-time employment also decreases promotion probability. For each one percent increase in part-time employment in core jobs, the odds of promotion into management decrease by 1.19%. Conversely, odds of promotion increase in more formalized firms by 28.40% for each degree of formalization policies practiced and the odds increase by 64.05% if the firm has an equal opportunity office compared to firms without this office.

TABLE 5 ABOUT HERE

Just as with model 3, in table 5 I ran a series of interactions between the status characteristics of the social closure variables with the variables of organizational context. Only one interaction remained significant when running a full model. Educational difference interacting with formation also yields significant effects (.074). The greater the difference of educational attainment between jobs in formalized firms, the more likely

a worker will be promoted from core to management jobs. These factors increase the odds of advancement by 7.68%.

Interestingly, the educational difference variable gained significance in the interaction model. For each one educational degree difference between jobs the odds of promotion decrease by 34.62%. Other variables remained significant, but just like in model 3, lessened their effects. Compared to firms established after 1969 the odds of promotion decrease by 87.39% in firms established before 1969. Compared to government jobs, the odds of promotion decrease by 98.34% for those employed in non-profit firms.

Formalization and equal opportunity office still have positive effects on promotion probability. With each one unit increase in formalization the odds of promotion from core to management increase by 21.99% and the odds of promotion increase by 64.54% in firms with equal opportunity office than those without. Part-time employment continues to have a negative effect on promotion. For each one percent increase in part-time employment, the odds of promotion decrease by 1.19%.

DISCUSSION

These models show that there are differences in the factors that contribute to the probability of promotion in advancing from lowjobs to corejobs and from corejobs to management within a firm. Even in studying the same firm, there are different mechanisms that work at different levels that determine the likelihood of job advancement dependent on workers' social status. Previous researchers have studied promotions within a firm, but none have divided the workplace into the job sectors of low, core and management as I have here. In addition, previous studies do not explain

what factors influence the strength of the relationship between the explanatory variables and the probability of promotion. Collins (1979) and Murphy (1984) argued that education has little to do with on-the-job skills and thus would have little to do with job advancement, yet, the human capital argument is that education, along with training and experience are fundamental in status attainment. Data analysis shows that neither education nor training time has significant effects in advancing from low to corejobs. Education does have a positive effect on advancing from corejobs to management. I would suggest that the human capital variables had little to no effect in this study because I am using aggregate firm level data, not individual level. This difference may wash out the effects of personal effort which holds so much weight in individual studies.

I acknowledge there are other theories and mechanisms that can explain the labor process of promotion that are missing from my models. I do, however, believe that I have considerably contributed to the promotion literature by modeling the basic theories of promotion in combination with the mechanisms that affect the strength of the relationship between theory and outcome. I also believe that my models support the workplace inequality literature and illustrate that status differences between levels in the workplace have an effect on worker job outcomes. It seems as if the efforts of regulations to erode inequality are complied by and respected at higher levels of the firm, yet, in some of these same firms, low level employees still face discrimination in the promotion process.

CONCLUSION

In this study, I not only wanted to model the basic theories of job promotion inequality, I also wanted to model the mechanisms that increase or decrease a worker's likelihood of promotion. My argument is that promotion probability is a function of

human capital investment, vacancy chains, status differentials, and organizational context. What I found is that these factors have different effects on promotion probability depending on organizational level.

I examined the processes that explain promotion probability separately for advancement from lowjobs to corejobs and from corejobs to management. I separated these models under the assumption that the processes may work differently for the different types of workers in the firm depending on their rank or status. My assumption was proven correct by the differences in the processes that produce job advancement between the three levels of workers.

In predicting promotion frequency to corejobs we can see that overall, there are more men in corejobs than women. These models show that a worker has a better chance of promotion from low to corejobs if they are male. Concerning education, almost 50% corejob workers have either a high school diploma and about 50% have an undergraduate degree. Lowjob workers who do not meet these educational credentials have a lesser chance of upward mobility. Those with at least a high school degree are more than twice as likely as those with a lesser degree to get promoted.

It was also unexpected to see that formalization has a negative effect on promotion frequency at lower job levels. The literature suggests the opposite. I contend that this may be *due to* formalization practices. Formal hiring and promotion procedures such as job postings and impersonal resume submissions may trump the efforts of those depending on informal hiring and promotion mechanisms such as networking and personal referrals. Formalization may encourage hiring from outside the firm to fill a job vacancy rather than depending on those within the firm.

Surprisingly, when examining promotions to core jobs, only one organizational context variable proved significant and none of the human capital or vacancy chain model variables was significant. I assert that this means individual investment and credentials are relatively unimportant. It is all about status differences. It is not what you possess as an individual and what you have to contribute to the job as a worker; what matters is how much you are like the individuals in the desired job. Some organizational context variables had explanatory value when they interacted with status differentials. When advancing from low to core jobs formalization interacts with sex difference between positions thus meaning formalization radically reduces the glass escalator effect for low job men moving into female core jobs. When advancing from core to management positions formalization interacts with educational difference between jobs meaning that formalization facilitates core job workers moving into management even in the presence of large educational differences. I believe that the vacancy variables would have had stronger and more significant effects if the individual vacancy model were more complete with a measure of turnover.

Just as with movement to core jobs, the data analysis shows that education, training, and job vacancies have no effect on the likelihood of promotion into management. Compared to advancement to core jobs, movement into management has more to do with organizational context than status characteristics. In addition, organizational context factors such as market sector, formalization, and founding effects decrease the effect of social closure mechanisms. This does not occur when advancing from low to core jobs and leads me to conclude that social closure mechanisms are

efficient at lower levels of an organization because the organizational context factors are more effective at higher levels of a firm.

A striking difference between movement into core jobs and movement into management is that women have a better chance of promotion than men, but when sex composition interacts with formalization, men have a slightly better chance of promotion than women. Since this effect is weak, I assume that the data analysis shows that even when there are more men in management, the organizational context of the firm helps women's advancement chances.

In this study I have attempted to predict which type of jobs are linked through promotion and show how organizational and cultural context play a role in this labor process. The most fundamental finding in this study is that organizational processes have different effects on job mobility depending on job level. Social closure mechanisms are much more effective in excluding low job workers from core job positions. Organizational context does not have a great effect at this level. I suspect this is the case because low job workers are entry-level jobs. These jobs are usually designed to be routine, require little training, and have the least amount of status and power in the firm. They are often the least desirable and have the highest turnover. These results are often not the fault of the workers, but qualities built into the structure of the firm. Workers in higher positions maintain this social distance by primarily recruiting workers with similar social credentials and hiring workers in lower status positions who will respect their superiority (Murphy 1984). This results in a social structure of the job ladder, with esoteric homophilic groups at the top and replaceable workers at the bottom. .

In advancing into management, however, opportunity hoarding is deterred by effective formalization policies in higher levels of the firm. It seems reasonable to deduce this is so because core workers and management have less relational differences between them and are more likely to follow organizational processes of mobility rather than depend on social closure mechanisms and networking structures. I also suggest that one should consider the potential role of the organizational environment in producing isomorphism at the upper levels of these firms. Once status effects are canceled out due to effective bureaucratic characteristics it seems gives the impression that an organizational isomorphism occurs within each industry to produce similar job outcomes.

I am surprised to see that human capital investment did not have a strong effect on promotion probability, but this is at least partially explained by the fact that I am using job level data and not individual data. Furthermore, I could design a stronger model if I had measures of turnover to test vacancy chain theory. This model does not convince me that job vacancies have no effect on promotion probability.

This study has implications that social closure mechanisms are prevalent in lower status positions and that organizational context can and does discourage workplace inequality in promotion probability, especially into management. This study also demonstrates that inequality within a firm is not uniform. Inequality is more likely to occur at lower levels of a firm than in upper levels. I assert this is due to relational differences between the workers at various job levels. Overall, core job employees and management have more similar characteristics than low job and core job employees. Generally, there is more social distance between low and corejob employees than corejob and management employees. In low and core jobs, formalization does not increase low

job workers chances of promotion because corejob and management are more likely to use a social scale to promote rather than standardized procedures. I would conclude that organizational factors are effective in eroding workplace inequality in upper levels of the firm so these mechanisms need to replace social mechanisms at lower levels to help lower levels transition into a more fair and formalized promotion process.

In future research, methodologically, I suggest that one try to analyze this data using a multi-nominal approach and possibly re-measuring the dependent variables. In addition, the status characteristics variables were measured using a continuous approach; it would be interesting to see if the results were the same if tried as dummy variables. It would also be interesting to see if the results of this study compared to United State data. The cultural context section argues that Australia's culture is parallel to the United States, but more would need to be known about the industries of Australia to examine if environmental influence plays out the same. Finally, race, gender and educational statuses are the main issues dealt with today. One should question how different organizational statuses such as membership status and part-time/fulltime status play out in organizational research.

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APPENDIX

Table 1: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum/Maximum	N
Dependent Variables				
Frequency of Promotion Low to Core	1.882	.911	1/4	436
Frequency of Promotion Core to Manager	2.305	.961	1/4	573
Independent Variables				
Low to Core Advancement				
Typical Education	2.935	.809	1/6	436
Training Time (Logged)	2.907	.122	1/6.56	436
Training Time (in actual weeks)	13.25	26.045	0/260	436
Employment Growth	-1.252	32.891	-900/4447	436
Levels in Firm	3.501	1.441	2/9	436
Size (logged by # of employees)	2.395	1.203	0/9.23	436
Male % Difference	28.435	47.028	-100/100	436
English % Difference	.761	18.820	-100/100	436
Education Difference	1.039	1.056	-2/4	436
1969 Dummy	.656	.475	0/1	436
1975 Dummy	.521	.500	0/1	436
Not-for-Profit	.191	.393	0/1	436
Profit	.594	.492	0/1	436
Formalization	4.511	2.450	0/7	436
Equal Opportunity	.231	.422	0/1	436
% Part-time Workers	25.730	38.550	0/100	436
Wage of Core Job	\$45,757	\$17,601	\$18,000/\$200,000	436
Core to Management Advancement				
Typical Education	3.598	1.131	1/6	573
Training Time (Logged)	3.151	1.500	1/8.64	573
Training Time (in actual weeks)	33.56	112.020	0/2080	573
Employment Growth	-.681	26.533	-900/4447	573
Levels in Firm	3.51	1.337	2/9	573
Size (logged by # of employees)	2.165	1.158	0/9.62	573
Male % Difference	16.422	32.062	-100/100	573
English % Difference	2.443	17.594	-100/100	573
Education Difference	.743	1.090	-3/4	573
1969 Dummy	.626	.484	0/1	573
1979 Dummy	.529	.500	0/1	573
Not-for-Profit	.171	.376	0/1	573
Profit	.602	.490	0/1	573
Formalization	4.220	2.423	0/7	573
Equal Opportunity	.215	.411	0/1	573
% Part time Workers	24.757	36.876	0/100	573
Wage of Manager Job	\$59,747	\$28,375	\$12,000/\$700,000	573

Source: Australian Organizational National Survey 2002

Table 2: Predicting Log Odds of Promotion Frequency to Core Jobs

Variable	Human Capital	Vacancy	Social Closure
Education	.007 (.110)		
Training (logged in weeks)	.138 (.073)		
Employment Growth		-.003 (.003)	
Levels in Firm		.139* (.061)	
Male Difference			-.019* (.002)
English Difference			-.007 (.005)
Educational Differ.			-.300* (.083)
-2 Log Likelihood	349.925	716.246	734.904
Chi-Square	3.358	6.461*	9.4814*
Nagelkerke R ²	.008	.016	.215
Total N	436	436	436

Table entries are log odds coefficients. Standard errors of estimates are given in parenthesis. * indicates <.05.

Table 3: Full Models: Predicting Log Odds of Promotion Frequency to Corejobs

Variable	Full Model	Full Model with Interactions
Education	.046 (.138)	.036 (.141)
Training	.162* (.079)	.079 (.080)
Employment Growth	-.004 (.003)	-.004 (.003)
Levels in Firm	.097 (.073)	.084 (.074)
Male Difference	-.018* (.002)	-.055* (.007)
English Difference	-.011* (.005)	-.012* (.005)
Educational Differ.	-.282* (.104)	-.295* (.106)
1969 Dummy	-1.049* (.334)	-1.022 (.351)
1975 Dummy	.754* (.312)	1.113 (.333)
Nonprofit	-.324 (.311)	-.127 (.314)
Profit	.230 (.272)	.296 (.274)
Formalization	.002 (.047)	-.181* (.055)
Equal Opportunity	.247 (.234)	.141 (.235)
Percent Part-time	-1.17E-005* (.000)	-1.99E-005* (.001)
Wage of Core Job	-.002 (.003)	-.001 (.000)
Male Differ*Formalization		.008* (.001)
-2 Log Likelihood	927.271	867.867
Chi-Square	122.604*	182.007*
Nagelkerke R ²	.269	.375
Total N	436	436

Table entries are log odds coefficients. Standard errors of estimates are given in parenthesis. * indicates <.05.

Table 4: Predicting Log Odds of Promotion Frequency to Managerial Jobs

Variable	Human Capital	Vacancy	Social Closure
Education	.159* (.069)		
Training (logged in weeks)	.063 (.052)		
Employment Growth		-.004 (.003)	
Levels in Firm		.359* (.060)	
Male Difference			-.001 (.002)
English Difference			-.001 (.004)
Educational Differ.			-.211* (.070)
-2 Log	801.092	762.285	775.728
Chi-Square	7.991*	.37.624*	9.373*
Nagelkerke R ²	.015	.069	.018
Total N	573	573	573

Table entries are log odds coefficients. Standard errors of estimates are given in parenthesis. * indicates <.05.

Table 5: Full Models: Predicting Log Odds of Promotion Frequency to Management

Variable	Full Model	Full Model with Interactions
Education	-.095 (.101)	-.073 (.101)
Training	.034 (.056)	.019 (.057)
Employment Growth	-.005 (.004)	-.005 (.004)
Levels in Firm	.084 (.067)	.069 (.067)
Male Difference	.002 (.002)	.002 (.002)
English Difference	5.22E-005 (.005)	.001 (.005)
Educational Differ.	-.114 (.099)	-.425* (.170)
1969 Dummy	-.620* (.296)	-.628* (.296)
1975 Dummy	.037 (.278)	.078 (.280)
Nonprofit	-.692* (.269)	-.685* (.270)
Profit	-.722* (.224)	-.758* (.225)
Formalization	.250* (.041)	.198* (.210)
Equal Opportunity	.495* (.210)	.498* (.210)
Percent Part time	-.012* (.002)	-.012* (.002)
Wage of Manager Job	-7.23E-006 (.000)	-6.85E-006 (.000)
Formalization* Educ Diff		.074* (.033)
-2 Log Likelihood	1308.020	1303.188
Chi-Square	175.081*	179.914*
Nagelkerke R ²	.283	.291
Total N	573	573

Table entries are log odds coefficients. Standard errors of estimates are given in parenthesis. * indicates <.05.

Figure 1: Proposition Chart

Proposition 1 Human Capital Theory	Frequency of promotion will be higher in jobs with high general and specific human capital.	No Support Education and training time not significant in full models.
Proposition 2 Vacancy Theory	Frequency of promotion will be higher in larger and growing organizations with more vacancies.	No Support Vacancy model needs more variables for better hypothesis testing.
Proposition 3 Vacancy Theory	Frequency of promotion will be lower in less desirable, low level positions.	Support Overall, the frequency of promotion is higher going from core to management.
Proposition 4 Social Closure Theory	Frequency of promotion will be higher in jobs with smaller differences in status characteristics between workers.	Support.– when advancing from core to management NO Support when advancing from low to core jobs.
Proposition 5 Organizational Theory Founding Effects	The effects of status differences will be greater in older firms founded before 1975.	IS Supported in firms founded before 1969 when advancing into management.
Proposition 6 Organizational Theory Market Sector	Status difference effects will be greater in for-profit firms than in non-profit compared to government jobs.	Support –when advancing from core to management NO Support when advancing from low to core jobs.
Proposition 7 Organizational Theory Formalization	Status difference effects will be greater in firms with less formalization.	Support- when advancing from core to management NO Support when advancing from low jobs to core jobs. The opposite effect was found.
Proposition 8 Organizational Theory Equal Opportunity Office	Status difference effects will be lower in firms with equal opportunity personnel.	Support – when advancing from core to management NO Support when advancing from low to core jobs.