Published in final edited form as:

Soc Forces. 2013 September ; 92(1): 25–57. doi:10.1093/sf/sot075.

It's Who You Work With: Effects of Workplace Shares of Nonstandard Employees and Women in Japan

Wei-hsin Yu

Department of Sociology and Population Research Center, University of Texas at Austin, 305 E. 23rd Street, G1800, Austin, TX 78712-1086

Wei-hsin Yu: whyu@mail.utexas.edu

Abstract

Previous research on workplace composition has not addressed how the share of nonstandard employees affects individual workers' opportunities and well-being. Moreover, existing studies generally assume that the effect of a group's numerical representation is mediated through the group's relative power and status within establishments. This study asks whether workplace composition matters when the size of each social group has little impact on its relative status. Specifically, I examine the economic and psychological consequences of the proportions of nonstandard employees and women in Japanese workplaces, where both groups are typically secondary workers who lack power regardless of their relative size. The results indicate that working in establishments with modest proportions of nonstandard employees enhances individuals' wages and likelihood of promotion, but working in those with higher proportions is detrimental. Conversely, the greater the share of nonstandard employees in a workplace, the more likely all workers are to suffer psychologically. Workplace gender composition is also linked to Japanese workers' reported chances of promotion and life satisfaction, but it is relevant to fewer worker outcomes than employment-status composition. This analysis underscores the need to consider workplace demography, even if the power and status gaps between different social groups vary little with each group's share within establishments. In addition, the findings suggest that the global trend of increasing nonstandard work arrangements has a more extensive impact on disparities among workers than prior research implies.

Research on labor market inequality has long emphasized the importance of workplace composition (Reskin 1999). Beyond workers' own attributes, the demographic makeup of their respective organizations is likely to influence workplace culture, dynamics of social interaction, intergroup relations, and, as a result, individual workers' economic and psychological well-being (Cohen et al. 1998; Forman 2003; Pfeffer 1983; Tolbert et al. 1995; Wharton and Baron 1987). Most research linking organizational demography to social inequality focuses on the gender or race composition of the workplace (Cohen et al. 1998; Jackson et al. 1995; Kanter 1977; Stainback et al. 2011). Gender and race, however, are not the only attributes that differentiate workers. As global economic pressure has led to the rapid growth of temporary, fixed-term workers across the industrialized world, today's workplaces are increasingly divided based on individuals' entitlement to a potentially

indefinite and presumably ongoing employment contract (Kalleberg 2000). Whereas standard employees, who are entitled to such a contract, can reasonably expect job security, fringe benefits, and long-term opportunities within organizations, those defined as nonstandard or contingent employees are perceived and treated as “organizational outsiders,” and thus frequently experience inadequate compensation, inferior stereotypes, and a lack of future prospects (Boyce et al. 2007; Giesecke 2009; Kalleberg et al. 2000; McGovern et al. 2004; Yu 2012).

Although the disadvantages fixed-term or contingent employees face are well documented, we do not know whether firms' use of nonstandard employment may also affect workers who are not on fixed-term contracts. Like the proportion of women in the workplace, the share of nonstandard employees may shape, for example, overall levels of contact and cohesion within the establishment, thus having an impact on all workers' job satisfaction and mental health. The potential consequences associated with the share of nonstandard employees at work are not only important in their own right, but also increasingly critical for our understanding of the effects of workplace gender composition. Because women constitute the majority of the nonstandard workforce globally (Kalleberg 2000), the rapidly rising shares of nonstandard employees in organizations inevitably affect the gender composition in many workplaces. Without research addressing the outcomes linked to the proportion of nonstandard workers, researchers would face increasing difficulty in assessing the true influences of the workplace gender composition on individuals.

In this study, I use the case of Japan to investigate how the proportions of nonstandard and female employees in the workplace shape workers' economic and psychological outcomes, including promotion opportunities, wages, life satisfaction, and work-related distress. To my knowledge, this study is the first to examine the consequences of workplace gender composition on workers, net of the influences of employment-status composition, and vice versa. The study also utilizes the Japanese setting to address an understudied question: Does worker composition matter if the size of each social group has little impact on its relative status? Much of the previous research on workplace composition assumes that the effect of a social group's numerical representation on its life chances or well-being is mediated through the group's relative influence within establishments (e.g., Cohen et al. 1998; Kanter 1977; Tolbert et al. 1995; Tsui et al. 1992). Within Japanese organizations, however, the gaps in status and power between standard and nonstandard employees, as well as between men and women, are unlikely to change according to the share of nonstandard employees or women. More than in many other advanced economies, employment status and gender define workers' status and prospects crucially in Japan (Brinton 1993; Hirata and Yugami 2011). With a strictly dualist system, Japanese employers generally provide high levels of job protection and extensive benefits to those with standard full-time jobs (*seishain*), while having all others—including part-time and temporary workers hired either directly or through agencies—on short-term contracts that do not guarantee renewal, promotion, or adequate benefits and pay (Houseman and Osawa 2003; Moriguchi and Ono 2005; Yu 2009).¹ Not only are those who are not *seishain*—that is, nonstandard employees—entitled to few rights in their workplaces, but their employment status also tends to stigmatize them

as uncommitted workers, making it extremely difficult for them to shift to standard jobs and attain higher occupational status in the long run (Yu 2012).

Similarly, because women's primary roles are assumed to be as caregivers of their families, and because standard work arrangements in Japan are likely to conflict greatly with individuals' family responsibilities, many Japanese employers consider women as secondary workers, regardless of their employment status. Thus, even when women work as standard employees, they tend to receive little on-the-job training and few promotion opportunities (Brinton 1993; Yu 2009). Overall, the salience of employment status and gender in Japanese organizations implies that changes in the proportions of women and nonstandard employees might not alter their relative power and status in the workplace. A new conceptual framework is therefore required for linking organizational demography to workers' economic or psychological well-being. In this sense, not only does Japan's case provide important evidence on how the global trend of increasing nonstandard work arrangements shapes disparities among workers, but it also potentially challenges existing theories about the influences of workplace composition.

Gender and Employment-Status Compositions in the Workplace

Theories about the consequences of workplace composition are rooted in social psychological perspectives that stress individuals' tendency to develop group identity and differentiate in- and out-groups according to demographic attributes or other socially meaningful categories (DiTomaso et al. 2007). Although individuals are drawn to those like themselves, hence exhibiting in-group favoritism (Baron and Pfeffer 1994), the relative sizes of social groups in the workplace are argued to condition how each group perceives and behaves toward the other(s) (Reskin 1999). When a group has only a minimal presence within an organization, the interaction between this group and the rest is likely to be limited, and this group's difference from the others is highly noticeable. Both conditions perpetuate socially constructed perceived differences between groups. In turn, members of a numerically majority group, often a higher-status group, are likely to evaluate the minority group based on stereotypes and attribute-linked norms prevalent in society, thereby jeopardizing the latter's economic opportunities (Kanter 1977). Confirming this argument, several studies of workplace gender composition find greater discrimination and fewer promotions for women in workplaces with lower female representation (Cohen et al. 1998; Reskin 1999; Stainback et al. 2011).

The relative sizes of social groups in the workplace also shape the dynamics of intergroup interaction because they signal each group's potential influence within organizations. A lower-status group's especially large numerical representation in the workplace is therefore seen as a challenge to the status quo. In response, members of a higher-status group may feel an urge to defend their group interest and deliberately exclude the lower-status group from

¹The contract terms and conditions for part-time and various types of temporary employees in Japan are not strictly the same. These workers, however, are invariably on fixed-term employment contracts and are similarly deprived of job security, appropriate compensations, fringe benefits, and the status of organizational insiders. This shared condition, and the fact that the definitions for different groups of nonstandard employees are rather fluid in Japan, leads researchers and the general public alike to group all types of contingent employees together and focus on the divide between standard and nonstandard workers (e.g., Houseman and Osawa 2003; Hirata and Yugami 2011).

promising opportunities within organizations. Consistent with this argument, research shows that increases in women's share within establishments enhance their male coworkers' feeling of being threatened, as well as the overall level of intergroup competition (Tolbert et al. 1995; Tsui et al. 1992), making men less supportive of women's career advancement (South et al. 1987).

Because individuals perceive and relate to themselves and others in terms of social categories, and because social-category-based similarity is an important foundation for social integration and cohesion (Baron and Pfeffer 1994), workplace composition further affects workers' perceptions of social relations at work and their sense of well-being (Jackson et al. 1995; Pfeffer 1983). Specifically, working in settings with greater levels of gender heterogeneity is thought to be conducive to perceptions of intense intergroup competition and low workplace cohesion. Workers in such settings therefore exhibit lower commitment and satisfaction, as well as higher job-related depression (Tsui et al. 1992; Wharton and Baron 1987; Wharton et al. 2000). This is especially the case for male workers, as the negative psychological impact of low workplace cohesion for women might be compensated for by their perceived gains in status and power.

Although much research on workplace composition focuses on intergroup dynamics, the norms and perceptions linked to each social group that prevail in the broader context also condition the effects of workplace composition on workers. An example is that as women's representation in the workplace increases, all workers' wages decrease (Kumlin 2007). Because women's work is less valued in society, even if the feminization of workplaces enhances women's relative status, it could ultimately devalue the work performed in such workplaces (Reskin 1999). Moreover, as women are generally paid less, an increase in the positions occupied by women may decrease the average wage in an organization. This decrease could lower what is considered a fair wage for all employees in the organization, leading them to accept worse pay. Either way, it is how women and their labor are evaluated in the broader context, rather than their relative status to men within establishments, that makes workplace feminization negatively associated with wages.

In the same way that social norms prevailing in the broader context can make women's increasing representation in the workplace detrimental to their wages, they could also make the status gap between men and women in the workplace virtually independent of variations in their relative sizes. As reviewed, prior research generally assumes that the numerical representation of women will shape their ability to compete with men within organizations. In cultural contexts that encourage management to bluntly use gender to screen and discriminate against workers, however, women's share in the workplace may not sufficiently alter management's preferential treatment of men. In such cases, the way in which workplace gender composition affects workers' economic opportunities may be similar to how the proportion of nonstandard employees affects them, as the status gap between standard and nonstandard employees is rather static.

Existing research does little to shed light on the influence of workplace composition when the status gap between the different social groups in the workplace is fairly constant. In particular, studies of the consequences of employment-status composition at work are nearly

absent. Just like being female, being on a contingent contract is conducive to one's lower amount of power and distinctive identity within an organization (Boyce et al. 2007; Kalleberg 2000). Employment status—standard versus nonstandard—therefore constitutes a socially meaningful category in the workplace. Because employment status is explicitly attached to entitlement, however, the relative sizes of standard and nonstandard employees in the workplace are unlikely to affect their relative standing and power. When considering candidates for higher positions, for instance, management's preference for standard over nonstandard employees is unlikely to vary with the latter's group size.

Despite nonstandard employees' inability to compete with standard ones, their share in the workplace has a direct impact on the contour of the labor queue within organizations. Borrowing from the queuing theory proposed to explain labor market segregation (Reskin 2001), I argue that individuals' prospects within establishments result from the numbers of workers of different characteristics that altogether make up the workplace's labor queue. As queuing theory maintains, employers determine how workers of different social categories are ordered in the labor queue and select individuals for positions according to their ranks in this queue. Thus, the fewer people of a preferred social category are in an organization's labor queue, the less competition there is for such people to reach a higher position. Similarly, those who belong to less preferred social groups, such as nonstandard employees or women, may benefit from having fewer people with employer-preferred attributes within organizations, because their chances for better positions ultimately depend on how soon their employers will exhaust the supply of the groups before them in labor queues. Even though employers may always prefer certain social groups for key positions, they are more likely to turn positions with marginally more responsibilities (e.g., overseers of part-time workers) into jobs for the less preferred groups, in an effort to preserve the preferred ones for core positions, when the supply of the preferred groups is more easily exhausted.

In addition to shaping the internal labor queue, the share of nonstandard employees in the workplace may affect workplace atmosphere and cohesion, even though an increase in this share is unlikely to intensify competition between standard and nonstandard employees. In Pfeffer's (1983) classic essay that draws attention to organizational demography, the distribution of employees' tenure or length of service is thought to be key to explaining workplace culture, as well as workers' behavior and psychological outcomes. One major way in which standard and nonstandard employees differ is precisely their length of service or, at least, their expected tenure within organizations, given that the latter are on fixed-term, rather than indefinite, contracts (Kalleberg 2000). The proportion of nonstandard employees in the workplace therefore may influence, for example, individuals' willingness to invest in social relations at work and, hence, their perception of workplace cohesion and sense of well-being. Providing some support for this claim, one study using work-group information from a large U.S. firm shows that having higher proportions of nonstandard employees within work groups negatively impacts group members' relations with supervisors and coworkers, as well as their commitment to the organization (Broschak and Davis-Blake 2006). To my knowledge, however, no empirical evidence is available on how employment-status composition at the workplace level affects workers psychologically.

The Japanese Case

Gender and employment status constitute the two most salient characteristics associated with workers' welfare in Japan. Because the employment model that has dominated the Japanese economy during past several decades emphasizes employees' long-term organizational attachment and firm-specific training (Moriguchi and Ono 2005), management commonly adopts a dualist system that preserves training opportunities and job security for those deemed worthy of its investment, while depriving those with unfavorable attributes of various rewards and benefits. With social and cultural norms justifying the incompatibility between Japanese women's family obligations and commitment to work, gender has long been a major criterion that management uses to sort workers within the dualist system (Brinton 1993). Unlike in many advanced economies, where women's blocked mobility largely has to do with their concentration in occupations with limited prospects (Padavic and Reskin 2003), Japanese firms allocate rewards and opportunities more bluntly along the gender line (Yu 2009). As one comparative study shows (Tachibanaki 1998), gender is a more important determinant of wages than occupation, age, and industry in Japan, whereas occupation or age is the most important in seven other industrialized countries.

Even more than being women, being on nonstandard employment contracts officially labels individuals as secondary workers in Japan's dualist system and deprives them of the protection, opportunities, and rewards to which ordinary members of organizations are entitled (Houseman and Osawa 2003; Yu 2012). The nonstandard employment status is particularly salient in Japan, because it requires little mutual commitment between employers and employees, which is essential to standard employment relations in that country (Lincoln and Kalleberg 1996). The different commitment requirement makes it socially acceptable to treat nonstandard employees as outsiders to their own workplaces, resulting in their exclusion from a wide range of activities and opportunities within organizations (Yu 2009).

Although differential treatment by gender or employment status is not unique to Japanese workplaces (Kalleberg 2000; Padavic and Reskin 2003), alterations in this treatment are particularly unlikely in that country. Because of the permanent employment system and its lingering influence, dismissing or sanctioning core employees has been exceptionally difficult in Japan, which makes management highly unwilling to take a chance with anyone whose attributes signal that their work commitment might be compromised over the long run (Yu 2012). Thus, even if the increase in female or nonstandard employees in the workplace affects Japanese employers' perceptions of them on a personal level, these employers would still find it too risky to choose them over male standard workers for critical positions. For this reason, a rise in the representation of women or nonstandard employees in the workplace is unlikely to make employers treat them less like secondary workers, nor is such a rise conducive to these groups becoming a greater threat to those considered as primary workers.

Because the status differences between standard and nonstandard employees and between men and women are rather static, queuing theory may shed light on Japan's case. As the theory suggests, for men and standard employees, having more female and nonstandard

workers in the workplace, respectively, means having fewer coworkers with desirable traits to compete with. Even for women or nonstandard employees, having a larger share of female or nonstandard workers reduces the number of individuals ahead of their group in the within-establishment labor queue, making the highest rank they can hope to reach in this queue higher. Hence, the proportions of female and nonstandard employees may enhance all workers' likelihood—and especially their perceived likelihood—of promotion. Nevertheless, unlike the proportion of female employees, the proportion of nonstandard employees in an establishment is an indicator of the number of permanent and promising positions for workers to move into. For this reason, working in establishments that use “too many” nonstandard employees, to the extent that their internal job hierarchies are virtually flat, may be negatively associated with individuals' promotion chances. Thus, I propose:

H₁: Workers' perceived likelihood of promotion increases with the proportion of women in the workplace.

H₂: Workers' perceived likelihood of promotion increases with the workplace share of nonstandard employees initially, but declines after this share reaches a certain point.

The proportions of nonstandard and female employees in the workplace should also have implications for Japanese workers' earnings. As reviewed earlier, studies based on the United States often find female representation in the workplace to be negatively linked to pay (Reskin 1999). Incorporating more nonstandard employees, members of another low-status group, into the workplace may similarly diminish wages. Specifically, having a large share of nonstandard employees can decrease the average pay and changes all employees' perception of a reasonable wage, given that this perception is often based on comparisons with coworkers' compensations. In turn, the proportion of nonstandard employees in the workplace can be expected to lower wages for both standard and nonstandard employees. Nevertheless, it is noteworthy that Japan's rapid increase in nonstandard workers is a response to its highly rigid employment system, which compels management to retain and reward standard employees beyond what their productivity deserves (Houseman and Osawa 2003). Recent research also shows a positive association between the utilization of nonstandard workers and Japanese firms' productivity (Morikawa 2010). Because more efficient and productive firms are generally more profitable, Japanese firms using some nonstandard employees may be able to pay more than those using none. Thus, even though having a relatively large proportion of nonstandard employees enables management to offer particularly low wages to all workers, firms with almost no nonstandard employees do not necessarily pay the most, as their wage levels are limited by the firm's comparatively low profitability. For this reason, the association between the workplace share of nonstandard employees and wages may be curvilinear;

H₃: Workers' wages first increase but eventually decrease with the proportion of nonstandard employees in the workplace.

By contrast, the proportion of women in the workplace is unlikely to be an indicator of a firm's efficiency or profitability in Japan, because socially prescribed family roles for women are likely to dissuade management from utilizing them as lower-cost substitutes for men in that country. One piece of evidence that Japanese management utilizes nonstandard workers but not women for cost saving is that during Japan's great economic stagnation in

the 1990s and 2000s, the number of jobs held by women only declined (and declined more than the number of jobs held by men), while the number of nonstandard jobs grew rapidly (Yu 2009:191). Thus, there is no reason to expect an establishment's proportion of female employees to be positively associated with wages. I therefore derive the hypothesis about the share of female employees and wages from the research using U.S. data, which mostly finds a negative association between the two (Reskin 1999).

H₄: Those employed in workplaces with higher proportions of women receive lower wages.

Despite the hypothesis just stated, I should note that one available study on Japan shows only a small effect of the percentage of women in the workplace on wages, even without controlling other organizational characteristics that may be associated with both a high level of feminization and low wages (e.g., firm size) (Kumlin 2007). It is possible that because labor compensation in Japanese organizations is more directly linked to gender than to the different structural positions that the two gender groups occupy (Tachibanaki 1998), the levels of feminization of individuals' jobs or workplaces tend not to have an additional effect on their labor's worth. If this is the case, the association between workplace female share and wages might be rather weak in Japan.

Beyond economic prospects, the proportions of both women and nonstandard employees in Japanese workplaces may affect individuals' psychological well-being. As discussed earlier, the rather static status gaps between standard and nonstandard employees and between men and women in Japanese workplaces make the relative sizes of these social groups unlikely to affect the low-status groups' feeling of empowerment or high-status groups' sense of threat. Nonetheless, the proportion of nonstandard employees may have a psychological impact on all workers by reducing the overall workplace cohesion. For the same reason that longer average job tenures contribute to better workplace social relations (Wharton et al. 2000), the unpredictable nature of nonstandard employees' job tenures is likely to reduce the incentives for all workers, even those with the same employment status, to invest in social relations with them. Thus, in addition to having difficulty integrating with standard workers, the group of nonstandard employees is likely to have an exceptionally low level of cohesion. Moreover, as discussed earlier, nonstandard employees are likely to be socially excluded in Japanese workplaces because of their outsider status (Yu 2009). Social exclusion not only reduces individuals' sense of belonging and well-being (Zadro et al. 2004), but also decreases their level of prosocial behavior (e.g., willingness to help and cooperate with others) (Twenge et al. 2007). Both the particularly low group solidarity and the decreased level of prosocial behavior among nonstandard employees suggest that a larger share of such employees at work will worsen the overall workplace cohesion and social relations. The lack of worker attachment and workplace cohesion is especially likely to hamper Japanese workers' psychological well-being because, with the history of lifetime employment that facilitated internal cohesion, they may be accustomed to and desire this cohesion more. Hence I expect:

H₅: Those in workplaces with higher shares of nonstandard employees have worse psychological well-being.

Like nonstandard employees, rises in women's relative group size do not make them more formidable competitors to men in Japan. Unlike nonstandard workers, however, Japanese women working as standard employees are likely to have more predictable and homogeneous job tenures. Although most female standard employees in Japan do not work for the same firm for very long, their tenures tend to be relatively homogeneous, as many begin their firm tenures upon school graduation and end around the age of marriage or childbearing (Brinton 1993; Yu 2009). Because tenure homogeneity is conducive to group integration (Iii et al. 1989), and because being female per se is unlikely to lead to exclusion from work-related social activities, the increase in women's representation in the workplace may not deteriorate social relations like the rise in the share of nonstandard employees does. In fact, after taking the employment-status composition into account, the increase in female representation may even have a net positive effect on workplace atmosphere and cohesion. Not only does having a larger share of women help reduce the overall level of workplace competition, but women, as members of a low-status group that sees little potential for its relative status to change, tend to invest more in peer relations and value friendly work environments more (Kanter 1976). Consequently, social relations in workplaces with higher female representation might be better, leading to improved psychological outcomes for both male and female workers in Japan. Thus,

H₆: Individuals in workplaces with greater shares of women report higher subjective well-being.

Data

The data for this study are from the Social Stratification and Social Mobility Survey (SSM), collected in 2005 from a nationally representative sample of Japanese adults. As one of the most established surveys in Japan, the SSM has been gathering detailed information about individuals' jobs and work trajectories from an independent sample every decade since 1955. The 2005 SSM includes 5,765 men and women between 20 and 69 years of age. Because the SSM asked about respondents' workplace composition for only their current jobs, the statistical analysis is limited to those with jobs at the survey time (70% of the sample). I further excluded 876 respondents who worked in tiny establishments—that is, those with fewer than 5 employees—as in such workplaces, the number of people in any given social category is likely to be too small to enable a group identity and meaningful group processes. Besides, such establishments are likely to be family-owned businesses in which most workers are members of the family. I also eliminated 41 cases who were home-based piece workers, as they do not work alongside others.

In addition, the statistical analysis excludes respondents with incomplete information for the variables used in the models, except for those who reported not knowing the share of female or nonstandard employees in the workplace or their own earnings. Whereas the proportions of missing values for the other variables are small and negligible (0-5%), 11.5% and 13.5% of eligible respondents failed to report the proportions of women and nonstandard employees, respectively, in their workplaces. Similarly, 13.4% of these respondents did not provide information on their earnings. To take advantage of such cases, I used multiple imputation methods to generate values for missing data on these variables and then estimated models with the imputed data (based on 10 imputations) (Allison 2002).

Specifically, I used the multiple imputation procedure available in STATA version 11 to fill in the missing values. To be sure that the use of imputed data is not responsible for the results, I conducted an additional analysis without imputing values for these three variables. The results were similar.

Variables and Models

The statistical analysis relies on four dependent variables to assess how workplace composition shapes disparities among workers. The first one, perceived likelihood of being promoted, represents workers' long-term job prospects within organizations. Based on the question regarding whether respondents thought that they would attain higher status in their current workplaces, I measure this variable in 5 categories: 1) no likelihood at all, 2) generally unlikely, 3) hard to say which way it will be, 4) somewhat likely, and 5) highly likely.² The second outcome variable is earnings, a direct indicator of individuals' economic conditions. With 30 income categories provided, the SSM asked respondents to report their personal income for the past year. Using the midpoints of these categories, I convert the reported information into a continuous variable for personal earnings. Although this earnings measure contains non-wage income, research using prior waves of the SSM demonstrates that total personal income is a reasonable proxy for Japanese workers' earnings (e.g., Sakamoto and Chen 1993; Yu 2009). I take the logarithm of earnings to make the variable's distribution less skewed.

Third, to investigate the psychological impact of gender and employment-status compositions in the workplace, I measure respondents' subjective well-being based on the question: "Overall, are you satisfied or dissatisfied about your life?" Respondents were asked to answer on a five-point scale, ranging from completely satisfied (coded as 5) to completely dissatisfied (coded as 1). Although much previous research uses job satisfaction to assess the psychological effect of workplace composition (Wharton and Baron 1987; Wharton et al. 2000), the SSM did not include any related question. Numerous psychological studies, however, show that job satisfaction is strongly and positively related to life satisfaction, and that job conditions affect workers' life satisfaction through job satisfaction (Judge and Watanabe 1993; Tait et al. 1989). Thus, individuals' experiences and feelings about their workplaces can be expected to shape their overall evaluation of life.

To more directly show how workplace composition impacts workers psychologically, I include a fourth dependent variable, a binary indicator of suffering from work-related distress. This indicator is created from two questions: whether respondents felt stressed, anxious, or troubled during the past month and what primary issue was responsible for that feeling. I consider respondents to have suffered from work-related distress if they were positive about experiencing stress and identified the source of that stress as "job-related" or "interpersonal relations in the workplace." I should note that this outcome variable is available for only about one half of the analytical sample, because those questions were asked in just one of the two leave-in questionnaires used for the 2005 SSM. Although the

²The survey also allows the option that "there is no position higher than the current one in the workplace" for this question. I consider such cases as perceiving no probability of being promoted in the current workplace. I conducted an additional analysis with those cases excluded, and the results were virtually unchanged.

survey collected answers to its core questions through face-to-face interviews, it gathered additional information with two different leave-in questionnaires distributed randomly to respondents at the end of the interviews, and only Leave-In Questionnaire B has the questions about work-related distress.

A similar set of predictors is employed for examining the four different outcomes. To address the primary concern of this study, I include in the models the proportion of women and the proportion of nonstandard employees in each respondent's workplace. Because the workplace share of nonstandard employees is expected to have nonlinear relationships with promotions and wages, I also include the quadratic term of this share in the analysis. The survey asked respondents to estimate the proportions of female and nonstandard employees, respectively, in their workplaces. Specifically, respondents reported whether the proportions were around: 1) 0-1, 2) 2-4, 3) 5, 4) 6-8, or 5) 9-10 *wari*, with each *wari* representing 10 percent in Japanese. Using the midpoints of these five categories, I create continuous variables for the female and nonstandard employee proportions in the workplace. Continuous measures are preferable because they enable a simpler presentation, especially for models investigating whether the influences of workplace compositions differ for individuals of different gender or employment-status groups. Moreover, continuous measures can more precisely capture the potentially nonlinear associations between these proportions and workers' economic or psychological outcomes. Specifically, I am able to estimate the exact thresholds at which these associations turn from positive to negative and vice versa.

Other workplace features, such as employment sector, and industry, are also included in the models. Not only are these features important indicators of Japanese workers' career prospects, but they may also be firms' tendencies of using women or nonstandard workers. Table 1 provides detailed definitions of the workplace variables, as well as those of predictors representing job characteristics, including occupational status, employment status, work hours, experience of internal job movement, and whether respondents' jobs require supervising others. I use log ISEI to measure occupational status, as indicated in Table 1, because the marginal contribution of occupational status, especially to individuals' chances of promotion and sense of well-being, is likely to decline after a certain point. Although I divide workers into four employment-status groups, self-employed workers are included only in the models about psychological well-being, as the concept of promotion is irrelevant to self-employed workers, and factors determining such workers' earnings generally differ from those influencing employees'. For psychological conditions, however, because the self-employed included in the analytical sample are mostly small-business owners who work closely with their employees, workplace composition is likely to affect both the owners and employees through shaping the atmosphere of their shared environments.

I use the experience of internal job movement and being in a supervisory position as indicators of the importance of respondents' positions to their firms. Internal job shifts, even lateral ones, are considered as critical training opportunities in Japan (Brinton 1993). Those having received such opportunities therefore tend to occupy their firms' core positions or positions within the internal labor market. Similarly, having supervisory or administrative

duties suggests that respondents' jobs are essential to the firms, which is likely to affect respondents' assessments of promotion chances, wages, and psychological well-being.

The statistical models further control for an extensive set of individual attributes, including gender, education, current job tenure, total work experience, age, and marital and parental statuses (definitions in Table 1). Because including age, education, and work experience in the same models generally leads to excessive multicollinearity, I exclude age in the models predicting earnings and the likelihood of promotion. I nevertheless introduce a dummy variable for being close to retirement age, defined as age 50 or older, to control for the possibility that discrimination against those close to retirement hampers one's earnings and odds of being promoted. For the models concerning life satisfaction and work-related stress, I eliminate work experience instead of age, because research on psychological well-being generally finds the latter to be an important predictor, while rarely considering the former (Mirowsky and Ross 2003). I use both age and age-squared in those models, as the age effect on psychological outcomes is often curvilinear. Because Japanese women shoulder the majority of child-rearing responsibilities, and employers in that country often pay a wage premium for men with families to support (Yu 2009), marital and parental statuses are likely to have opposite effects on men's and women's promotion chances, wages, and even life satisfaction. I therefore introduce interaction terms between gender and marital status and between gender and parenthood in all models.

To provide an overview of the analytical sample, Table 2 presents descriptive statistics for all the variables described above. On average, respondents in the sample reported that women constituted 43% of employees in the workplace, whereas 32% of workers in the workplace were on nonstandard employment contacts. The correlation between the workplace female and nonstandard employee proportions is .44. This, in part, reflects that the majority of nonstandard employees in Japan are women (Yu 2012). Still, not all female workers are on nonstandard employment contracts, as an average workplace has a higher proportion of female than nonstandard employees. The correlation of .44 also suggests that there is a substantial variation in the workplace female share unaccounted for by the nonstandard employee share and vice versa. Therefore, it is important to consider both proportions in the same models and identify the independent effect of the workplace gender or employment-status composition, net of the influence of the other composition.

Table 2 further indicates that 46% (1-.54) of the analytical sample and 31% of employees in the sample $(.30/ (.66+.30+.02) = .31)$ are women and nonstandard employees, respectively. Given that the analytical sample is a nationally representative sample of workers in firms with 5 or more employees, the percentages of women and nonstandard employees in the sample should be fairly close to the average reported female and nonstandard employee shares across respondents' workplaces. That these percentages are indeed similar suggests that respondents' reports of their workplace compositions are highly reliable.

Finally, regarding the modeling strategy, ordered logit regressions are employed for estimating the effects of workplace composition on the perceived likelihood of promotion and life satisfaction, because both are measured as ordinal variables. An ordered logit model allows the response categories of a dependent variable to be ordered, without assuming that

the distance between any two adjacent categories is the same as that between another pair. For predicting log earnings, ordinary least squares regression models are used. Because of the dichotomous nature of the outcome variable, logistic regressions are used for analyzing work-related stress.

Results

Table 3 presents results from the ordered logit models predicting workers' perceived likelihood of being promoted in their current workplaces. Model 1 shows a positive effect of the proportion of women in the workplace on employees' perceived chances of promotion, after taking into account individuals' own gender and many other job and workplace characteristics. This finding supports the hypothesis that individuals employed in workplaces with more women tend to perceive more chances of promotion. Model 2 includes the share of nonstandard employees and its quadratic term, and the coefficients for both are significant. Thus, working with a higher proportion of nonstandard employees is beneficial to Japanese workers' chances of promotion until the proportion reaches a certain threshold.

Model 3 includes the share of female workers, as well as the share of nonstandard employees and its quadratic term. Comparing Model 3 with Model 1, it is clear that taking into account the proportion of nonstandard employees in the workplace hardly changes the coefficient of the female share. That is to say, the positive impact of working in a more feminized workplace on individuals' promotion chances has little to do with the fact that many of their female coworkers may be on nonstandard employment contacts. Conversely, a comparison of Models 3 and 2 indicates that taking into account the proportion of women in one's workplace slightly attenuates the effect of employment-status composition in the workplace, as the coefficient for the proportion of nonstandard employees decreases somewhat in Model 3. Thus, part of the reason that working alongside nonstandard employees enhances individuals' promotion chances is that many nonstandard employees in Japan are women, whom employers prefer less than men for promising positions. Nevertheless, the workplace share of nonstandard employees still has a considerable and curvilinear effect in Model 3, after controlling for the proportion of women in the workplace. This finding demonstrates that the employment-status composition in the workplace is important in its own right, and its effect cannot be fully explained by the fact that the nonstandard labor force tends to be feminized.

Using the coefficients in Model 3, I estimate precisely how individuals' likelihood of promotion changes with a workplace's employment-status composition. The estimation indicates that the overall effect of the workplace proportion of nonstandard employees on the likelihood of promotion turns from positive to negative after this proportion reaches 0.84. Thus, consistent with queuing theory, working with women and nonstandard employees generally increases employees' perceived likelihood of promotion. Unlike working alongside women, however, working alongside nonstandard employees becomes harmful to individuals' career prospects when the vast majority (>84%) of employees in the workplace are on contingent contracts.

In addition to the proportions of women and nonstandard employees in the workplace, several other workplace and job characteristics also significantly affect individuals' perceived promotion chances. Specifically, those in the industry of public administration, with higher occupational status, and working longer hours tend to report a higher likelihood of being promoted in their current workplaces. Conversely, workers in construction and transportation industries are likely to be relatively negative about their promotion prospects. Unsurprisingly, being on nonstandard employment contracts severely hampers individuals' expectation of promotion. Individuals in supervisory positions also tend to report a greater likelihood of promotion. With respect to individual attributes, it is unsurprising that the reported likelihood of promotion is greater for Japanese men than women. Those with longer work experience actually perceive a smaller chance of promotion, perhaps because their careers within firms have already peaked. Similarly, being close to retirement age decreases workers' promotion opportunities. In addition, being a parent of a minor child has a negative effect on women's likelihood of being promoted, but has virtually no effect on men's.

Next, Table 4 shows results from regression models predicting log wages. According to Model 1, the gender composition in the workplace is not significantly associated with earnings. Thus, there is no support for the hypothesis that the feminization of workplaces decreases wages for all workers. The finding is nevertheless consistent with the argument that the distribution of rewards within Japanese organizations is more directly based on gender. Because management defines the worth of men's and women's work largely by their roles as breadwinners and supplementary earners, respectively, the proportion of women in establishments hardly affects how they are paid. Moreover, because Japanese management generally considers men and women as nonsubstitutable, the female share in the workplace is unlikely to reflect management's intention to lower labor cost (by using women for men's jobs), and thus it is unrelated to wages.

By contrast, the coefficients for the proportion of nonstandard employees and its quadratic term are both significant in Model 2 in Table 4. The relationship between the workplace share of nonstandard employees and Japanese workers' earnings is therefore curvilinear, with the association being positive when the share is low, but turning negative after the share grows past a given point. This curvilinear relationship is consistent with the argument that Japanese firms utilizing some nonstandard employees are relatively efficient and profitable, hence paying more than those offering few contingent contracts. As nonstandard employees become increasingly dominant in proportion, however, they ultimately decrease the establishment's average pay and lessen all employees' wage expectations. Thus, employers are able to offer lower wages when the proportion of nonstandard employees is relatively high.

Model 3 improves Model 2 by taking into account the proportion of female employees in the workplace. Although the workplace gender composition is not a significant predictor of wages, the fact that many nonstandard employees are female makes it necessary to include this variable to separate the influence of workplace employment-status composition from that of workplace gender composition. The coefficient for the share of nonstandard employees decreases only slightly from Model 2 to Model 3, indicating that workplace

employment-status composition has an independent and direct association with wages. Using coefficients generated in Model 3, I estimate the threshold at which the wage benefit of working with nonstandard employees declines in Japan. The estimation indicates that this benefit peaks when 35% of individuals in the workplace are on nonstandard contracts. Furthermore, working with nonstandard employees is associated with a net wage loss when such employees constitute 70% or more of an establishment's workforce.

Because previous research on workplace composition generally emphasizes how the relative sizes of different groups affect their relative power, authority, and, in turn, economic opportunities within organizations, I add a few interaction terms to the final models in Tables 3 and 4 to test whether gender and employment-status compositions have a differential effect on different groups. Table 5 presents partial results from these additional models. Regardless of whether other interaction terms are included in the same model, the effects of the interactions between gender and the workplace female share on promotion chances are nonsignificant. The findings are the same for the interactions between one's own employment status and the workplace share of nonstandard employees. Thus, with respect to the likelihood of being promoted, working with a large proportion of women is equally beneficial to both men and women. Similarly, the effect of having a high or low proportion of nonstandard employees in the workplace on promotion opportunities does not differ between standard and nonstandard workers. These results are consistent with my argument that the status gap between men and women, as well as that between standard and nonstandard employees, is rather fixed and unaffected by the relative size of the low-status group in Japanese workplaces. Therefore, the effect of workplace composition in Japan mainly has to do with how this composition conditions the structure of the labor queue within the establishment. The results further support the queuing perspective, contending that having fewer members of a higher-status group in the labor queue enhances promotion chances for members of both higher- and lower-status groups. In the case of workplace employment-status composition, the fact that having too many nonstandard employees harms both standard and nonstandard employees is also consistent with my argument that firms with the vast majority of employees on nonstandard contracts provide almost no job ladder or promotion opportunities for anyone.

I should note that the result that employees in workplaces with a smaller proportion of standard employees perceive greater promotion chances does not imply that standard and nonstandard employees, or men and women, can expect to be promoted to the same types of positions. It may always be the case that Japanese employers give important positions only to men with standard employment status. Compared to their counterparts in establishments where management has many more male standard employees to select from, however, female nonstandard workers might be more likely to be promoted to, for example, positions of supervising or training other nonstandard employees. Needless to say, having a larger share of women or nonstandard employees in the workplace increases the competition within their own respective group. Nevertheless, because organizations with smaller shares of male standard employees are more likely to make some marginally administrative positions available to secondary workers, in spite of the greater competition, female or nonstandard employees are ultimately better off in such organizations. After all, when there

is virtually no place for women or nonstandard workers to be promoted to, their prospects would be close to none, no matter how little competition they face from their own group.

Table 5 also shows that the finding that workplace gender composition is irrelevant to wages holds for both Japanese men and women, as the interaction between gender and the workplace share of women is nonsignificant in all models predicting wages. Once again, this result is consistent with the argument that Japanese employers pay workers according to their gender, rather than the extent to which their jobs or workplaces are gendered. As to the association between workplace employment-status composition and wages, there is similarly no evidence that this association differs for standard and nonstandard workers. In a way, this finding is not surprising, because the curvilinear relationship between the workplace share of nonstandard employees and wages has to do with how the former shapes the firm's personnel flexibility and profits, as well as its employees' perception of a fair wage. Both standard and nonstandard employees are likely to gain when their firms are relatively profitable. Likewise, they both are likely to adjust their notion of acceptable wages based on the average pay in the workplace and lose when this average decreases.

Table 6 presents results from ordered logit regressions predicting life satisfaction among Japanese workers. Model 1 shows no significant association between the female share in the workplace and workers' life satisfaction. Model 2 indicates a negative association between the workplace share of nonstandard employees and self-reported well-being. Model 3 includes the proportions of both women and nonstandard employees in the workplace. Interestingly, upon controlling for workplace employment-status composition, the share of women in the workplace becomes positively associated with workers' life satisfaction. This change clearly illustrates the need to consider workplace gender and employment-status compositions simultaneously. Because working in establishments with a larger proportion of nonstandard employees is detrimental to workers' psychological well-being, and because a sizeable percentage of female workers are on nonstandard contracts, we are unable to see the psychological benefit of being in a relatively feminized workplace without taking into account the harm of working alongside many nonstandard employees.

Model 4 further controls for log earnings and the likelihood of promotion, given that workplace composition may indirectly affect individuals' life satisfaction through their earnings and expectation of promotion. Although those earning more and perceiving a higher likelihood of being promoted feel more positive about their lives, the results for workplace compositions hardly change. Japanese workers in more feminized establishments tend to report higher levels of satisfaction with their lives, whereas those in workplaces with larger proportions of nonstandard employees tend to feel more negative. These findings are consistent with the argument that when women are rarely considered a threat or substitutes for men in the workplace, and when women as a whole see few advancement opportunities, as in the context of Japan, more feminized workplaces are likely to be somewhat more friendly. Conversely, having a larger proportion of nonstandard employees in the workplace not only leads to lower cohesion among workers, but also signals the employer's shifting preference for personnel flexibility over long-term worker commitment. Thus, even though the share of nonstandard employees at work is not always negatively associated with

individuals' promotions and earnings, Japanese workers' life satisfaction decreases as the proportion of nonstandard employees in their workplaces increases.

Table 6 also presents results from logistic regressions predicting individuals' suffering from work-related distress. Those working in establishments with larger proportions of nonstandard employees are significantly more likely to feel stressed for work-related reasons. This finding further confirms the hypothesis that employment-status composition in the workplace affects workers' psychological well-being by shaping their sense of workplace cohesion and long-term stability. The female share in the workplace, however, does not have a significant effect on work-related stress, suggesting that workplace gender composition plays a somewhat smaller role than employment-status composition in shaping workplace integration and cohesion.

Like for the economic outcomes, I also estimated the models for life satisfaction and work-related distress with interaction terms between gender and female share in the workplace, as well as between employment status and the proportion of nonstandard employees at work. None of these interaction terms yielded significant results. The lack of asymmetrical effects of workplace gender composition on men's and women's sense of well-being ultimately supports my argument that an increase in the numerical representation of women does not empower them more in Japanese workplaces, nor does it cause men to feel more threatened. Rather, workplace gender composition influences individuals' psychological conditions by shaping the overall workplace culture and atmosphere, thus affecting men's and women's feelings in similar ways. For the same reason, growth of the proportion of nonstandard employees in the workplace does not affect workers' psychological conditions differently according to their employment status. Because having a temporary status makes it difficult for nonstandard employees to develop meaningful social relations even with coworkers under the same employment contracts, a rise in the share of nonstandard employees is bound to deteriorate the overall level of cohesion among workers. Consequently, both standard and nonstandard workers are likely to find social relations in the workplace unrewarding and thus suffer psychologically.

Conclusions

The ongoing transformation of employment arrangements in advanced economies has critically reshaped workplace demography by increasing the share of nonstandard employees. Despite the considerable attention scholars of inequality have paid to organizational contexts (Baron and Pfeffer 1994; Pfeffer 1983; Reskin 1999), previous research sheds little light on how the changing workplace employment-status composition affects individual workers. This study has contributed to research on workplace contexts and inequality by examining the economic and psychological outcomes of working in establishments with different proportions of nonstandard employees in Japan, a representative case of the industrialized countries in which nonstandard work arrangements have rapidly gained popularity (Houseman and Osawa 2003; Yu 2012). As the analysis shows, the share of nonstandard employees in the workplace has important implications for both the economic and psychological conditions of Japanese workers. For earnings and promotion opportunities, the association with the workplace's share of nonstandard

employees is curvilinear. The Japanese employed in establishments with modest proportions of nonstandard employees have relatively high perceived likelihoods of promotion and wages, but those working in organizations that use predominantly nonstandard workers tend to fare badly economically. Conversely, the share of nonstandard employees in the workplace is always negatively associated with psychological well-being. Not only do those working with proportionately more nonstandard employees tend to report lower life satisfaction, but they are also more likely to suffer from work-related distress.

The results just described suggest that the global trend of increasing utilization of nonstandard employment contracts has a more extensive and complex impact on labor market disparities than prior studies indicate. Most research concerning this trend focuses on how the dualist employment structure widens inequality by depriving nonstandard workers of appropriate compensation, benefits, and opportunities for advancement (Giesecke 2009; Kalleberg 2000; Kalleberg et al. 2000; McGovern et al. 2004; Yu 2012). Beyond directly affecting those under nonstandard employment contracts, however, the growth of such contracts also contributes to disparities among workers by altering the share of nonstandard employees in their workplaces. Interestingly, unlike being nonstandard employees, working with such employees is not always negatively associated with individuals' economic prospects, as the Japanese case demonstrates. The rapid growth of nonstandard employment in industrialized countries is nevertheless conducive to new economic winners and losers across workplaces with different proportions of nonstandard employees. At the same time, the experience of Japan suggests a gloomy outlook on workers' sense of well-being with the increasing use of nonstandard work arrangements in advanced economies, because even those who are not on nonstandard contracts appear to suffer psychologically from this trend. Given this study's findings, a comprehensive assessment of the impact of the rising prevalence of dualist work arrangements throughout the industrialized world must take into account how this change affects workplace demography, as well as the possibility that it could have opposite economic and psychological consequences for at least some workers.

This research also addresses a more conventional line of inquiry by researchers on workplace contexts: the consequences associated with gender composition in the workplace. The present study is the first to take into account that many female workers in the workplace might be on contingent employment contracts and to demonstrate the influences of workplace gender composition independent of those of workplace employment-status composition. As the analysis indicates, the level of feminization in the workplace matters to workers' well-being only after the negative effect of working with nonstandard employees is considered. With the rapid increase in nonstandard work arrangements across industrialized countries, findings from this study illustrate the rising need for research on workplace gender composition to simultaneously consider how the presence of nonstandard employees affects the former.

Also moving beyond previous research, I show that even in a social context in which management's gender preference is generally static, the percentage of women in the workplace is still critically linked to individuals' chances of career advancement. Specifically, in Japan, because women's share in the workplace is an indicator of the pool size of preferred employees (i.e., males), rather than women's status relative to men's, the

larger this share, the greater likelihood of promotion both men and women perceive. Perhaps because the overall level of competition is lower and worker relations are better in establishments with greater female representation, those working in such establishments also tend to report higher levels of life satisfaction. In general, findings from this research concur with prior researchers' emphasis on workplace gender composition as an important factor for explaining differences in workers' opportunities and well-being (e.g., Cohen et al. 1998; Wharton and Baron 1987, 1991). Yet, this study demonstrates that how gender composition in the workplace is associated with economic and psychological outcomes, as well as the mechanisms behind the association, depend greatly on the broader social context.

Finally, although both women and nonstandard employees are generally considered as secondary workers in Japan, findings from the analysis suggest that the share of nonstandard employees in the workplace is relevant to a wider range of individual outcomes than the share of women. Specifically, whereas the proportion of nonstandard employees in the workplace is significantly associated with pay and work-related distress, the share of female employees is not. One likely reason for such results is that the proportion of nonstandard employees at work is a more effective indicator of workplace atmosphere and organizations' pay scale than the proportion of women. Because the status of standard versus nonstandard employees officially distinguishes organizational insiders from outsiders, it potentially divides workers more than gender. In addition, as argued earlier, the use of nonstandard employees is more directly associated with Japanese management's intent to save labor costs than with the use of female workers. Regardless of why workplace employment-status composition appears particularly relevant to Japanese workers' well-being, this result underscores the need to study this composition in other advanced economies. In particular, with the recent global economic recession generating a new push for more nonstandard work arrangements, advanced economies in North America and Europe are likely to observe an increase in the salience of employment status in the workplace, as has been the case in Japan. Thus, it is critical for future research on worker disparities in those countries to take into account the variation in employment-status composition across workplaces.

Acknowledgments

This research was supported by a grant from the National Institute of Child Health and Human Development (1R03HD057335-01A1).

References

- Allison, Paul D. Missing Data. Sage Publications; 2002.
- Baron, James N.; Pfeffer, Jeffrey. The Social Psychology of Organizations and Inequality. *Social Psychology Quarterly*. 1994; 57(3):190–209.
- Boyce, Anthony S.; Ryan, Ann Marie; Imus, Anna L.; Morgeson, Frederick P. “Temporary Worker, Permanent Loser?” A Model of the Stigmatization of Temporary Workers. *Journal of Management*. 2007; 33(1):5–29.
- Brinton, Mary C. Women and the Economic Miracle: Gender and Work in Postwar Japan. University of California Press; 1993.
- Broschak, Joseph P.; Davis-Blake, Alison. Mixing Standard Work and Nonstandard Deals: The Consequences of Heterogeneity in Employment Arrangements. *The Academy of Management Journal*. 2006; 49(2):371–393.

- Cohen, Lisa E.; Broschak, Joseph P.; Haveman, Heather A. And Then There were More? The Effect of Organizational Sex Composition on the Hiring and Promotion of Managers. *American Sociological Review*. 1998; 63(5):711–727.
- DiTomaso, Nancy; Post, Corinne; Parks-Yancy, Rochelle. Workforce Diversity and Inequality: Power, Status, and Numbers. *Annual Review of Sociology*. 2007; 33(ArticleType: research-article / Full publication date: 2007 / Copyright © 2007 Annual Reviews):473–501.
- Forman, Tyrone A. The Social Psychological Costs of Racial Segmentation in the Workplace: A Study of African Americans' Well-Being. *Journal of Health and Social Behavior*. 2003; 44(3):332–352. [PubMed: 14582312]
- Ganzeboom, Harry BG.; Treiman, Donald J. Internationally Comparable Measures of Occupational Status for the 1988 International Standard Classification of Occupations. *Social Science Research*. 1996; 25:201–239.
- Giesecke, Johannes. Socio-economic Risks of Atypical Employment Relationships: Evidence from the German Labour Market. *European Sociological Review*. 2009; 25(6):629–646.
- Hirata, Shuichi; Yugami, Kazufumi. Internal and External Job Shifts in Early Careers: International Comparison of Job Mobility among Nonstandard Employees. JILPT Discussion Paper 11-02. 2011
- Houseman, Susan N.; Osawa, Machiko. The Growth of Nonstandard Employment in Japan and the United States. In: Houseman, Susan; Osawa, Machiko, editors. *Nonstandard Work in Developed Economies: Causes and Consequences*. W.E Upjohn Institute; 2003. p. 175-214.
- O'Reilly, Charles A., Iii; Caldwell, David F.; Barnett, William P. Work Group Demography, Social Integration, and Turnover. *Administrative Science Quarterly*. 1989; 34(1):21–37.
- Jackson, Pamela Braboy; Thoits, Peggy A.; Taylor, Howard F. Composition of the Workplace and Psychological Well-Being: The Effects of Tokenism on America's Black Elite. *Social Forces*. 1995; 74(2):543–557.
- Judge, Timothy A.; Watanabe, Shinichiro. Another look at the job satisfaction-life satisfaction relationship. *Journal of Applied Psychology*. 1993; 78(6):939–948.
- Kalleberg, Arne L. Nonstandard Employment Relations: Part-Time, Temporary and Contract Work. *Annual Review of Sociology*. 2000; 26:341–365.
- Kalleberg, Arne L.; Reskin, Barbara F.; Hudson, Ken. Bad Jobs in America: Standard and Nonstandard Employment Relations and Job Quality in the United States. *American Sociological Review*. 2000; 65(2):256–278.
- Kanter, Rosabeth Moss. The Impact of Hierarchical Structures on the Work Behavior of Women and Men. *Social Problems*. 1976; 23(4):415–430.
- Kanter, Rosabeth Moss. *Men and Women of the Corporation*. Basic Books; 1977.
- Kumlin, Johanna. The Sex Wage Gap in Japan and Sweden: The Role of Human Capital, Workplace Sex Composition, and Family Responsibility. *European Sociological Review*. 2007; 23(2):203–221.
- Lincoln, James R.; Kalleberg, Arne L. Commitment, Quits, and Work Organization in Japanese and U.S. Plants. *Industrial and Labor Relations Review*. 1996; 50(1):39–89.
- McGovern, Patrick; Smeaton, Deborah; Hill, Stephen. Bad Jobs in Britain: Nonstandard Employment and Job Quality. *Work and Occupations*. 2004; 31(2):225–249.
- Mirowsky, John; Ross, Catherine E. *Social Causes and Psychological Distress*. 2nd. Aldine De Gruyter; 2003.
- Moriguchi, Chiaki; Ono, Hiroshi. Japanese Lifetime Employment: A Century's Perspective. In: Blomström, Magnus; La Croix, Sumner, editors. *Institutional Change in Japan*. Routledge; 2005.
- Morikawa, Masayuki. RIERI Discussion Paper Series. The Research Institute of Economy, Trade and Industry; 2010. Volatility, Nonstandard Employment, and Productivity: An Empirical Analysis using Firm-Level Data.
- Irene, Padavic; Reskin, Barbara. *Women and Men at Work*. 2nd. Pine Forge Press; 2003.
- Pfeffer, Jeffrey. Organizational demography. *Research in Organizational Behavior*. 1983; 5:299–357.
- Reskin, Barbara. Labor Markets as Queues: A Structural Approach to Changing Occupational Sex Composition. In: Grusky, David B., editor. *Social Stratification in Sociological Perspective*. Westview Press; 2001. p. 719-733.

- Reskin, Barbara F.; McBrier, Debra B.; Kmec, Julie A. The Determinants and Consequences of Workplace Sex and Race Composition. 1999; 25:335–61.
- Sakamoto, Arthur; Chen, Meichu D. Earnings Inequality and Segmentation by Firm Size in Japan and the United States. *Research in Social Stratification and Mobility*. 1993; 12:185–211.
- South, Scott J.; Markham, William T.; Bonjean, Charles M.; Corder, Judy. Sex Differences in Support for Organizational Advancement. *Work and Occupations*. 1987; 14(2):261–285.
- Stainback, Kevin; Ratliff, Thomas N.; Roscigno, Vincent J. The Context of Workplace Sex Discrimination: Sex Composition, Workplace Culture and Relative Power. *Social Forces*. 2011; 89(4):1165–1188.
- Tachibanaki, Toshiaki. Introduction to Wage Differentials: An International Comparison. In: Tachibanaki, Toshiaki, editor. *Wage Differentials: An International Comparison*. Macmillan; 1998. p. 1-34.
- Tait, Marianne; Padgett, Margaret Y.; Baldwin, Timothy T. Job and life satisfaction: A reevaluation of the strength of the relationship and gender effects as a function of the date of the study. *Journal of Applied Psychology*. 1989; 74(3):502–507.
- Tolbert, Pamela S.; Simons, Tal; Andrews, Alice; Rhee, Jaehoon. The Effects Composition in Academia Departments on Faculty Turnover. *Industrial and Labor Relations Review*. 1995; 48(3): 562–579.
- Tsui, Anne S.; Egan, Terri D.; O'Reilly, Charles A, Iii. Being Different: Relational Demography and Organizational Attachment. *Administrative Science Quarterly*. 1992; 37(4):549–579.
- Twenge, Jean M.; Baumeister, Roy F.; DeWall, C Nathan; Ciarocco, Natalie J.; Bartels, J Michael. Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology*. 2007; 92(1):56–66. [PubMed: 17201542]
- Wharton, Amy S.; Baron, James N. So Happy Together? The Impact of Gender Segregation on Men at Work. *American Sociological Review*. 1987; 52(5):574–587.
- Wharton, Amy S.; Baron, James N. Satisfaction? The Psychological Impact of Gender Segregation on Women at Work. *The Sociological Quarterly*. 1991; 32(3):365–387.
- Wharton, Amy S.; Rotolo, Thomas; Bird, Sharon R. Social Context at Work: A Multilevel Analysis of Job Satisfaction. *Sociological Forum*. 2000; 15(1):65–90.
- Yu, Wei-hsin. *Gendered Trajectories: Women, Work, and Social Change in Japan and Taiwan*. Stanford University Press; 2009.
- Yu, Wei-hsin. Better Off Jobless? Scarring Effects of Contingent Employment in Japan. *Social Forces*. 2012; 90(3):735–768.
- Zadro, Lisa; Williams, Kipling D.; Richardson, Rick. How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*. 2004; 40(4):560–567.

Table 1
Description of Control Variables

Variables	Definition
Firm size	Number of employees in current firm: 1) fewer than 29, 2) 30-499, 3) 500 and more
Employment Sector	Being employed in the public sector =1; otherwise = 0
Industries	In 9 categories, largely corresponding to the broad industrial categories in the Standard Industrial Classification System employed by the U.S. Census: 1) agricultural, forestry, Fishing, and mining, 2) construction, 3) manufacturing, 4) utilities and transportation, 5) wholesale trade, 6) retail trade, 7) finance, insurance, and real estate, 8) services, and 9) public administration
Occupation	Logarithm of the International Socioeconomic Index (ISEI) proposed by Ganzeboom and Treiman (1996)
Employment Status	Employment status of current job: 1) regular full-time employment, 2) nonstandard, fixed-term employment, 3) self-employed employment, 4) family enterprise employment
Work hours	Respondents' reported time spent at work per month; work hours included in models on promotions and earnings, whereas work hours and work hours squared included in models on life satisfaction and work-related stress, as very long working hours can be harmful to mental health
Work hour irregular [^]	Reported having irregular work hours each month = 1; otherwise =0 (average work hours in the sample assigned for these cases when measuring "work hours" and "work hours squared")
Experience of Internal move	Having experienced a job change that led to equivalent or higher pay in the current firm = 1; otherwise =0
In supervisory position	Current job title implying supervisory or administrative duties (e.g., foreman, section chief, manager) =1; otherwise = 0
Gender	Male = 1; female = 0
Education [*]	Highest level of schooling completed, in 4 categories: 1) middle school and below, 2) high school, 3) junior college, and 4) university and above
Job tenure	Number of years respondents have spent on current jobs
Work experience [*]	Total number of years respondents held a job
Age [*]	Reported years of age; age and age squared both included in models on life satisfaction and work-related stress
Close to retirement age [*]	Current age equal to 50 or older = 1; otherwise =0
Marital status	Current status in 3 categories: 1) never married, 2) married, and 3) divorced or widowed
Parental status	Currently having at least one dependent child (age 18 or younger) =1; otherwise = 0

[^] In a separate analysis, I used multiple imputation methods to fill in numbers for those with irregular work hours (6%). This change had virtually no impact on the main results of all models.

^{*} To avoid excessive multicollinearity, models on promotion chances and earnings include education, work experience, and close to retirement age, whereas models on life satisfaction and work-related stress include education, age, and age squared.

Table 2
Descriptive Statistics of the Analytical Sample

	Mean	Standard deviation
<i>Outcome variables:</i>		
Perceived likelihood of promotion	2.19	1.24
Log earnings *	14.83	.86
Level of life satisfaction	3.82	1.02
Suffering from work-related stress	.46	.50
<i>Workplace characteristics</i>		
Proportion of women *	.43	.31
Proportion of nonstandard employees *	.32	.29
Firm size:		
29 employees	.31	.46
30-499 employees	.37	.48
500 and more employees	.32	.47
In the public sector	.11	.31
Industry:		
Agriculture/Forestry/Fishing/Mining	.01	.11
Construction	.08	.27
Manufacturing	.24	.43
Utilities and transportation	.06	.24
Wholesale	.04	.19
Retail trade	.12	.32
Finance/insurance/real estate	.03	.18
Services	.36	.48
Public administration	.05	.22
<i>Job characteristics</i>		
Occupational status (ISEI)	41.88	13.64
Employment status:		
Standard employee	.66	.47
Nonstandard employee	.30	.46
Self-employed	.03	.18
Family enterprise employee	.02	.13
Work hours per month	170.35	56.40
Work hours irregular	.06	.23
Experience of internal move	.25	.43
In supervisory position	.28	.45
<i>Individual attributes</i>		
Male	.54	.50
Tenure (in years)	8.97	8.96
Work experience (in years)	22.50	12.73
Age (in years)	45.07	12.25

	Mean	Standard deviation
Close to retirement	.38	.48
Education:		
Middle school and below	.13	.34
High school	.56	.50
Junior college	.08	.27
University and above	.23	.42
Marital status		
Never married	.19	.40
Married	.73	.45
Divorced/widowed	.08	.27
Parent (with a dependent child)	.42	.49
N	2958	

Note: Except for the first three outcomes, proportions of women and nonstandard employees, occupational status, work hours per month, tenure, work experience, and age, all variables presented are dummies, of which the means indicate the proportion of the sample in the category.

* Values are calculated based on the original data. The mean values derived from the multiple imputation data are nearly (and statistically) identical to those presented.

Table 3
Ordered Logit Models Predicting Perceived Likelihood of Promotion

	Model 1	Model 2	Model 3
<i>Workplace characteristics</i>			
Proportion of women	.401* (.174)		.399* (.182)
Proportion of nonstandard employee		1.420** (.486)	1.300** (.486)
Proportion of nonstandard employee squared		-1.542** (.556)	-1.556** (.555)
Firm size (<i>ref.</i> 29 employees):			
30-499	.058 (.098)	.038 (.098)	.038 (.098)
500+	.172 (.113)	.123 (.114)	.138 (.114)
In the public sector	-.196 (.175)	-.153 (.176)	-.174 (.177)
Industry (<i>ref.</i> services):			
Agriculture/Forestry/Fishing/Mining	-.224 (.397)	-.237 (.399)	-.196 (.398)
Construction	-.172 (.165)	-.259 (.158)	-.156 (.165)
Manufacturing	-.351** (.108)	-.397** (.106)	-.355** (.108)
Utilities and transportation	-.472** (.181)	-.541** (.177)	-.460* (.181)
Wholesale	-.225 (.194)	-.254 (.194)	-.218 (.194)
Retail trade	-.098 (.130)	-.084 (.131)	-.074 (.132)
Finance/insurance/real estate	.150 (.200)	.168 (.200)	.171 (.200)
Public administration	.702** (.212)	.682** (.211)	.739** (.213)
<i>Job characteristics</i>			
Occupational status (logged)	.440** (.145)	.416** (.145)	.433** (.145)
Employment status (<i>ref.</i> standard employee):			
Nonstandard employee	-.847** (.115)	-.848** (.121)	-.828** (.121)
Family enterprise worker	.077 (.300)	.057 (.298)	.065 (.300)
Work hours	.002** (.001)	.002* (.001)	.002** (.001)
Work hours irregular	.333* (.159)	.334* (.159)	.329* (.159)
Experience of internal move	-.023 (.120)	-.036 (.119)	-.019 (.120)

	Model 1	Model 2	Model 3
Supervisory position	.702** (.115)	.729** (.115)	.712** (.115)
<i>Individual attributes</i>			
Male	.997** (.169)	.901** (.164)	1.000** (.170)
Tenure	-.005 (.006)	-.005 (.006)	-.005 (.006)
Work experience	-.055** (.006)	-.056** (.006)	-.056** (.006)
Close to retirement	-.888** (.137)	-.872** (.137)	-.887** (.137)
Education (<i>ref.</i> middle school and below):			
High school	-.157 (.138)	-.154 (.138)	-.163 (.138)
Junior college	.072 (.190)	.077 (.191)	.074 (.191)
University and above	-.025 (.168)	-.015 (.169)	-.033 (.169)
Marital status (<i>ref.</i> never married):			
Married	.251 (.173)	.259 (.173)	.263 (.173)
Divorce/widowed	.301 (.235)	.319 (.235)	.312 (.236)
Male × married	-.027 (.213)	-.020 (.214)	-.029 (.214)
Male × divorced/widowed	-.058 (.353)	-.040 (.352)	-.053 (.353)
Parent	-.380** (.148)	-.348* (.147)	-.367* (.148)
Male × parent	.353* (.178)	.325 [†] (.178)	.339 [†] (.178)
Cut point 1	.703 (.594)	.521 (.584)	.800 (.600)
Cut point 2	1.425* (.595)	1.244* (.584)	1.524* (0.6)
Cut point 3	3.132** (.597)	2.953** (.586)	3.236** (.603)
Cut point 4	5.135** (.605)	4.956** (.594)	5.241** (.611)
N	2868	2868	2868

Note: Numbers in parentheses are standard errors.

[†]
p < .10

*
p < .05

**
p < .01 (two-tailed tests).

Table 4
Ordinary Least Squares Regression Results on Log Wages

	Model 1	Model 2	Model 3
<i>Workplace characteristics</i>			
Proportion of women	.013 (.047)		.040 (.050)
Proportion of nonstandard employees		.339** (.130)	.327* (.128)
Proportion of nonstandard employees squared		-.469** (.146)	-.470** (.147)
Firm size (<i>ref.</i> 29 employees):			
30-499	.112** (.026)	.104** (.027)	.104** (.027)
500+	.286** (.032)	.276** (.032)	.277** (.032)
In the public sector	-.016 (.054)	-.013 (.053)	-.015 (.053)
Industry (<i>ref.</i> services):			
Agriculture/Forestry/Fishing/Mining	.386** (.038)	-.098 (.106)	-.095 (.107)
Construction	-.104 (.108)	-.086* (.043)	-.076 [†] (.045)
Manufacturing	-.082 [†] (.045)	-.087** (.029)	-.084** (.029)
Utilities and transportation	-.083** (.029)	-.037 (.048)	-.030 (.049)
Wholesale	-.032 (.049)	-.112* (.056)	-.109 [†] (.057)
Retail trade	-.109 [†] (.057)	-.205** (.035)	-.204** (.035)
Finance/insurance/real estate	-.217** (.034)	-.012 (.058)	-.012 (.058)
Public administration	-.012 (.058)	-.059 (.064)	-.054 (.065)
<i>Job characteristics</i>			
Occupational status (logged)	-.063 (.064)	.377** (.039)	.379** (.038)
Employment status (<i>ref.</i> standard employee):			
Nonstandard employee	-.499** (.029)	-.481** (.030)	-.480** (.030)
Family enterprise worker	-.280** (.093)	-.281** (.092)	-.280** (.092)
Work hours	.002** (.000)	.002** (.000)	.002** (.000)
Work hours irregular	.041 (.044)	.040 (.044)	.039 (.044)
Experience of internal move	.088* (.034)	.091** (.034)	.092** (.034)

	Model 1	Model 2	Model 3
Supervisory position	.190** (.033)	.194** (.033)	.193** (.033)
<i>Individual attributes</i>			
Male	.220** (.052)	.219** (.051)	.228** (.052)
Tenure	.007** (.001)	.007** (.002)	.007** (.002)
Work experience	.014** (.002)	.014** (.002)	.014** (.002)
Close to retirement	-.102* (.040)	-.097* (.039)	-.098* (.039)
Education (<i>ref.</i> middle school and below):			
High school	.169** (.034)	.163** (.033)	.163** (.033)
Junior college	.190** (.050)	.184** (.049)	.184** (.049)
University and above	.286** (.043)	.279** (.043)	.278** (.043)
Marital status (<i>ref.</i> never married):			
Married	-.162** (.050)	-.158** (.050)	-.158** (.050)
Divorce/widowed	.066 (.063)	.075 (.063)	.075 (.063)
Male × married	.211** (.062)	.208** (.062)	.208** (.062)
Male × divorced/widowed	-.095 (.091)	-.100 (.091)	-.101 (.091)
Parent	-.049 (.040)	-.044 (.040)	-.046 (.040)
Male × parent	.118* (.046)	.113* (.046)	.114* (.046)
Constant	12.471** (.154)	12.499** (.155)	12.472** (.156)
N	2865	2865	2865

Note: Numbers in parentheses are robust standard errors.

†
p < .10

*
p < .05

**
p < .01 (two-tailed tests).

Table 5

Interaction Effects on Promotion and Log Wages

	Promotion			Wages		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Male	1.181** (.221)	.997** (.171)	1.170** (.223)	.268** (.059)	.227** (.052)	.268** (.059)
Employment status (<i>ref.</i> standard employee):						
Nonstandard employee	-.830** (.121)	-.899** (.263)	-.869** (.264)	-.480** (.030)	-.527** (.060)	-.521** (.061)
Family enterprise worker	.084 (.301)	-.156 (.567)	-.118 (.568)	-.274** (.092)	-.322* (.150)	-.310* (.151)
Workplace proportion of women	.596* (.236)	.393* (.183)	.581* (.238)	.081 (.060)	.037 (.050)	.079 (.061)
Male × proportion of women	-.425 (.331)		-.404 (.338)	-.095 (.088)		-.095 (.090)
Workplace proportion of nonstandard employees	1.356** (.491)	1.366* (.581)	1.407* (.581)	.340** (.129)	.215 (.164)	.226 (.165)
Nonstandard employee × proportion of nonstandard employees		.106 (.1212)	.030 (.1213)		.323 (.309)	.309 (.311)
Family worker × proportion of nonstandard employees		-.020 (.3761)	-.169 (.3787)		.241 (.988)	.206 (.988)
Workplace proportion of nonstandard employees squared	-1.625** (.560)	-1.756* (.741)	-1.774* (.739)	-.487** (.148)	-.332 (.203)	-.336 [†] (.203)
Nonstandard employee × proportion of nonstandard employees squared		.133 (.1257)	.128 (.1258)		-.343 (.336)	-.347 (.336)
Family worker × proportion of nonstandard employees squared		1.233 (.4439)	1.371 (.4479)		-.197 (.1239)	-.171 (.1238)
N	2868	2868	2868	2865	2865	2865

Note: The models predicting the likelihood of promotion and log earnings also include all the workplace, job, and individual characteristics appearing in Model 6 of Table 2 and Model 6 of Table 3, respectively. The results for those variables are omitted to conserve space. Numbers in parentheses are standard errors.

[†] p < .10

* p < .05

** p < .01 (two-tailed tests).

Table 6
Regression Results on Workers' Life Satisfaction and Work-Related Stress

	Life Satisfaction			Work-related stress	
	Model 1	Model 2	Model 3	Model 4	
<i>Workplace characteristics</i>					
Proportion of women	.196 (.145)		.369* (.153)	.346* (.154)	.184 (.271)
Proportion of women squared					
Proportion of nonstandard employees		-.369** (.142)	-.494** (.150)	-.478** (.152)	.515* (.258)
Proportion of nonstandard employees squared					
Firm size (<i>ref.</i> 29 employees):					
30-499	.054 (.089)	.054 (.089)	.056 (.089)	.019 (.089)	-.027 (.146)
500+	.073 (.106)	.077 (.106)	.089 (.106)	.003 (.108)	-.127 (.177)
In the public sector	-.037 (.163)	-.063 (.163)	-.082 (.163)	-.076 (.164)	-.325 (.280)
Industry (<i>ref.</i> services)					
Agriculture/forestry/fishing/mining	.089 (.331)	.071 (.333)	.100 (.332)	.161 (.332)	-.440 (.524)
Construction	.036 (.146)	-.044 (.141)	.053 (.147)	.082 (.147)	.086 (.245)
Manufacturing	.042 (.098)	.018 (.097)	.052 (.098)	.092 (.098)	-.039 (.162)
Utilities and transportation	-.298 [†] (.163)	-.378* (.161)	-.314 [†] (.163)	-.303 [†] (.164)	-.064 (.266)
Wholesale	.356* (.182)	.302 [†] (.181)	.337 [†] (.182)	.385* (.182)	-.042 (.292)
Retail trade	-.107 (.119)	-.080 (.119)	-.069 (.119)	-.017 (.120)	-.013 (.193)
Finance/insurance/real estate	.037 (.193)	.019 (.193)	.019 (.193)	.007 (.193)	-.375 (.321)
Public administration	.033 (.199)	-.023 (.198)	.025 (.199)	.018 (.201)	.545 (.342)
<i>Job characteristics</i>					

	Life Satisfaction				Work-related stress			
	Model 1	Model 2	Model 3	Model 4				
Occupational status (logged)	.569** (.129)	.525** (.129)	.538** (.129)	.416** (.132)	.398 [†] (.227)			
Employment status (<i>ref.</i> standard employee):								
Nonstandard employee	-.183 [†] (.107)	-.102 (.110)	-.089 (.111)	.067 (.116)	-.234 (.187)			
Self-employed worker	.149 (.213)	.176 (.214)	.183 (.214)	.190 (.215)	-.065 (.358)			
Family enterprise worker	-.051 (.285)	-.047 (.286)	-.036 (.286)	.019 (.286)	-.753 [†] (.438)			
Work hours	-.003 (.002)	-.003 (.002)	-.003 (.002)	-.005* (.002)	.014** (.004)			
Work hours squared	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	-.00002* (.000)			
Work hours irregular	-.058 (.147)	-.053 (.147)	-.061 (.147)	-.072 (.148)	-.143 (.245)			
Experience of internal move	.102 (.104)	.099 (.104)	.114 (.104)	.083 (.105)	.271 (.168)			
Supervisory position	.146 (.105)	.167 (.105)	.153 (.105)	.079 (.106)	-.188 (.174)			
Log earnings				.276** (.070)				
Likelihood of promotion				.089** (.034)	-.585* (.279)			
Individual attributes								
Male	-.450** (.163)	-.492** (.160)	-.405* (.164)	-.535** (.167)	.120** (.042)			
Tenure	.012** (.005)	.012* (.005)	.012* (.005)	.010* (.005)	-.002** (.000)			
Age	-.112** (.025)	-.113** (.025)	-.111** (.025)	-.117** (.025)				
Age squared	.001** (.000)	.001** (.000)	.001** (.000)	.001** (.000)	.256 (.196)			
Education (<i>ref.</i> middle school and below):					.395 (.283)			

	Life Satisfaction				Work-related stress	
	Model 1	Model 2	Model 3	Model 4		
High school	.099 (.115)	.078 (.115)	.073 (.115)	.048 (.115)	.357 (.245)	
Junior college	.426* (.171)	.398* (.171)	.393* (.171)	.348* (.171)		
University and above	.320* (0.144)	.299* (.144)	.284* (.144)	.220 (.145)	-.581* (.289)	
Marital status (<i>ref.</i> never married):					-.722* (.359)	
Married	.740** (.173)	.755** (.174)	.754** (.174)	.786** (.176)	.143 (.339)	
Divorce/widowed	-.118 (.221)	-.083 (.221)	-.087 (.221)	-.131 (.222)	.404 (.503)	
Male × married	.142 (.199)	.112 (.200)	.111 (.200)	.060 (.202)	.227 (.203)	
Male × divorced/widowed	.186 (.310)	.152 (.310)	.143 (.310)	.189 (.311)	.328 (.259)	
Parent	-.255* (.129)	-.255* (.129)	-.271* (.129)	-.245 [†] (.129)	.138 (.119)	
Male × parent	.120 (.157)	.122 (.157)	.131 (.157)	.081 (.158)	-.094 [†] (.055)	
Cut point 1	-3.82 (.731)	-4.266** (.725)	-4.008** (.735)	-.602 (1.093)		
Cut point 2	-2.468** (.725)	-2.914** (.720)	-2.655** (.729)	.755 (1.090)		
Cut point 3	-1.127 (.724)	-1.569* (.718)	-1.310 [†] (.727)	2.107 [†] (1.090)		
Cut point 4	.779 (.724)	.338 (.718)	.600 (.727)	4.028** (1.092)		
Constant					-6.939** (1.921)	
N	2957	2957	2957	2957	1516	

Note: Ordered logit regressions are used for predicting life satisfaction, whereas a logistic regression model is used for predicting work-related stress. Numbers in parentheses are standard errors.

[†] p < .10

* p < .05

*,** two-tailed tests).

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript