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Work and family practices in Japanese firms: their scope, nature and impact on employee turnover

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Using firm-level data from Japan, this study examines the effects of four commonly used work and family practices on employee turnover: flextime, maternity leave, child care leave, and nursing care leave. Overall, we find statistically significant associations between work and family practices and female employee turnover in Japan. In stark contrast, we do not find such a statistically significant linkage between work and family practices and male employee turnover. As such, this study highlights the potential moderating effect of individual characteristics such as gender on the relationship between work and family practices and employee attitudes and behaviours.

Keywords: Japanese firms; voluntary turnover; work and family practices

Introduction

Recently work and family practices have attracted both scholars' and practitioners' attention around the world (Drago and Hyatt 2003; Stavrou 2005). It is not uncommon for both the husband and wife in a marriage to pursue their own professional careers. In addition, single parents constitute a significant part of the workforce (US Bureau of Labor Statistics 2006). Furthermore, the population is aging in many industrialized countries and the care for elders is often provided by family members. These trends in workforce and demography have created challenges for workers regarding how they balance work and family responsibilities. In response, employers offer a variety of programmes (e.g., child care leave, elder care leave, flextime, telecommuting, compressed work week) to alleviate their employees' work and family conflicts. Following the expansion of work and family practices, business scholars have started to investigate if work and family practices really yield outcomes desirable to employers. Overall research indicates that work and family practices are associated with positive attitudinal and behavioural reactions (Batt and Valcour 2003; Eaton 2004). Some scholars have started to note the positive organizational performance effects of work and family practices (Konrad and Mangel 2000; Perry-Smith and Blum 2000).

A surging interest in work and family balance is also true for Japan, but primarily in the context of ensuring equal employment opportunity for men and women. In Japan, historically female employees were treated as peripheral (Islam 1997) and it was only relatively recently that equal employment opportunity was legally established.[1] In order to support female workers' employment, the Japanese government has introduced a number

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of policies, most of which address work and family issues such as mandating a minimum length of leave for child care and nursing care, organizing systematic support for female job seekers who had left their employers in order to take care of their children, and providing financial support for employers to establish on-site day care (Japanese Ministry of Welfare and Labour 2005a). On top of the government effort to increase employers' understanding of work and family issues, the rapid change in Japanese demography has made employers realize the importance of work and family practices. The stagnant birth rate (1.23 in 2006) indicates that Japan will shortly face labour shortages (Economist 2007). Employers reacted to this forecast by turning their attention to female workers as a possible source of labour. Accordingly, work and family practices have gained recognition as a potentially important means of attracting and retaining female workers.

Despite the increasing interest in work and family practices among Japanese employers, their effect on employee perceptions, attitudes, and behaviours or organization-level outcomes has yet to be systematically studied. In this study, we examine the relationship between work and family practices and turnover rate in Japanese firms. We select turnover rate as a key consequence of work and family practices for two reasons. First, as noted, some Japanese employers expect their work and family practices to help them attract and retain female employees. Turnover rate serves as the most direct measure of a firm's success in retaining its employees. Second, human resource management researchers increasingly recognize the implications of turnover rate on organizational effectiveness. Turnover is costly, not only because the firm has to reinvest in recruiting and training the employees that fill the vacancies, but also because turnover involves the loss of human capital. Recent empirical evidence reports that lower turnover rate is associated with better firm performance (Shaw, Gupta and Delery 2005; Kacmar, Andrews, van Rooy, Steilberg and Cerrone 2006; Yanadori and Kato 2007). The negative impact of turnover on firm labour productivity may be more salient among Japanese firms, which often emphasize investment in human resources (Jacoby 2005).

This study, which draws upon a sample of about 250 publicly traded firms in Japan, examines the effect of four commonly used work and family practices in Japan on employee turnover: flextime, maternity leave, child care leave, and nursing care leave. Our analyses show that some of these work and family practices are associated with a decreased turnover rate among female employees in Japan. In contrast, no work and family practice is associated with a decreased turnover rate among male employees.

The contribution of this paper is twofold. First, by examining the effects of work and family practices on employee turnover in Japanese firms, this study supplements the work and family literature, which tends to focus on US firms. Second, by highlighting the gender difference in employee reactions to work and family practices in Japan, this study stimulates further research that digs into the moderating effect of individual characteristics on the relationship between work and family practices and employee reactions. Prior studies have already recognized that the nature and extent of work and family conflicts differ among employees depending on individual characteristics such as gender and family status. However, most studies simply controlled for the direct effects of such individual characteristics on employee perceptions, attitudes, and behaviours and few studies have explicitly examined whether the effects of work and family practices on these employee reactions vary among employees depending on these characteristics.

This study is organized in the following manner. We first briefly overview prior studies on work and family practices. Although most studies examined workers or organizations in the US, where employment contexts and social expectations regarding family responsibilities are different from those in Japan, they help us understand the potential

influence of work and family practices on employees and organizations. Then we turn to Japanese organizations' work and family practices. We address four major practices: flextime, maternity leave, child care leave, and nursing care leave. We describe how they function in the Japanese setting. In the section that follows, we conduct empirical analyses to investigate the relationship between work and family practices and turnover rate. We finally discuss various implications of our findings.

Work and family practices: Theory and empirical evidence

A number of attempts have been made to identify empirically the effects of work and family practices. They have used various approaches in terms of focused practices (e.g., specific components or a bundle), outcomes (e.g., attitudinal or behavioural), and unit of analysis (e.g., individual or organization). Concerning the focused practices, much of early research examined a specific component of work and family practices. Flexible work schedule arrangement (e.g., flextime, compressed workweek) is one of the most frequently studied practices (Grover and Crooker 1995). A meta-analysis by Baltes, Briggs, Huff, Wright and Newman (1999) reported that flexible work schedule arrangements have positive effects on workers' attitudes and behaviours such as job satisfaction, satisfaction with work schedule, employee absenteeism, and employee productivity.

Research on the effects of child care assistance is mixed. While early studies reported the positive effects of day care support on reduced turnover and absenteeism (Milkovich and Gomez 1976; Youngblood and Chambers-Cook 1984), more recent research has failed to confirm such positive effects (Miller 1984; Goff, Mount and Jamison 1990). Little is known about the effects of elder care, either. Although some studies included elder care in their scope, most of them combined child care and elder care, labelling it dependent care (e.g., Thomas and Ganster 1995; Batt and Valcour 2003). Consistent with the recent studies that failed to confirm the effects of child care, studies did not find any significant effects of dependent care. Some studies focused on pregnancy-related policies (e.g., job-protected leave, health insurance). They reported that such policies were associated with higher job satisfaction (National Council of Jewish Women 1987) and lower turnover intention (Grover and Crooker 1995).

Increasingly, studies have gone beyond employee-level outcomes of work and family practices and examined the link between such practices and organizational performance. Consistent with strategic human resource management research, which emphasizes a bundle of practices (Wright and Boswell 2002), this line of research examined the relationship between a set of work and family practices, rather than particular practices, and organization performance. For instance, Perry-Smith and Blum (2000) reported that firms with extensive work–family policies performed better.

In sum, although there is a degree of ambiguity regarding the effect of specific practices (e.g., child care support), empirical evidence is generally supportive of the positive effects of work and family practices. The literature has identified two major mechanisms by which work and family practices create positive outcomes (Drago and Hyatt 2003). First, work and family practices address specific work and family conflicts, thus improving employees' ability to control work and family responsibilities (e.g., Thomas and Ganster 1995; Berg, Kalleberg and Appelbaum 2003). Second, through these practices, employees acknowledge that their employers care about them. This increases employee commitment to their firms (e.g., Grover and Crooker 1995), and consequently, they exhibit positive reactions. The latter mechanism was extended and connected to high-commitment work systems (Osterman 1995). Drawing upon the notion that high

commitment work systems are associated with organizational effectiveness (Arthur 1994), this line of research implies that work and family practices have positive impacts on organization performance even if their effects on organization performance are not explicitly tested (Berg et al. 2003).

Arguably, the nature and extent of work and family conflicts differ for each individual depending on such factors as occupation, job responsibility, and family status. Prior studies have long recognized this notion, and have taken these individual differences into consideration in their empirical models. Most studies did so by controlling for relevant individual characteristics variables when estimating employee perceptions (e.g., perceived family conflict), attitudes (e.g., commitment), and behaviours (e.g., turnover). In contrast, only a handful of studies tested to see if the effects of work–family practices are moderated by these individual characteristics. One of the few exceptions was Grover and Crooker (1995), which examined whether the effects of child birth and child care supports on employee commitment vary depending on their family status (i.e., the number of children). The authors obtained weak evidence regarding the moderating effects of family status on the relationship between these work and family practices and employee commitment, with the main effect of work and family practices being significant. Based on this result, the authors concluded that employees reacted positively to work and family practices even if they did not directly benefit from them because employees acknowledged their employers' support. This argument is equivalent to the second mechanism stated above (i.e., generous work and family practices increase employee commitment).

Two more recent studies, however, appear to disagree with Grover and Crooker (1995). Batt and Valcour (2003) analysed male employees and female employees separately when they examined the effects of work and family practices on perceived work and family conflicts and turnover intentions. Their analyses reported that male employees and female employees reacted to work and family practices in different manners; e.g., flexible policies were negatively related to male employee turnover intentions but not to female employee turnover intention, whereas supervisory support was negatively related to female employee turnover intentions but not to male employee turnover intention. Focusing on the firm-level effects of work and family practices, Konrad and Mangel (2000) reported that the relationship between work and family practices and firm labour productivity was more positive if the proportion of female employees was higher. This implies that female employees react to work and family practices more positively. These two studies show that, even if work and family practices have a positive impact on most employees, the extent of the positive impact could vary among employees depending on the nature of the work and family conflicts they face. Both Batt and Valcour (2003) and Konrad and Mangel (2000) suggest that gender is one key individual characteristic that could influence the strength of the impact of work and family practices.

We note that all the studies we have referred to up to this point are US-based. This is primarily because the bulk of the research on this subject has been conducted in the US. Yet we also recognize that these US studies stimulated research outside the US. While some studies remain in the domain of descriptive statistics (e.g., De Cieri, Holmes, Abbot and Pettit 2005; Tang and Cousins 2005), others have tried to find out if the effects of work and family practices reported in US studies are also valid in other countries with different institutions. To this end, studies have tested to see whether work and family practices affect employee perceptions (e.g., perceived conflicts) and attitudes (e.g., commitment, job satisfaction) in such countries (or regions) as New Zealand (Haar and Spell 2004) and Hong Kong (Aryee, Fields and Luk 1999). To our knowledge, however, research outside the US is still in its infancy and few studies have examined the influence

of work and family practices on employee behaviors or organizational-level outcomes outside the US. The difference in the effects of work and family practices between male employees and female employees has not been studied in other countries, on our reading of the literature.

We echo prior non-US studies and believe that examining work and family practices across the world will better inform us of their effects on employee behaviours and organization-level outcomes. Obtaining the same results from US studies will help to generalize the effects of work and family practices. Finding the differences in the effects of these practices is also meaningful because delving into the reasons for the cross-national differences will help us understand better the mechanisms through which work and family practices lead to specific employee behaviours and organization-level outcomes. In this vein, the present study contributes to the work and family literature by exploring the effects of work and family practices in Japanese firms.

Work and family practices in Japan

Given the significant differences in social contracts, employment contexts, and institutional settings, employee benefits are noticeably different between the US and Japan (Milkovich and Newman 2008). In this section, we address four practices that are commonly used in Japan: flextime; maternity leave, child care leave, and nursing care leave. Flextime improves the flexibility of work scheduling and the other three practices relate to various leaves of absence. While the adoption of flextime is left to the discretion of each firm, the three types of leaves are mandated by law. Relevant laws stipulate the minimum lengths of these leaves of absence, on top of which each firm may extend the length of the leave.

Flextime

Flextime allows workers to decide their starting and completion time for a given day, provided that they work for a certain number of hours in a given period, typically one month in Japan (Ministry of Welfare and Labour 2007). While many Japanese employers that have adopted flextime establish core time, typically 2 to 5 hours, during which all workers must physically report, some employers leave the allocation of working time to the discretion of the employee. The degree of actual flexibility varies depending on the employer. Some employers require their employees to get supervisors' approval in advance (e.g., national public service), and others simply require their employees to submit their starting and completion time at the end of each given period in order to confirm that their employees worked the predetermined hours.

Although flextime benefits all employees by accommodating their working life with their life styles, it could be more beneficial to employees with small children, who go to day care centres. This is relevant to Japanese employees, especially those in urban areas, who spend up to an hour or longer commuting to their office by train. (For this reason, on-site daycare is not popular in urban areas yet since children would also need to make lengthy commutes.) The traditional work schedule would not suit such workers given that they have to drop off their children and then spend an hour for commuting. In addition, pregnant female employees also benefit significantly from flextime because they can avoid taking crowded trains for commuting. During rush hours, passengers are packed in commuter trains in urban areas (e.g., Tokyo and its surrounding suburbs). According to a recent government report, the average number of passengers in Tokyo reaches 1.7 times

the riding capacity during rush hours (Ministry of Land, Infrastructure and Transport 2007).[2] This may be critically important for pregnant women as the physical contact in crowded trains is a risk to both mothers and unborn babies. Without any form of support by which pregnant employees are allowed to take trains before or after rush hours, they are likely to be discouraged from continuing to work.

Maternity leave

Maternity leave is stipulated in Japan's Labour Standards Law. It states that if a pregnant worker submits a request for a leave within six weeks of her due date, employers must grant her a maternity leave. The law also prohibits employers from having their female employees engaged in work during the eight weeks following the delivery of a child. In total, employees are entitled to take a 14 week maternity leave. Strictly speaking, the nature of a maternity leave differs before and after the delivery of a child. While the leave before a delivery is granted upon request, a leave after delivery is mandatory; the law simply states that it is illegal for employers to let their female workers work within eight weeks of their child's delivery. Employers may extend the length of maternity leave beyond 14 weeks at their discretion. The longer leave before delivery will help pregnant employees reduce risk due to commuting on crowded trains. The longer leave after delivery will offer employees some leeway to prepare, both physically and psychologically, for the upcoming challenge of balancing work and family responsibilities.

Child care leave

Japan established a law that specifically legalizes workers' rights to take a leave of absence in order to care for their newborn children in 1992 (*Law Concerning the Welfare of Workers Who Take Care of Children or Other Family Members, Including Child Care and Family Care Leave*). As the title suggests, the law addresses the leave for child care and the leave for nursing family members.[3] These two types of leave are stipulated separately and employers' responsibilities differ between them. With respect to child care leave, the law requires employers to provide a leave when employees request one to take care of a child that is less than one year old. In this sense, the law enables employees to take a one-year child care leave from the time the child is born. Because of this fact, female employees who are interested in taking this leave can do so immediately after taking a maternity leave. As the law stipulates a leave for children younger than one year old, employees need to make child care arrangements for their children once they reach the age of one, unless their employers offer them an extended length of child care leave.

Under this law, male workers can also request and take a child care leave. However, the vast majority of employees that take a child care leave are female. Recent statistics show that in the Fiscal year 2004, 72.3% of female employees who delivered a child took a leave, whereas only 0.5% of male employees whose spouses delivered a child took a leave (Ministry of Welfare and Labour 2005b).

Nursing care leave

As noted above, nursing care leave is stipulated in the same law as child care leave.[4] The term nursing care typically implies elder care in Japan; however, in theory care receivers are not limited to elders according to this law. In the case that an employee has

to take care of his or her family member due to physical or mental disability, this law requires his or her employer to grant him or her a leave of absence. Yet the primary motivation of stipulating this leave is to help employees take care of their elder family members without losing employment. The proportion of senior citizens (65 years old or above) in Japan is one of the highest in the world (19.9%, as contrasted to 16.0% in UK and 12.3% in the US, as of 2005, Japan Institute of Labour Policy and Training 2007) and the care of senior citizens has been recognized as an important social issue in Japan.

According to the law, an employee can choose the length of a leave of up to three months. This maximum length is applied to each family member the employee nurses. Recent statistics report that in 2004, 0.04% of employees took a nursing care leave in Japan (Ministry of Welfare and Labour 2005b). Note that, although this figure is significantly lower than that of child care leave, their denominators are different. The statistics on child care leave only used the number of employees who were eligible for that leave, whereas the statistics on nursing care leave used the number of all employees. Nevertheless, it appears that, in contrast to child care leave, only a limited number of employees actually take a nursing care leave. While we were unsuccessful in locating the rationale for this minimum length (i.e., three months), it is usually difficult for senior care receivers to recover from disability in such a short period. Consequently, without extra support from employers, employees are likely to face considerable work and family conflicts after a three month leave.

In the section that follows, we examine the effects of these four work and family practices on firm turnover rate. Specifically, concerning flextime, we test to see if having this practice is associated with reduced turnover rate. With respect to leaves of absence, we test to see if going beyond the minimum length required by relevant laws (i.e., a maternity leave that is longer than 14 weeks, a child care leave that is longer than one year, and a nursing care leave that is longer than three months) is associated with the reduced turnover rate.

Methods

Data

We used Toyo Keizai's *Shushoku Shikiho Joshiban* (SSJ, hereafter) 2004 and collected the information on work and family practices offered by Japanese firms. SSJ is an annual publication for female college students who are on the job market. This publication, which is based on a mail-in survey conducted in June 2002, includes information on listed Japanese firms' human resource management practices (e.g., the number of new hires, the colleges from which recent new hires graduated, entry level pay, training programmes offered). As SSJ is a publication tailored for female students (*Joshiban* means 'female version' in Japanese), the information found in this publication is generally more relevant to female students. Such information includes statistics on female employees (e.g., the number of female employees, the number of female managers and male managers, and female employees' turnover rate), and most importantly for this study, the information on work and family practices.

Among the 945 firms whose information is included in SSJ 2004, 765 firms are publicly traded firms. While this publication does not state how it selected firms, it includes most major Japanese firms. Our calculations indicate that the total number of employees hired by the 765 publicly traded firms in this publication accounts for 54% of the employees hired by all Japanese publicly traded firms. In addition to SSJ 2004, we supplemented our data by information from Toyo Keizai's *Shushoku Shikiho*

(SS, hereafter) 2004. It is also a publication for college students entering the job market but not particularly targeted for female students. The information on turnover rate in 2003 was collected from SSJ 2005. Other firm information was drawn from Toyo Keizai's *Japan Company Handbook* and each firm's financial statement submitted to the Japanese Financial Service Agency.

Work and family practices and turnover rate

We examined the relationship between the aforementioned four work and family practices in the year 2001 and the voluntary turnover rate in Japanese firms in the year 2002. With respect to flextime, we created a dummy variable *flextime* which took a value of 1 if the firm lists flextime as a non-traditional work arrangement in SSJ 2004, 0 otherwise.[5] Concerning maternity leave, child care leave, and nursing care leave, SSJ 2004 provides data on the lengths of these three types of leaves granted by each firm. We created *longer maternity leave* which took a value of 1 if the firm's maternity leave policy is more generous than what is required by law (specifically the policy that allows for a maternity leave lasting over 14 weeks), 0 otherwise. Likewise, *longer child care leave* was created by coding 1 if the firm's child care leave policy is more generous than what is mandated by law (the policy allowing for a child care leave lasting more than one year), 0 otherwise. Finally, *longer nursing care leave* equals 1 if the firm's policy is more generous than what is stipulated by law (the policy allowing for over three months), 0 otherwise.

The dependent variable is voluntary turnover rate. SSJ 2005 reports the voluntary turnover rate for female employees and that for male employees separately. The voluntary turnover rate was calculated by dividing the number of voluntary departures during the fiscal year 2002 (i.e., from April 2002 to March 2003) by the number of employees at the beginning of the fiscal year (i.e., April 2002). We examined the impact of the four work and family practices on the female employee turnover rate and the male employee turnover rate separately.

We expected that generous work and family practices would be associated with the lower turnover rate, and such a link would be particularly strong for female employees. Historically women have had the primary responsibility for household work, and therefore they are much more likely to encounter work and family conflicts. In contrast, it is an empirical question whether work and family practices are associated with the voluntary turnover rate for male employees in Japan. There has been an accepted norm in Japan that women should be responsible for family issues (Islam 1997). Consequently, male employees may recognize work and family conflicts to a much lesser extent than female employees. Granted, work and family practices could have only a slight influence on male employees' attitudes or behaviours. Yet, if generous work and family practices improve worker commitment irrespective of family status and other individual characteristics, as Grover and Crooker (1995) reported, male employees may also positively respond to them. As a result, generous work and family practices could be associated with the lower turnover rate among male employees though perhaps less strongly than among female employees.

In estimating turnover rate, we controlled for several firm-level variables: firm size, firm performance, the proportion of female employees, the presence of labour union, wage level, and industry. Large firms may offer a wider variety of jobs, and employees may be more likely to find jobs that suit them. Consequently, employees may be more likely to remain in a firm longer even if they change their jobs within firms. We used a natural

logarithm of the number of employees to measure firm size. Firm performance may influence employee job satisfaction (Schneider, Hanges, Smith and Salvaggio 2003) and thus turnover intention. We used return on assets (ROA) as a firm performance variable. Prior empirical studies on Japanese firms frequently used ROA as the proxy for firm performance (e.g., Ahmadjian and Robinson 2001). The composition of gender may be associated with an organizational culture that utilizes female employees. We calculated the proportion of female employees and labelled *proportion female*. Research has shown that labour unions are associated with lower quit rates and hence longer employee tenure as employees find the option of voice as opposed to the option of exit more effective and attractive in the presence of unions (Freeman and Medoff 1984). We used *labour union*, which took 1 if the firm has a labour union, 0 otherwise.

We also controlled for firm wage level. Prior studies on US workers show that wage level influences employee turnover intention (Barber and Bretz 2000). In SSJ 2004, firms were requested to provide the monthly base wage levels at three different stages of employee career: 25 year old employees, 30 year old employees, and 35 years old employees. These are the expected base wage levels when employees reach these ages although actual wage level could vary reflecting individual difference (e.g., current and prior performance). This study used the wage level for 30 year old employees (in thousands of yen) because employing this variable yielded the fewest number of firms with missing information. The wage level for 30 year old employees was reasonably highly correlated with those for 25 year olds ($r = 0.61$) and 35 year olds ($r = 0.83$). We also controlled for early retirement. Some firms struggled financially during the period when turnover rate was measured. Such firms tried to reduce headcount by offering early retirement incentive packages. In SS 2004, firms stated if they had any early retirement programmes during the fiscal year 2002. We created a dummy variable, *early retirement* which took a value of 1 if the firm used an early retirement programme, 0 otherwise. Finally using *Japan Company Handbook,* we identified each firm's industry classification, and created 31 industry dummy variables (there are 32 industry classifications and one industry omitted as a reference industry in the regression).

Firms declined to provide some of the information requested by SSJ 2004 and SS 2004. For instance, a sizeable number of firms did not provide wage information. After deleting firms with missing observations, the final sample size ranges from 257 to 266, depending on the work and family practice examined. Consequently, we ended up using 34%–35% of the publicly-traded firms listed in SSJ 2004. Admittedly, if we regard this figure as a type of response rate, these figures may not be satisfactory. Yet this figure is comparable to, or even better than, the response rates in other studies on human resource management (e.g. 15% in Datta, Guthrie and Wright (2005) that examined US firms; 17% in Kato (2006) that examined Japanese firms). We checked to see if there were any systematic biases between firms that were in our final sample and those that were excluded due to missing information, and we found no significant differences in organizational characteristics such as firm size (the number of employees), firm performance (ROA), or the ratio of female employees to male employees.

Because our dependent variable, turnover rate, is left-censored at zero, we employed Tobit mode using 'PROC LIFE REG' in SAS (Ver. 8.2). Ordinary least square model assumes that the dependent variable is normally distributed so that it would yield biased estimates with censored dependent variables (Maddala 2001). We took a one-year lag for all firm level independent variables except for early retirement to alleviate the endogeneity problem to some extent.

Results

Table 1 presents summary statistics with a correlation matrix. The four work and family practices we examined were positively correlated with each other but not very strongly. The highest correlation was 0.34 between *flextime* and *longer nursing care leave*, and then 0.28 between *longer maternity leave* and *longer child care leave*. Thus, it appears that Japanese firms separately chose which work and family practices they would provide their employees with, rather than providing them with a variety of practices as a package. Turnover rate differed considerably between male employees (mean $= 4.51\%$) and female employees (mean $= 10.72\%$). These two employee groups' turnover rates were moderately correlated ($r = 0.59$).

Work and family practices and voluntary turnover

Table 2A and Table 2B show our Tobit estimates on the relationship between four work and family practices and turnover rate for female and male employees respectively. In both tables, we first regressed all control variables on turnover rate (Model 1), and then we added each work and family practice to the model separately (Models 2–5). Finally, we included all work and family practices in the model (Model 6). When each practice was examined, three of the four work and family practices were found to be significantly associated with the decreased turnover rate among female employees: *flextime* ($\beta = -2.066$, $p < 0.05$), *longer child care leave* ($\beta = -2.448$, $p < 0.05$), and *longer nursing care leave* ($\beta = -2.876$, $p < 0.001$). These estimated coefficients suggest that firms with flextime, a longer child care leave, or a longer nursing care leave enjoyed a 2 to 3 percentage point lower turnover rate among female employees than other firms.[6]

To study the relative importance of each work and family practice, we considered all four work and family practices simultaneously (Model 6). The estimated coefficient on *longer nursing care leave* remained significant ($\beta = -2.614$, $p < 0.01$). The estimated coefficients on *flextime* and *longer child care leave* became marginally significant ($\beta = -1.656$, $p = 0.07$ and $\beta = -1.839$, $p = 0.09$, respectively). Overall, our findings for female employees point to the significant and robust linkage between work and family practices (specifically three out of the four commonly used work and family practices) and turnover among female workers.

In contrast, none of the four work and family practices were found to be associated with the decreased turnover rate among male employees as shown in Table 2B. Although the signs of their coefficients were all negative as we expected, the absolute value of each estimated coefficient was much smaller than the one for female employees and their significance levels did not reach the conventionally accepted level. Thus, we found no evidence of a significant impact of work and family practices on male employee turnover in Japan.

Although it is not our primary interest, the difference in the determinants of turnover rate between female employees and male employees is noteworthy. The proportion of female employees, *proportion female*, impacted female employee turnover rate but not male employee turnover. Firms with a greater share of female employees arguably create an organizational culture that is more supportive of a female labour force. Consequently female employees are more likely to remain in their firms. *Wage level* was also found to be negatively associated with female turnover rate but not with male turnover. In theory, pay level should influence employee turnover decisions (Barber and Bretz 2000), regardless of gender. In this sense, the insignificant relationship between wage level and male turnover was unexpected. While it may simply suggest that our pay measure insufficiently captured

Table 1. Descriptive statistics and correlations[a].

Variable	*Mean*	*s.d.*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1. Flextime[b]	0.47	0.50											
2. Longer maternity leave[b]	0.15	0.36	0.18										
3. Longer child care leave[b]	0.14	0.35	0.09	0.28									
4. Longer nursing care leave[b]	0.64	0.48	0.34	0.26	0.24								
5. Turnover rate - female employees	10.72	6.35	−0.25	−0.08	−0.17	−0.28							
6. Turnover rate - male employees	4.51	3.97	−0.20	−0.08	−0.10	−0.20	0.59						
7. Firm size[c]	7.29	0.91	0.33	0.06	0.17	0.33	−0.24	−0.35					
8. ROA	1.32	4.17	−0.16	−0.04	−0.09	−0.07	−0.07	−0.06	−0.22				
9. Proportion female	21.23	13.20	−0.13	0.14	0.10	−0.07	−0.01	0.04	−0.20	0.04			
10. Labour union[b]	0.68	0.48	0.20	0.12	0.07	0.39	−0.16	−0.26	0.44	−0.12	−0.18		
11. Wage level (in thousands of yen)	314.85	38.05	−0.06	−0.04	0.10	0.01	−0.07	−0.01	0.01	−0.09	0.06	−0.02	
12. Early retirement[b]	0.09	0.28	0.14	−0.02	−0.01	0.09	0.05	0.23	0.20	−0.18	−0.13	0.09	0.02

Notes: [a]N ranges from 260 to 267 across variables; correlations $= |0.12|$ or greater indicate $p < 0.05$; [b] dichotomous variable; [c] logarithm.

Table 2A. Results of Tobit model analysis on turnover rate[a] (Female employees).

Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Firm size	−1.362** (0.495)	−1.127* (0.501)	−1.612** (0.501)	−1.184* (0.501)	−1.087* (0.498)	−1.001* (0.507)
ROA	−0.184* (0.090)	−0.217* (0.090)	−0.158† (0.090)	−0.198* (0.090)	−0.187* (0.090)	−0.195* (0.088)
Proportion female	−0.097** (0.031)	−0.091** (0.031)	−0.107*** (0.031)	−0.090** (0.031)	−0.091** (0.031)	−0.097** (0.030)
Labour union	−1.987* (0.926)	−1.745† (0.924)	−1.934* (0.942)	−2.095* (0.932)	−0.963 (0.971)	−1.021 (0.957)
Wage level	−0.024* (0.010)	−0.024* (0.010)	−0.021* (0.010)	−0.021* (0.010)	−0.024* (0.010)	−0.019* (0.009)
Early retirement	3.181* (1.364)	3.442* (1.356)	3.381* (1.358)	3.164* (1.355)	3.207* (1.342)	3.575** (1.315)
(Work and family practice)						
Flextime	–	−2.066* (0.915)	–	–	–	−1.656† (0.927)
Longer maternity leave	–	–	−0.498 (1.038)	–	–	0.956 (1.057)
Longer child care leave	–	–	–	−2.448* (1.078)	–	−1.839† (1.085)
Longer nursing care leave	–	–	–	–	−2.876*** (0.840)	−2.614** (0.876)
Log likelihood ratio	−825.11	−822.59	−801.24	−817.10	−808.36	−786.05
N	266	266	259	264	262	257

Notes: [a]Standard errors are in parentheses, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; $^{\dagger}p < 0.10$; industry dummies are included but not reported.

Table 2B. Results of Tobit model analysis on turnover rate[a] (Male employees).

Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Firm size	−1.546*** (0.271)	−1.490*** (0.276)	−1.455*** (0.279)	−1.477*** (0.276)	−1.546*** (0.275)	−1.432*** (0.290)
ROA	−0.123* (0.049)	−0.130** (0.050)	−0.123* (0.050)	−0.123* (0.049)	−0.119* (0.049)	−0.126* (0.050)
Proportion female	−0.029† (0.017)	−0.028 (0.017)	−0.023 (0.017)	−0.027 (0.017)	−0.027 (0.017)	−0.019 (0.017)
Labour union	−1.651** (0.508)	−1.594** (0.511)	−1.719** (0.526)	−1.754*** (0.514)	−1.549** (0.539)	−1.638** (0.550)
Wage level	−0.006 (0.005)	−0.006 (0.005)	−0.007 (0.005)	−0.006 (0.005)	−0.007 (0.005)	−0.006 (0.005)
Early retirement	4.264*** (0.746)	4.327*** (0.748)	4.332*** (0.755)	4.248*** (0.746)	4.271*** (0.742)	4.380*** (0.752)
(Work and family practice)						
Flextime	–	−0.491 (0.505)	–	–	–	−0.253 (0.530)
Longer maternity leave	–	–	−0.639 (0.578)	–	–	−0.418 (0.605)
Longer child care leave	–	–	–	−0.679 (0.594)	–	−0.442 (0.621)
Longer nursing care leave	–	–	–	–	−0.588 (0.465)	−0.334 (0.502)
Log likelihood ratio	−667.68	−667.20	−650.89	−643.28	−656.00	−643.85
N	266	266	259	264	262	257

Notes: [a] Standard errors are in parentheses, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.10$; industry dummies are included but not reported.

the firm's pay level, it is also possible that compensation, which includes both cash compensation and benefits, has a marginal influence on Japanese male employees' turnover decisions. This issue will be addressed in the discussion section in more detail.

Discussion

This study highlights the differences in the effects of work and family practices on voluntary turnover rate between male employees and female employees in Japan. We have found that firms with a programme allowing employees to take a nursing care leave lasting longer than legally required enjoy a lower employee turnover rate among female employees. Flextime and a longer childcare are also likely to be associated with decreased turnover among female employees. Overall, our findings indicate that, if Japanese employers want to retain their female employees in order to prepare for a future labour shortage, offering generous work and family practices will help them achieve this.

The failure to find a positive impact of work and family practices on the male employee turnover rate might not be surprising given Japanese society's strong expectation that women should have the primary responsibility for family issues. According to a recent report, Japanese women on average spent 4 hours and 27 minutes for household work per day, whereas Japanese men spent 46 minutes in 2005 (NHK Broadcasting Culture Research Institute 2006). The government survey also reports that, more than a half of the male respondents (51.3%) and close to half of the female respondents (43.3%) still support the idea that women bear the main responsibility for household issues (Japanese Cabinet Office 2002). This expectation is probably intertwined with the traditional employment system in Japan. Under the traditional system, employees remain in one organization for their entire professional career. Promotion and pay are strongly tied to the length of tenure. Taking long leaves could stop the clock of employees' tenure, which negatively affects their career progression and pay increases. It has been reported that male regular employees in large firms are more likely to work under such traditional employment system than other workers (such as female employees).[7] Consequently, male employees have a strong incentive to avoid taking long leaves. In this vein, the degree of the gender difference in reactions to work and family practices could be more distinct in Japan than in other countries.

From the cross-cultural research perspective, our study highlights the role of societal norms when examining the influence of work and family practices on employee attitudes and behaviours. This is consistent with the argument that national culture is one key influence on a country's traditional compensation system (Gomez-Mejia and Welbourne 1991). Masculinity, which is one of the four cultural dimensions suggested by Hofstede (1980) may explain the difference in the effects of work and family practices across countries (Schuler and Rogovsky 1998). In a practical sense, adding cross cultural perspectives to the traditional work and family practice research will benefit multinational firms as they often face challenges when developing compensation systems outside their home countries.

The results of this study also corroborate the recent evidence in the US which implied that the effects of work and family practices vary between male employees and female employees (Batt and Valcour 2003; Konrad and Mangel 2000). As women have borne the major responsibility of household work in most cultures, it is possible that similar results may be obtained in studies analysing samples from different cultures. This study calls for further attention to be paid to the moderating role of individual characteristics on the impact of work and family practices on employees.

While we did not find it particularly surprising that the male employee turnover rate was not significantly influenced by work and family practices, we are a little puzzled by the absence of a significant link between wage and turnover for male workers. This is in stark contrast to the literature on firms in the US and other matured market economies (Barber and Bretz 2000) and begs the question as to what influences male employees' turnover in Japan. One possibility is that most Japanese firms emphasize a long-term employment relationship and establish their own internal labour market. As a result, Japanese employees might pay less attention to external pay equity. We also recognize that Japanese employment practices traditionally encourage employees to remain with one firm for their entire professional career (Kato 2001). Yet we also see noticeable variance in employee turnover rate among Japanese firms (mean $= 5.85$, standard deviation $= 4.15$). Identifying human resource management practices that are associated with reduced turnover in Japan is beneficial to Japanese employers. As shown in previous studies, turnover is associated with the loss of human capital, and thus negatively related to firm performance (Shaw et al. 2005; Kacmar et al. 2006; Yanadori and Kato 2007).

This study has limitations. First, showing the negative statistical relationship between work and family practices and turnover rate is not enough to firmly establish a causal relationship in the sense that work and family practices negatively influence turnover rate. Nevertheless, we believe that reverse causality is unlikely. If turnover rate influenced the adoption of work and family practices, the relationship would be positive so that firms that suffer from higher turnover among female employees would be more likely to adopt work and family practices. Yet, it is still possible that unobserved firm characteristics influence both female employee turnover and the adoption of work and family practices. This is in line with our previous argument that more research is needed to understand Japanese employee turnover.

Second, this study used the data on the turnover rate for the year 2002, when the Japanese economy was in recession and the unemployment rate was reaching 5.5%, the highest figure in its history. The external labour market likely influenced employee turnover decisions such that even if employees were unhappy with their firms they did not leave their firms given the difficulty in finding other jobs. When the economy is expanding, employees are more likely to leave their firms, and thus the positive effects of work and family practices could be greater. A comparison of the effects of work and family practices between two separate time periods whose labour markets are distinct would be of great value.

In spite of these limitations, the results of this study inform us of ways in which work and family practices influence employee turnover in Japan. In conclusion, we find evidence pointing to the effectiveness of work and family practices as a tool to retain female employees in Japan. As such, Japanese employers aiming at reducing employee turnover; fostering firm-specific human capital accumulation; maintaining such human capital; nurturing employee commitment; and ultimately improving firm performance, are encouraged to turn their attention to their work and family practices.

Notes

1. *Law on Securing, Etc. of Equal Opportunity and Treatment between Men and Women in Employment* was enacted in 1985 and became in effective 1986.
2. Statistics in 2005. Riding capacity is defined as the number of seats and hand straps.
3. When it was enacted in 1991, the law stipulated only a child care leave. In 1995 amendment was made to include a nursing care leave.

4. Although the law reads 'family care' we use nursing care because it is more commonly used in relevant literature.
5. Strictly speaking, it is possible that some firms fail to mention flextime as a non-traditional work arrangement in the survey in spite of the presence of flextime in the firm. For example, some firms may not consider flextime a noteworthy 'non-traditional work arrangement' and hence neglect to mention it in the survey. We think this possible underreporting is probably not too serious since flextime has been attracting national attention in Japan in recent years and it is highly unlikely that Japanese firms consider their use of flextime trivial. For reference's sake, we compared the proportion of firms that list flextime as a non-traditional work arrangement in our final sample with government statistics. As we will show in the results section, 47.0% of firms had adopted flextime in our sample, which consist of most major Japanese firms. The government report shows that 32.8% of firms with 1,000 employees or more had adopted flextime as of 2002 (Ministry of Health, Labor, and Welfare). Given that our figure was higher than the corresponding government figure, it is unlikely that firms in our sample failed to report flextime to SSJ.
6. PROC LIFEREG in SAS yields parameter estimates of the distribution of uncensored data (SAS Help and Document).
7. For the traditional employment system and its recent changes, see for example Kato (2001).

References

Ahmadjian, C.L., and Robinson, P. (2001), 'Safety in Numbers: Downsizing and the Deinstitutionalization of Permanent Employment in Japan,' *Administrative Science Quarterly*, 46, 622–654.

Arthur, J.B. (1994), 'Effects of Human Resource Systems on Manufacturing Performance and Turnover,' *Academy of Management Journal*, 30, 670–678.

Aryee, S., Fields, D., and Luk, V. (1999), 'A Cross-Cultural Test of a Model of the Work–Family Interface,' *Journal of Management*, 25, 491–511.

Baltes, B.B., Briggs, T.E., Huff, J.W., Wright, J.A., and Newman, G.A. (1999), 'Flexible and Compressed Workweek Schedules: A Meta-Analysis of their Effects on Work-Related Criteria,' *Journal of Applied Psychology*, 84, 496–513.

Barber, A.E., and Bretz, R.D. Jr. (2000), 'Compensation, Attraction, and Retention,' in *Compensation in Organizations: Current Research and Practices*, eds. B. Gerhart and S.L. Rynes, San Francisco, CA: Jossey-Bass.

Batt, R., and Valcour, M. (2003), 'Human Resources Practices as Predictors of Work–Family Outcomes and Employee Turnover,' *Industrial Relations*, 42, 189–220.

Berg, P., Kalleberg, A.L., and Appelbaum, E. (2003), 'Balancing Work and Family: The Role of High-Commitment Environment,' *Industrial Relations*, 42, 168–188.

Bureau of Labor Statistics (2006), 'Charting the US Labor Market in 2005,' US Department of Labor, Washington DC, http://www.bls.gov/cps/labor2005/ (accessed 21 December 2006).

Datta, D.K., Guthrie, J.P., and Wright, P.M. (2005), 'Human Resource Management and Labor Productivity: Does Industry Matter?,' *Academy of Management Journal*, 48, 135–145.

De Cieri, H., Holmes, B., Abbott, J., and Pettit, T. (2005), 'Achievements and Challenges for Work/Life Balance Strategies in Australian Organizations,' *International Journal of Human Resource Management*, 16, 90–103.

Drago, R., and Hyatt, D. (2003), 'Syposium: The Effect of Work–Family Policies on Employees and Employers,' *Industrial Relations*, 42, 139–144.

Eaton, S.C. (2004), 'If You Can Use Them: Flexibility Policies, Organizational commitment, and Perceived Performance,' *Industrial Relations*, 42, 145–167.

Economist (2007), 'Cloud, or Silver Linings?,' *The Economist*, 28 July – 3 Aug., 24–26.

Freeman, R.B., and Medoff, J.L. (1984), *What Do Unions Do?* New York: Basic Books.

Goff, S.J., Mount, M.K., and Jamison, R.L. (1990), 'Employer Supported Child Care, Work/Family Conflict, and Absenteeism: A Field Study,' *Personnel Psychology*, 43, 793–809.

Gomez-Mejia, L.R., and Welbourne, T. (1991), 'Compensation Strategies in a Global Context,' *Human Resource Planning*, 14, 29–41.

Grover, S.L., and Crooker, K.J. (1995), 'Who Appreciates Family-Responsive Human Resource Policies: The Impact of Family-Friendly Policies on the Organizational Attachment of Parents and Non-Parents,' *Personnel Psychology*, 48, 271–288.

Haar, J.M., and Spell, C.S. (2004), 'Programme Knowledge and Value of Work–Family Practices and Organizational Commitment,' *International Journal of Human Resource Management*, 15, 1040–1055.

Hofstede, G. (1980), 'Motivation, Leadership, and Organization: Do American Theories Apply Abroad?,' *Organizational Dynamics*, Summer, 42–63.

Islam, M.M. (1997), 'Attitude and Consciousness of Japanese Men and Women towards Career Commitment and Continuity: The Role of Expected Change in HRM Policies,' *International Journal of Human Resource Management*, 8, 150–171.

Jacoby, S.M. (2005), *The Embedded Corporation: Corporate Governance and Employment Relations in Japan and the United States*, Princeton, NJ: Princeton University Press.

Japan Institute of Labour Policy and Training (2007), '*Kokusai rodo hikaku 2007*' (International Comparative Labour 2007), Tokyo.

Japanese Cabinet Office (2002), 'Danjo Kyodo Sankaku Shakai ni Kansuru Yoron Chosa (Opinion Survey on Gender Equal Society,' http://www8.cao.go.jp/survey/h14/h14-danjo/index.html (accessed 28 January 2008).

Kacmar, K.M., Andrews, M.C., van Rooy, D.L., Steilberg, R.C., and Cerrone, S. (2006), 'Sure Everyone Can be Replaced … But at What Cost? Turnover as a Predictor of Unit-Level Performance,' *Academy of Management Journal*, 49, 133–144.

Kato, T. (2001), 'The End of Lifetime Employment in Japan? Evidence from National Surveys and Field Research,' *Journal of the Japanese and International Economies*, 15, 489–514.

Kato, T. (2006), 'Determinants of the Extent of Participatory Employment Practices: Evidence from Japan,' *Industrial Relations*, 45, 579–605.

Konrad, A.M., and Mangel, R. (2000), 'The Impact of Work–Life Programs on Firm Productivity,' *Strategic Management Journal*, 21, 1225–1237.

Maddala, C.S. (2001), *Introduction to Econometrics* (3rd ed.), West Sussex, UK: John Wiley & Sons.

Milkovich, G.T., and Gomez, L.R. (1976), 'Day Care and Selected Employee Work Behaviors,' *Academy of Management Journal*, 19, 111–115.

Milkovich, G.T., and Newman, J. (2008), *Compensation* (9th ed.), New York: McGraw-Hill.

Miller, T.I. (1984), 'The Effects of Employer-Sponsored Child Care on Employee Absenteeism, Turnover, Productivity, Recruitment and Job Satisfaction: What is Claimed and What is Known,' *Personnel Psychology*, 37, 277–289.

Ministry of Land, Infrastructure and Transportation (2007), '*Tokyo-ken ni okeru syuyo rosen no konzatsuritsu*' (Congestion Rates in the Tokyo Area), Tokyo.

Ministry of Welfare and Labour (2005a), '*Josei Rodo Hakusho*' (White Paper on Female Labor), Tokyo, http://www.mlit.go.jp/tetudo/toshitetu/03_03.html (accessed 4 August 2007).

Ministry of Welfare and Labour (2005b), '*Heisei 17 Nendo Josei Koyokanri Kihon Chosa (The 2004 Survey on the Management of Female Employees)*,' http://www.mhlw.go.jp/houdou/2006/08/h0809-1/03-26.html (accessed 13 July 2007).

Ministry of Welfare and Labor (2007), '*Flextime-sei no Donyu (Introducing Flextime)*,' http://www2.mhlw.go.jp/topics/seido/kijunkyoku/flextime/index.htm (accessed 15 July 2007).

National Council of Jewish Women (1987), *Accommodating Pregnancy in the Workplace*, New York.

NHK (2006), '*2005 Nen Kokumin Seikatsu Jikan Chosa (The 2005 Survey on Life Style)*,' http://www.nhk.or.jp/bunken/new_06021001.html (accessed 15 July 2007).

Osterman, P. (1995), 'Work/family Programs and the Employment Relationship,' *Administrative Science Quarterly*, 40, 681–700.

Perry-Smith, J.E., and Blum, T.C. (2000), 'Work–Family Human Resource Bundles and Perceived Organizational Performance,' *Academy of Management Journal*, 43, 1107–1117.

Schneider, B., Hanges, P.J., Smith, B.D., and Salvaggio, A.N. (2003), 'Which Comes First: Employee Attitudes or Organizational Financial and Market Performance?,' *Journal of Applied Psychology*, 88, 836–851.

Schuler, R.S., and Rogovsky, N. (1998), 'Understanding Compensation Practice Variations across Firms: The Impact of National Culture,' *Journal of International Business Studies*, 29, 159–178.

Shaw, J.D., Gupta, N., and Delery, J.E. (2005), 'Alternative Conceptualizations of the Relationship between Voluntary Turnover and Organizational Performance,' *Academy of Management Journal*, 48, 50–68.

Stavrou, E.T. (2005), 'Flexible Work Bundles and Organizational Competitiveness: A Cross-National Study of the European Work Context,' *Journal of Organizational Behavior*, 26, 923–947.

Tang, N., and Cousins, N. (2005), 'Working Time, Gender and Family, An East-West European Comparison,' *Gender, Work and Organization*, 12, 527–550.

Thomas, L.T., and Ganster, D.C. (1995), 'Impact of Family-Supportive Work Variables on Work–Family Conflict and Strain: A Control Perspective,' *Journal of Applied Psychology*, 80, 6–15.

Wright, P.M., and Boswell, W.R. (2002), 'Desegregating HRM: A Review and Synthesis of Micro and Macro Human Resource Management Research,' *Journal of Management*, 28, 247–276.

Yanadori, Y., and Kato, T. (2007), 'Average Tenure, Turnover Ratio, and Firm Labour Productivity: Evidence from Japanese Firms,' *International Journal of Human Resource Management*, 18, 1841–1857.

Youngblood, S.A., and Chambers-Cook, L. (1984), 'Child Care Assistance Can Improve Employee Attitudes and Behavior,' *Personnel Administration*, 19, 45–47.