Gender differences in organizational commitment and rewards within
Japanese manufacturing companies in China

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Abstract:

Purpose – The purpose of this paper is to investigate gender differences in organizational commitment (OC) and the relationship between OC and rewards among employees who work for Japanese manufacturing companies within China.

Design/methodology/approach – This study utilized hierarchical regression analysis to examine survey data obtained from 27,854 employees who worked for 64 Japanese manufacturing companies within China.

Findings - The results reveal that autonomy and role clarity had a stronger influence, and co-worker support had a weaker influence, on OC for male employees than for female employees. These differences may be because more male employees than female employees prefer working with higher autonomy and well-defined roles than with co-worker support. After all, male employees, who place a great emphasis on independence, competition, decision-making, and challenges, rely on intrinsic rewards more than social rewards.

Research limitations/implications - This study used data collected from Japanese manufacturing companies to understand the differences between OC and rewards in local male and female Chinese employees. We recommend that future research use other national affiliates to clarify the characteristics of male and female Chinese workers more objectively and to test

the validity of this research.

Practical implications - The results of this study support revising human resource management practices within multinational enterprises to enable female and male host-country workers to contribute to their companies on a long-term basis by taking into account the differences between the cultures of the home and host countries.

Originality/value - Although previous research has elucidated the OC-rewards relationship in particular countries, it has not met the requirements of foreign managers from different corporate cultures who face differences in the OC-rewards relationship between their male and female employees. In this sense, this research is the first attempt to tackle this theme and contribute to the literature.

Keywords: exploratory factor analysis; gender; Japanese manufacturing companies; China; organizational commitment; rewards

Introduction

It is becoming an important theme to employ women, because finding and keeping talented employees is becoming crucial in many countries (Antal and Izraeli, 1993; Mattis, 2002; Vinas, 2003). However, men and women have different behavioral tendencies, and therefore gender has been one of the most popular demographic variables to study as part of the work value or behavioral constructs (Elizur and Koslowsky, 2001). In such conditions, a

company's success in enrolling men and women depends primarily on how precisely it captures the differences between men and women and creates a workshop friendly to both genders.

Based on these issues, in this research, we aim to clarify how organizational commitment (OC) and its antecedents differ between men and women within Japanese manufacturing companies in China. OC is "the relative strength of an individual's identification with and involvement in a particular organization" (Steers, 1977, p. 46). We employed OC in this analysis because OC is a key explanation for why some people desire to remain employed while others do not (Allen and Meyer, 1990; Gatling et al., 2016; Mowday et al., 1982; Perryer et al., 2010; Steers, 1977), and why some people have good work performance while others do not (Meyer et al., 2002; Phipps et al., 2013). Prior studies have revealed OC differences between men and women (Hartmann, 2000; Marsden et al., 1993; Mason, 1995; Wiersma, 1990; Mathieu and Zajac, 1990; Savery and Syme 1996), indicating that there are differences in OC mechanisms. Besides, gender has been found to act as a moderator in the relationship between OC and its antecedents (El Badawy et al., 2018; Elizur and Koslowsky, 2001; Mellor et al., 1994).

The reason for targeting Chinese people in this article is that a major theme for this country is how to increase male and female employees' OC toward further economic development because labor costs are rising and the cost competitiveness is being lost as a result of rapid development. In other words, China is required to shift the driving force of growth from cheap labor to innovation, establishing and training workforces in organizations of modern

industries from a long-term perspective (Li et al., 2020). Another reason is that the remaining

problem this country still cannot solve is gender inequality in workplaces (Yang, 2020).

Achieving gender equality is important for the economy because the effective use of women

increases corporate productivity (Tsou and Yang, 2019). Furthermore, the reason for targeting

foreign-affiliated companies in the current research is that previous studies point out that the

corporate culture transplanted by foreign-affiliated companies is useful in solving domestic

problems such as gender (Mun and Jung, 2018). Among them, one reason Japanese companies

are targeted is that they have a large presence among foreign-affiliated companies located in

China in terms of investment amount and employment scale. It is said that more than 20,000

Japanese companies operating in China have created more than 10 million direct and indirect

jobs (The Japanese Chamber of Commerce and Industry in China, 2019). Another reason is that

it is pointed out they lag behind other foreign companies in gender issues (Lawler, 1996).

Therefore, we aim to clarify gender differences in the relationship between OC and

rewards within Japanese manufacturing companies in China.

2. Literature review

Foreign-affiliated companies and domestic culture

In many countries of the world, especially in the non-Western world, men have greater

power than women, making it difficult for women to work on par with men. The cultural

association of power and authority with masculinity makes it difficult for women to hold

positions of power because their gender identity conflicts with currently male-centered

organizations (Charles and Davies, 2000). In this sense, foreign multinational firms, which have

different employment practices than local firms, may reform discriminatory employment

practices in countries that exhibit a high level of workplace gender inequality. For instance,

multinational firms are less gender-exclusionary in their hiring and promotion (Villarreal and

Yu, 2007; Marantz et al., 2014), and they actively seek highly skilled female workers who face

discrimination in local labor markets (Ono, 2007). A recent empirical study revealed that

foreign ownership of institutions had a substantial, positive effect on the gender diversity of

their boards (Mun and Jung, 2018). Therefore, growing foreign investment in China, where

employers' discriminatory attitudes exacerbate workplace gender imbalances (Leong et al.,

2004), should be a driving force for the dissemination of best practice human resource

management (HRM) (Cooke, 2005; Warner, 2005), focusing on equality of treatment and more

enlightened views on women's capabilities (Woodhams et al., 2009). However, these studies

were mostly about the affiliates of Western companies located in non-Western countries. Until

now, no one has fully discussed or investigated affiliates of Eastern companies located in

Eastern countries.

What can we say about East Asian companies located in other countries in the region?

Unfortunately, there is little empirical research on this topic. According to a study of

advertisements for employee recruitment in Thailand, the frequency of gender preference

specifications varied by the company's country of origin, finding that Japanese firms restricted

jobs to a particular gender more often than Western and local firms (Lawler, 1996). In Singapore, Leong et al. (2004) examined whether a company's country of origin had an impact on its propensity to discriminate in recruitment. They found that Singaporean and U.S.-owned firms discriminated less than those originating in the UK or Japan did. The reason why many Japanese companies moved to Malaysia is that they found it easier to operate in Malaysia than in other Southeast Asian countries, due to Malaysia and Japan's similar cultural and social values, such as their belief that women are expendable in the workforce (Hutchings, 2000). These results indicate that Japanese companies discriminate more than many local or Western enterprises when recruiting host country nationals (HCNs). Based on the cultural similarities between Japan and China regarding male superiority due to Confucian teachings (Chou et al., 2005; Leung, 2003; Maurer-Fazio and Hughes, 2002; Patrickson, 2001), it is natural to expect that Japanese companies in China are also gender-biased.

Japanese companies and female labor force

However, Japanese companies in China employ many female employees, not only as non-managerial workers but also as managerial ones. For instance, a study that surveyed a general merchandise Japanese firm's parent and host country's store practices revealed that over 50 percent of supervisors in China were female, compared to just 5 percent in Japan (Gamble, 2010). One possible reason may be that Japanese managers like to employ women. In Thailand, for instance, women were preferred over men, not only as ordinary employees, but also as

management in Japanese firms, because they work harder, do tedious work, are more practical, more rational, more motivated, and easier to supervise (Colignon et al., 2007). Therefore, women had more behavioral commitment than men did in Japanese firms in Thailand, while women and men had the same level of commitment in U.S. firms, contradicting accusations of sexism in Japanese culture (Colignon et al., 2007). Likewise, an interview survey conducted within Japanese manufacturing companies in Vietnam reported that women were better with their hands, more competent, patient, industrious, and responsible, and tended to stay with the same company longer than men did (Iida, 2015). Moreover, a returned Japanese expatriate who had worked in China commented that "the female employees work much harder than the men, it's very hard to get the men to work" (Gamble, 2010, p. 717). One of the authors of this paper, who has visited several hundred Japanese affiliates in China, has often heard from Japanese directors that the local women work harder than the men do. These phenomena contradict the reality that the government of Japan has been eager to create a gender-equal society, but is still very far from achieving that goal.

Another possible reason may be that female HCNs like to work for Japanese companies more than male HCNs do. The diverse research findings on gender and commitment to the workplace have often been explained in light of two competing theories—the gender model and the job model (Feldberg and Glenn, 1979; Lorence, 1987; Marsden et al., 1993). The gender model, which emphasizes women's domestic responsibilities, argues that women have lower levels of commitment to their workplaces than men do (Gutek and Cohen, 1987;

Loscocco, 1990) because married women are thought to be less committed to their workplaces

due to their obligations to their families. In contrast, the job model highlights the effects of job

characteristics and working conditions (Loscocco, 1990; Marsden et al., 1993). Men and

women who worked under comparable employment situations arguably would display similar

levels of commitment to their organizations. Therefore, based on the job model, it is notable

that Japanese companies have provided attractive rewards (in the broader sense, including not

only extrinsic rewards but also intrinsic and social ones) and have attracted many female HCNs.

Japanese corporate culture

Japanese corporate culture is characterized as having the traits of (1) collectivism, (2)

ambiguous roles, (3) ethnocentrism, and (4) masculinity. Collectivism is widely observed

within Japanese workplaces. Japanese companies emphasize socialization with coworkers, an

aspect of Japanese HRM practices that have been tied to Japanese collectivism, which treats the

corporation as a family (Kashima and Callan, 1994). To enhance the spirit of teamwork and

commitment to the organization, Japanese companies provide in-company welfare facilities,

share information with all employees, including rank-and-file workers, urge them to participate

in workplace decision-making (e.g., quality control circles), and maintain cooperative labor

relations through joint labor-management councils and enterprise unions (Ishida, 1986). Due to

their egalitarian nature, Japanese companies, both inside and outside the country, have

succeeded in managing blue-collar workers effectively. However, when it comes to managing

white-collar workers and managers, they leave much to be desired (Ishida, 1986). This is because blue-collar workers favored a community-oriented approach to management (e.g., concern for the whole person), while white-collar employees who were accustomed to Western lifestyles found the approach irksome or oppressive (Cheong, 1982).

Japanese companies put less emphasis on roles than Western organizations (Jacoby, 2005; Keeley, 2006) or their Asian counterparts (Ishida, 1986) because of their culture of limited individual responsibility and broad mutual responsibility, where employees are willing to take on extra responsibilities outside their formal job roles as the result of tacit psychological contracts of cooperation and coordination (Ishida, 1986). To keep job boundaries fluid, it is necessary to maintain a shared context by socializing employees so that they understand the company's culture and goals. These ideas are instilled in employees through practices such as long-term employment, group-centered activities, frequent job rotation, and consensus-style decision-making involving extensive informal consultation (Keeley, 2001). However, differences in their concepts of jobs lead to conflicts between Japanese and non-Japanese employees in the same organization. Non-Japanese workers cannot bear fluid job boundaries, because the workers fear they will lead to encroachment in each other's jobs and that when things do not go well, they will cause a mutual evasion of responsibility (Cheong, 1982). Japanese workers, on the other hand, criticize non-Japanese workers for "doing only what they are told to do" and complain that they lack initiative and flexibility (Ishida, 1986, p. 109).

Another drawback of Japanese corporate culture may be ethnocentrism. Japanese firms

rely heavily on expatriates (Kopp, 1994; Legewie, 2002; Whitley et al., 2003). HCNs are usually treated as specialists and often do not have the opportunity to perform jobs outside the subsidiary, limiting their career opportunities and decision-making power (Keeley, 2001). The exclusion of local managers from important decision-making often makes them feel alienated and prone to seeking a more satisfying job with another company (Cheong, 1982). These customs are especially detrimental to HCNs who seek autonomy and competition within their workplaces by lowering their OC (Hitotsuyanagi-Hansel et al., 2016).

Research has demonstrated that Japan is a highly masculine society that has distinct gender roles, with female roles de-emphasizing recognition, advancement, and competition (Hofstede, 1980) due to the influence of Confucianism, which gave men's gender roles a higher status than women's (Pek and Leong, 2003). Moreover, under the lifelong employment system, workers are expected to accept unlimited overtime and to sacrifice their lives for the company. Women who do not follow these practices are viewed as lacking ambition and are likely to quit after marriage (Benson et al., 2007). Some companies are unwilling to invest in mentoring women as leaders because of traditional views regarding female worker participation (Gelb 2000), which hinders efforts to motivate the increasing number of women in the workforce (Worthley et al., 2009). Similarly, cultural norms psychologically affect women's and men's beliefs, attitudes, and behavior in Japan. For example, men are expected to demonstrate more leadership, while women are expected to be more nurturing and communal, which negatively affects women's professional aspirations and their access to leadership positions (Usui et al.,

2003). Due to these circumstances, Japan was rated as more masculine (i.e., more gender-biased) than other East Asian countries, including China (Hofstede, 1980).

How male and female HCNs perceive Japanese corporate culture

Of the four characteristics of Japanese corporate culture, two are based on Confucian traditions that it shares with Chinese culture, (1) collectivism and (4) masculinity. Indeed, many researchers have argued that China is a highly collectivist society (Ho and Chiu, 1994; Kim and Markus, 1999; Triandis, 1995; Yang, 1988) that prioritizes the needs of the group over those of the individual (Yu and Yang, 1994). In Chinese culture, establishing the right *guanxi*, a Chinese way of building connections and using networks (Yang, 1994), and being included in the in-group is necessary for a successful career and business survival (Bedford, 2011). Similarly, the influence of Confucian values on gender roles, which give men more status than women, remains prevalent (Chou et al., 2005; Leung, 2003; Maurer-Fazio and Hughes, 2002; Patrickson, 2001; Pek and Leong, 2003). Since the ideology of male superiority still prevails in all aspects of life, women have not made significant inroads in management positions, and remain concentrated in lower-level jobs in every sector (Cooke, 2005). The other two characteristics, (2) ambiguous roles and (3) ethnocentrism, are unacceptable to HCNs because the features are unique to Japan and indifferent to Chinese traditions. As discussed above, ambiguous roles presuppose the shared contexts that are cultivated through Japanese management styles, such as long-term employment. Therefore, it is often difficult for HCNs to understand and embody

Japanese ideas within their work, which causes them to lose their enthusiasm and commitment to the workplace. Ironically, this mechanism often provokes ethnocentric behavior from Japanese managers, depriving HCNs of the chance to do challenging works autonomously.

Applicability of gender stereotypes to the current study

A growing number of studies indicate that men and women differ in their attitudes toward these four Japanese characteristics. These studies imply that (1) collectivism is more important for women than men, while (2) ambiguous roles and (3) ethnocentrism (low autonomy) are more detrimental to men than to women. According to Hofstede (1980), gender roles are transferred through socialization, e.g., men are taught to be assertive and women to be nurturing. Indeed, in his review of the relevant literature in psychology, sociology, and political science, Hofstede found a very consistent pattern of men rating advancement and earning power more highly, while women rated interpersonal aspects, service, and the physical environment more highly. Studies have reported that men tend to use discourse to solve problems, while women use it to show empathy (Tannen 1990), solidarity, and mutual support (Coates, 1986). While masculine behavior is stereotyped as aggressive, independent, unemotional, logical, and competitive (Doyle 1985), feminine stereotypes are associated with a people-centered approach (Rigg and Sparrow, 1994). Since both Japan and China are categorized as countries with stronger biases towards masculinity than Western countries due to their Confucian cultures (Hofstede, 1980), it is natural to expect that these gender stereotypes are more applicable.

Organizational rewards in China

Barrett and O'Connell (2001) asserted that some employees perceive certain human resource practices as rewards. There is growing support for the idea that organizations can improve the commitment of their workforce by providing organizational rewards (Newman et al., 2011). Current research is underpinned by social exchange theory, according to which, if an individual is satisfied with the rewards provided by an organization, that individual will, in turn, develop a positive attitude toward that organization, i.e., have a higher level of commitment (Blau, 1964). For example, enhanced OC leads to lower turnover intentions (Peyyer et al, 2010; Steers, 1977). Along with a large amount of research on OC in the West (see, e.g., Meyer et al., 2002), an increasing number of papers on OC and its antecedents have studied non-Western countries, including China.

For instance, research in China has indicated that autonomy (Chen and Aryee, 2007; Froese and Xiao, 2012; Miao et al., 2013; Nazir et al., 2016; Newman and Sheikh, 2012), role clarity (Mathieu and Zajec, 1990; Newman and Sheikh, 2012), satisfaction with benefits (Chiu et al., 2002; Newman and Sheikh, 2012), fatigue (Hongwei and Jingyan, 2017), support from supervisors and co-workers (He et al., 2011; Miao et al., 2013; Nazir et al., 2016; Newman and Sheikh, 2012; Wang, 2008), and training (Newman et al., 2011) are all significant antecedents of OC. However, it remains unclear how different types of organizational rewards influence the levels of OC among males and females in foreign subsidiaries. To clear that up, this study aims

to explore the effects rewards have on the development of OC in male and female employees working for Japanese companies in China.

OC research has revealed differences between genders in OC levels and OC-rewards correlations by incorporating the theory of gender and job models described above. According to the gender model, women's OC should be lower than men's due to differences in their traditional gender roles (Gutek and Cohen, 1987; Loscocco, 1990). On the other hand, the job model insists that work characteristics and situations influence men's and women's OC (Loscocco, 1990; Marsden et al., 1993). A series of studies show that women may have higher OC levels than men depending on the environment they are in (Messner, 2017; Pala et al., 2008), supporting the higher applicability of the job model than the gender model to the actual workplace. Besides, previous studies have shown a stronger correlation between OC and colleagues' support for women than for men (Boles et al., 2007; Macintosh and Krush, 2014; Sloan, 2017), indicating that the women's OC may increase more than men's in a workplace where good relationships are built. However, as the relationship between OC and intrinsic rewards including autonomy and role clarity is found to be stronger in men than women in other studies (Hitotsuyanagi-Hansel et al., 2016; Munyae, 1996), the enrichment of these rewards may lead to the higher OC for men than women.

Therefore, based on the job model, we may expect that there is a gender difference in the level of OC and the relationship between OC and rewards.

15

Hypotheses

Gender differences in OC

Gender may influence whether individuals become more committed to organizations that offer various opportunities (Scandura and Lankau, 1997). Prior studies have reported mixed results on the relationship between gender and OC. For example, several studies suggested that women were more committed to their organizations than men were (Mathieu and Zajac, 1990; Messner, 2017; Mowday et al., 1982; Pala et al., 2008; Salami, 2008; Peterson, 2004; Sulliman and Iles, 2000) because women are more likely than men to have extensive social interests (Giele, 1988) and utilize a positive interpersonal climate which is a strong determinant of OC (Marsden et al., 1993). On the other hand, some researchers reported that men displayed a higher level of OC than women did (Aranya et al., 1986; Marsden et al., 1993) because men are more likely than women to hold jobs with commitment-enhancing features including the opportunity to work autonomously (Marsden et al., 1993). Others report no gender differences in OC (Gaertner and Nollen, 1989; Konya et al., 2016). In a meta-analysis, also, Aven et al. (1993) found that gender and OC were unrelated. Therefore, gender differences in OC are considered to be influenced by the environment where employees are located including national and corporate culture. As described above, Japanese companies overseas tend to value the female labor force more than the male labor force and actively employ them (Gamble, 2010). This suggests that female employees value the compensation provided by Japanese companies higher than male employees and have a higher OC as reciprocity for compensation. Therefore,

we are lead to the following hypothesis:

H1. OC is lower for men than for women.

Gender differences in the OC-rewards relationship

Autonomy. Research on early childhood socialization processes shows that males tend to be more competitive and daring than females (Tannen, 1994). Other empirical studies have indicated that men focused more on asserting their independence, seeking respect (Gefen and Straub, 1997), and showing competitiveness (Coates, 1986) in their discourse or problem solving than women did. In the same vein, a longitudinal study found that having greater decision-making power and autonomy increased self-esteem among men, but not women (Keller et al., 2015). Moreover, many case studies have supported these gender-based distinctions (Johnson, 1993; Tannen, 1994). In the Japanese setting, male employees tended to emphasize intrinsic elements over extrinsic ones, whereas females did not make a significant distinction between the two elements (Worthley et al., 2009). In empirical research on OC, the relationship between high-performance work practices, including job autonomy and autonomous teams, and OC was stronger for men than for women (Qiao et al., 2009). In connection with this, in Asian and Western foreign subsidiaries in China, research has demonstrated that localization—the replacement of expatriates with HCNs—had a stronger effect on OC in males than females (Hitotsuyanagi-Hansel et al., 2016). This was because localization provided greater opportunities for HCNs to compete and advance to higher

17

managerial levels (Law et al., 2009, Sebastian Reiche, 2007), which particularly appealed to male HCNs. In this way, many previous studies suggest that there is a gender difference in the correlation between OC and autonomy although some studies exceptionally suggest no gender difference (Munyae, 1996). This leads us to the following hypothesis:

H2. The relationship between autonomy and OC is stronger for men than for women.

Role clarity. Individual performance is based on clear job descriptions and performance appraisals (Liang et al., 2012). Prior research suggests that men seek out competition more than women do (Gneezy et al., 2003), indicating that men value clear roles that form the basis for competition more than women do. Therefore, in empirical research, role ambiguity was found to affect men's work outcomes including OC (Munyae, 1996) and job satisfaction (Babin and Boles, 1998; Boles et al., 2003) more than women's. This is because a clear role reduces worries about the competition (Eys and Carron, 2001) and encourages the competitive work styles men prefer. Then, we are led to the following hypothesis:

H3. The relationship between role clarity and OC is stronger for men than for women.

Co-worker support. Research into early childhood socialization processes showed that females were better at acknowledging and understanding the feelings of others than males (Gilligan, 1982). Other empirical studies have indicated that women focused more on creating intimacy (Gefen and Straub, 1997), solidarity, mutual support, consensus (Coates 1986), and showing

empathy (Tannen 1990) in their discourse or problem solving than men did. Furthermore, women are sometimes viewed as better suited for teamwork because their listening and negotiating skills are better, and they are more democratic than men are (Eagly and Johannesen-Schmidt, 2001; Vinas, 2003). In the same vein, several studies in the United States (Centers and Bugantal, 1966) and Japan (Worthley et al., 2009) found that women in the workplace placed a higher value on relationships with others than men did. Similarly, Chinese women were reported to tend to value collectivism more highly than men did (Ralston et al., 1999). Empirical studies found perceived coworker support (Sloan, 2017) or satisfaction with co-workers (Boles et al., 2007) were more strongly related to OC for women than for men. Similarly, salesperson peers networking directly related to OC for women but not for men (Macintosh and Krush, 2014). These lead us to the following hypothesis:

H4. The relationship between co-worker support and OC is weaker for men than for women.

Other rewards. Here, we employed other rewards, benefit satisfaction, fatigue, supervisor support, and training provisions because they had a statistically significant correlation with OC (Kokubun, 2018). However, we did not build a hypothesis regarding these other rewards, because several studies are indicating that there was no difference in the effect of these rewards by gender. About benefit satisfaction, for instance, gender did not moderate the relationship between distributive justice (the employee's perceived fairness of the pay outcome) or procedural justice (the employee's perceived fairness of the procedures used to make pay

decisions) and commitment (Lee and Farh, 1999), confirming the result of previous research indicating no gender differences in valuing money (Crosby, 1982; Harris and Earle, 1986). As for training, male and female managers responded similarly to training for future promotions in a study of OC determinants conducted in Hong Kong (Ngo and Wing-Ngar Tsang, 1998). As for fatigue, gender has no impact on the relationship between employees' job burnout and OC (Zarei et al., 2012). About supervisor support, studies held in the United States showed that gender does not act as a moderator in the relationship between perceived supervisor support (or satisfaction with supervisor) and OC (Boles et al., 2007; Little, 2017). These variables are used in the analysis of this paper together with other variables because they are highly correlated with OC (Kokubun, 2018), although differences between men and women are not expected.

Research methodology

Data

The data for this study were collected through the Work Motivation Survey (WMS) project, which one of the authors of this paper has managed and directed as a project of the International Economy and Work Research Institute in Osaka since 2005. The WMS is an annual survey of Japanese foreign affiliates in China and other East Asian countries that researches employees' work attitudes systemically and longitudinally and provides practical advice to the management of the participating companies. For reference, previous studies have explored similar questions within Japanese companies in Malaysia (Kokubun and Yasui, 2020),

the Philippines (Kokubun, 2019), and China (Kokubun, 2018). This wide geographical coverage is one of the advantages of WMS data because existing studies on OC in East Asia have tended to focus on particular countries and regions.

We sent questionnaires to employees in 64 Japanese manufacturing companies in China, from April 2007 to March 2016. Of the 50,000 copies distributed, 45,874 surveys were collected, reflecting a response rate of 91.7 percent. However, we used a data set that covers 27,854 employees working for 64 manufacturing companies after eliminating the surveys of missing values or inappropriate participants for this research (e.g. contract employees, foreign workers, Japanese expatriates, etc.), and that Kokubun (2018) used in a previous study. The estimated figures can be viewed as representative of male and female Chinese workers working for Japanese manufacturing companies in China given the large sample size and wide coverage area. The appendix provides demographic information on the participants. Surprisingly, 49.6% of all managers were women within Japanese manufacturing companies in China, which is much higher than the averages of 16.8% of all Chinese, and 13.2% of all Japanese, "legislators, senior officials, and managers" (World Economic Forum, 2018). We controlled for all available demographic variables to alleviate concerns regarding sample compatibility.

Measures

This research used the following variables:

Autonomy. A four-item scale measured autonomy on a five-point scale from 1 (I don't feel this

way) to 5 (I do feel this way). The alpha reliability was 0.732 for males and 0.694 for females.

Role clarity. A two-item scale measured role clarity on a five-point scale from 1 (I don't think so) to 5 (I do think so). The alpha reliability was 0.628 for males and 0.524 for females.

Co-worker support. A four-item scale measured co-worker support on a five-point scale from 1 (dissatisfied) to 5 (satisfied). The alpha reliability was 0.793 for males and 0.761 for females.

Benefit satisfaction. A six-item scale measured benefit satisfaction on a five-point scale from 1 (dissatisfied) to 5 (satisfied). The alpha reliability was 0.827 for males and 0.799 for females.

Fatigue. A three-item scale measured fatigue on a five-point scale from 1 (incorrect) to 5 (correct). The alpha reliability was 0.856 for males and 0.830 for females.

Supervisor support. A six-item scale measured supervisor support on a five-point scale from 1 (I don't think so) to 5 (I do think so). The alpha reliability was 0.893 for males and 0.874 for females.

Organizational commitment. Five items measured OC on a five-point scale from 1 (I don't think so) to 5 (I do think so). The alpha reliability was 0.884 for males and 0.809 for females.

The OC variable was developed referring to Mowday et al. (1982). Supervisor and co-worker support variables were developed using Eisenberger et al. (1986) as a reference. Other items were originally developed referring to various sources including Ryan and Deci (2000). In developing the items, we tried to make the expressions plain and easy to understand as we included many frontline workers of non-university graduates in the survey target [for more details about the procedures and measures, see Kokubun (2018)].

Control variables. To control for individual differences, several demographic variables were included. Unconverted response data was used for organizational tenure and age. A sample dummy was used for gender. We also measured marital status, turnover experience, university graduates/non-graduates, indirect/direct department, and 63 company dummies (omitted in the table).

Analysis and findings

Exploratory factor analysis (EFA) of all items except the control variables was conducted to examine measurement invariance between males and females. EFA was chosen over other methods (e.g., confirmation factor analysis) because exploring the most fitted factor composition common to different groups was considered more important than confirming the applicability of the items used in Kokubun (2018). Table 1 presents the results of the factor analysis with varimax rotation and confirms a seven-factor solution for the following items: autonomy, role clarity, co-worker support, supervisor support, benefit satisfaction, fatigue, and OC. The factor structure was identical for males and females, confirming that both genders ascribed identical meanings to the scale items used (Milfont and Fischer, 2010). For these reasons, we did not use the following three low-factor loading items: one benefit-satisfaction item ("The company's evaluation of me"); one co-worker-support item ("The atmosphere at my workplace"); and one OC item ("I am attracted to the slogan of the company and the strategies

to achieve it"). EFA revealed that the respondents did not ascribe identical meanings to these items, and so we removed them to prevent multicollinearity with other variables.

(Insert Table 1 about here)

Table 2 displays the male and female descriptive statistics. We tested our hypotheses using hierarchical regression analysis, entering the control variables in Step 1 and, in Step 2, the main effects of autonomy, role clarity, co-worker support, supervisor support, benefit satisfaction, and fatigue. We entered the sample variable in Step 3 (0 for female; 1 for male) and, to test gender moderation, checked its interaction terms with the entire sample's main effects (Aiken and West, 1991). We also conducted separate regression analyses for males and females (see Table 3).

(Insert Table 2 about here)

(Insert Table 3 about here)

Step 1 shows the results when only the control variables were included in the regression to predict OC. Six of the seven demographic variables influenced OC: age, indirect department, and position were positively correlated with OC, while tenure, university graduate, and marital status were negatively correlated. Therefore, senior, indirect, less experienced, less educated, and single employees with higher positions tended to have higher OC than their counterparts.

Step 2 shows the results after the seven main variables had been added to the regression: six of the reward variables were positively correlated in the regression, with only

fatigue being negatively correlated, and all coefficients were statistically significant (p<0.01). Based on the adjusted R^2, these rewards explained 35% of the additional variance in OC, implying that these rewards were important for OC.

Step 3 shows the results when the sample and all seven interaction variables were added to the regression. First, the sample coefficient was negative and statistically significant, indicating that women have higher OC than men (β=-0.23, p<0.01). This result can be said to support H1. Next, the relationship between autonomy and OC, and the relationship between role clarity and OC, were moderated by the sample variable, and the results revealed that the relationships were stronger for males than for females (β=0.12, p<0.01; β=0.09, p<0.01). To summarize, autonomy and role clarity affected male OC more than female OC. However, the relationship between co-worker support and OC was weaker for males than for females (β=-0.10, p<0.01), implying that co-worker support is less important in forming OC for males than for females. These moderation tests' statistically significant results support H2, H3, and H4. Other rewards, such as supervisor support, benefit satisfaction, fatigue, and training provision, were not significantly correlated with OC. Individually-conducted regression analyses, which appear in the expanded sections of Table 3, confirm these findings, indicating that role clarity and autonomy are more correlated with OC for males (β=0.19, p<0.01; β=0.07, p<0.01) than females (β=0.16, p<0.01; β=0.03, p<0.01). Besides, co-worker support is less correlated with OC for males (β=0.16, p<0.01) than for females (β=0.19, p<0.01).

Results and discussion

This study aimed to investigate the differences, in terms of the level and antecedents of OC, between male and female employees working in Japanese manufacturing companies in China. First, we discovered that women had higher OC than men in general, supporting H1. Next, the significant interaction results supported H2 and H3, suggesting that autonomy and role clarity's relationships with OC were greater among males than females. Third, however, in support of H4, another significant result implied that the relationship between OC and co-worker support was weaker among males than females. Supplementary, statistically insignificant interaction results suggested that there was no significant difference between males and females concerning their relationships between OC and supervisor support, benefit satisfaction, fatigue, or training provisions.

The reasons why the OC of male employees is highly correlated with intrinsic rewards such as autonomy and role clarity will be that they are socialized to favor competition and want such a work environment. Likewise, the reason why female OC is highly correlated with social rewards such as co-worker support will be that they are socialized to respect cooperation with the surroundings (Hofstede, 1980). Therefore, the reason why female OC is higher than male OC on average will be that these rewards that correlate with OC with different strength between men and women are arranged within Japanese manufacturing companies in China to increase the OC of females more than males. In other words, it can be considered that the collectivist culture of Japanese companies has been advantageous in raising the OC of women which has a

stronger relationship with co-worker support. On the other hand, the ethnocentric culture and role ambiguity of Japanese companies may have made it difficult to increase the OC of male employees, which is easily influenced by autonomy and role clarity.

Implications for theory and practice

This study elucidated the differences in the OC-rewards relationship between male and female employees within Japanese manufacturing companies in China. Autonomy and role clarity affected male OC more than female OC. On the other hand, co-worker support affected female OC more than male OC. Broadly, intrinsic rewards affected male OC more, while social rewards affected female OC more. These results support our hypotheses derived from prior studies (Gilligan, 1982; Gneezy et al., 2003; Hitotsuyanagi-Hansel et al., 2016; Keller et al., 2015; Law et al., 2009; Ralston et al., 1999; Sebastian Reiche, 2007; Tannen, 1994). To our knowledge, this study is the first to explain the difference in the OC-rewards relationship between male and female employees in companies with different national cultures.

We also discovered that women had higher OC than men in general, reflecting the fact that 49.6% of managerial positions in our sample were held by women, which is much higher than the 16.8% of women that hold "legislators, senior officials, and managers" (World Economic Forum, 2018) positions in China as a whole. This is an odd result because Japanese workplaces are thought to have a long history of segregating women into jobs that don't require significant training and don't offer opportunities for promotion (Mun and Jung, 2018), due to

Japanese employers' reluctance and resistance to incorporating women into their core workforce (Brinton, 1993). However, prior research set within East Asian foreign affiliates found that women were preferred over men, not only as ordinary employees, but also as management, because they worked harder, performed tedious work, and were more competent, patient, industrious, responsible, practical, rational, motivated, and easier to supervise (Colignon et al., 2007; Gamble, 2010; Iida, 2015). This study contributes to the literature regarding Japanese HRM in East Asian foreign affiliates, providing an empirical result that confirms the previous discussion.

We cannot explain this paradoxical result by relying on the "gender model," which states that women's OC should be lower than men's due to differences in their traditional gender roles (Gutek and Cohen, 1987; Loscocco, 1990). Instead, we utilize the "job model," which highlights the effects of job characteristics and work conditions on OC (Loscocco, 1990; Marsden et al., 1993). Considering the consistency of both results with the job model, i.e., the higher OC for women than men, and the difference in the OC-rewards relationship by gender, we speculate the reason to be the Japanese corporate culture, i.e., collectivism, low autonomy (ethnocentrism), and ambiguous roles. As Table 2 illustrates, the co-worker support scores were higher than the autonomy and role clarity scores for both men and women. This indicates that developing good human relationships was easier than creating autonomous work styles and well-defined job roles within Japanese manufacturing companies in China. In Japanese companies, good human relationships were attributed to collectivistic features of the Japanese

manufacturing workplace, which is heavily present in Japanese overseas subsidiaries (Wasti, 1998). On the other hand, with regards to low autonomy, HCNs are usually treated as narrow specialists, and usually do not have the opportunity to perform jobs outside the subsidiary, limiting their career opportunities and decision-making power (Keeley, 2001). Besides, Japanese corporate culture has low role clarity. Japanese companies put less emphasis on roles compared to their Western (Jacoby, 2005; Keeley, 2006) and Asian counterparts (Ishida, 1986), because of Japanese ideas of limited individual responsibility and broad mutual responsibility (Ishida, 1986).

Low autonomy can be attributed to ethnocentrism. Japanese companies do not delegate important tasks to HCNs, as Japanese expatriates dominate the top management positions (Kopp, 1994; Legewie, 2002; Whitley et al., 2003) because the Japanese expect HCNs to be supporters but not substitutes (Keeley, 2001). This relationship is similar to the one between men and women in Japan, where men expect women to be temporary supporters but not permanent leaders (Usui et al., 2003). Prior research has discussed that, while Japanese expatriates can manage low-skilled workers such as factory workers (Legewie, 2002), they lack the skills to manage highly skilled (Sekiguchi et al., 2016) or white-collar employees (Yu and Meyer-Ohle, 2008). Therefore, Japanese companies tend to be less popular with Chinese workers than Western companies, who are strongly oriented towards capability and career advancement, making Chinese workers difficult to recruit and retain through HRM (Zhu, 2017). These arguments were indifferent to gender, but based on the finding of current research, may

be most applicable to male HCNs. Recent empirical research indicates that a delay in localization influences men more than women, by deteriorating their OC (Hitotsuyanagi-Hansel et al., 2016).

In such cases, the seemingly women-supporting results of this research, that women's OC is higher than men's, may be better discounted. Women had higher OC than men because women responded more to social rewards, which were easier to create within collectivist Japanese workplaces. On the other hand, men had lower OC than women because men responded more to intrinsic rewards, which are harder to create within ethnocentric Japanese workplaces. Therefore, we make the following argument: the biggest challenge facing managers within Japanese companies in China may be to increase men's OC by creating good intrinsic rewards, rather than enhancing women's OC through better human relations.

Some results of this study may not fully apply to other countries. For reference, the current finding of a higher OC among women than men contradicts the findings of several studies previously conducted in Japan which showed partially (Takagi, 2003) or marginally (Ham, 1991) higher OC among men than women. Therefore, we speculate that women working for Japanese companies in China have higher OC than women within Japanese companies in Japan. This may be due to different social systems. Remember that China is not only influenced by Confucian values, but also by Communist ones that regard women and men as equal contributors to the overall production. Indeed, the Communist Chinese government has advocated a strong commitment to gender equality (Loscocco and Bose, 1998) by instituting

regulations and official policies aimed at promoting equal opportunity and protecting female rights and interests (Keith 1997; Cooke 2001). The legacy of this commitment has a high participation rate for women, in particular for women of childbearing age (Cooke 2001). In Japan, on the other hand, under the system of lifelong employment, workers are expected to accept unlimited overtime and to sacrifice their lives for the company, so women who do not follow these practices are viewed as lacking ambition and likely to quit upon marriage (Benson et al., 2007). Moreover, in Japan, the norm is that women leave full-time employment once they marry or have their first child, something that is encouraged and supported by the tax system (Rebick, 2005). Today, as traditional Japanese employment customs are starting to decay and women are becoming encouraged to be successful by society, the result of this study could be a good reference for forecasting the future transition of women's work and their OC in Japan.

In contrast to co-worker support, the relationship between supervisor support and OC was equally strong for both genders. This may be because, in a high power distance country like China, the relationships between leaders and followers have a special meaning for affectivity and well-being in the workplace (Aaltio and Huang, 2018). Indeed, organizational studies of *guanxi* networks have principally focused on supervisor-subordinate relations (Zhang and Deng, 2016; Nie and Lämsä, 2015) from which women have traditionally been excluded (Aaltio and Huang, 2018; Bu and Roy, 2008; Connelly et al., 2010; Cooke, 2003; Leung, 2002). In short, women have more a collectivist culture, while males are more oriented towards Confucian culture. If these effects canceled each other out, it is possible that supervisor support

did not have a meaningful way to differentiate them as it regarded its relationship with OC.

Benefit satisfaction, fatigue, and training provisions had similar correlations with OC. These results contradict several prior studies that discovered gender differences. For instance, Hofstede (1980) found a highly consistent pattern of men rating earning power and advancement more highly than women did, while women rated the physical environment more highly. However, previous empirical research from Egypt has found that gender played only a minor role in moderating the relationship between quality of work-life (measured in seven dimensions: growth and development, participation, physical environment, supervision, pay and benefits, social relevance, and workplace integration) and OC (El Badawy et al., 2018). Similarly, in a study of OC determinants done in Hong Kong, male and female managers responded similarly to work flexibility (flex-time to balance work and family demands) and internal firm labor markets (training for future promotion) (Ngo and Wing-Ngar Tsang, 1998). In the same vein, recent research conducted in China indicated that women and men were equally likely to value work achievements and contributions to the family (Skromme Granrose, 2007). This indicates that these extrinsic variables are gender-neutral. In other words, employers have to take care of these elements irrespective of gender.

Study limitations and suggestions for future research

This research suffers from three significant limitations. The most significant limitation concerns its generalizability. This study used the data collected from "Japanese" manufacturing

companies to understand the differences of OC−rewards association between male and female Chinese local employees. Therefore, we recommend that future research use other nations' affiliates to objectively clarify the characteristics of male and female Chinese workers, thus testing the validity of this research.

The second limitation concerns the variety of variables, i.e. considering the concept of OC as a single dimension. According to Allen and Meyer (1990), however, OC comprises three dimensions: affective; continuance; and normative. Although OC in the present study is close to affective commitment, other dimensions should also be examined. Further, the number of explanatory variables tested in the present study was only seven. Adding other different variables may clarify further differences between male and female employees. This is also an issue to be considered in a future study.

The final limitation concerns reliability. Individual respondents' self-report data was used, which may result in common method bias. Therefore, the inclusion of supervisor-rated scales is recommended in future research to strengthen the study design and reduce this bias.

Conclusion

The purpose of this paper was to investigate gender differences in OC and the relationship between OC and rewards among employees who work for Japanese manufacturing companies in China. Hierarchical regression analysis was utilized to examine survey data from 27,854 employees who worked for 64 Japanese manufacturing companies in China. The findings reveal

that, for male employees, autonomy and role clarity had a stronger influence, and co-worker

support had a weaker influence, on OC than for female employees. These differences may be

because male employees, unlike female employees, prefer working under high autonomy and

well-defined roles to working with co-worker support. Male employees, who place great

emphasis on independence, competition, decision-making, and challenges, may rely more on

intrinsic rewards than on social rewards. This may be due to differences in the early childhood

socialization processes between the genders, which is more distinct in countries with Confucian

influences such as China and Japan.

Besides, this study discovered that females had a higher OC than males. This may be

due to the collectivist and ethnocentric/role-ambiguous culture of Japanese companies.

Collectivism creates intimacy, solidarity, consensus, mutual understanding, and support in the

workplace, which engenders a higher OC in female than male employees. Ethnocentrism and

ambiguous roles result in Japanese managers who do not sufficiently empower their local

human resources and who dominate the intrinsic work, which lowers the OC of males more

than females. However, there was no difference in the correlations of other rewards (benefit

satisfaction, fatigue, supervisor support, and training provision) with OC. Therefore, this study

indicates that female employees have higher OC than male employees because the former

consider co-worker support, which is generally easy to acquire within Japanese companies due

to their collectivistic culture, more important. It indicates that males have lower OC than

females because males consider autonomy and role clarity, which is generally difficult to

acquire within Japanese companies due to their ethnocentric and role-ambiguous culture, more

important. The finding of this paper may contradict the general argument that characterizes

Japanese companies as highly masculine.

The results of this study support a revision of HRM practices within multinational

enterprises that enables female and male HCNs to contribute to their companies on a long-term

basis by acknowledging the differences between the home and host country's cultures. Although

previous research has elucidated the OC-rewards relationship in particular countries, it has not

met the potential requirements of managers who come from foreign countries with different

corporate cultures, and who face differences in the OC-rewards relationship between their male

and female employees. In that sense, this research was the first attempt to tackle this theme in

the literature.

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Table 1. Results of exploratory factor analysis

Items	Male								Female							
	Autonomy	Role Clarity	Co-workers support	Supervisor support	Benefit satisfaction	Fatigue	Training provision	Organizational commitment	Autonomy	Role Clarity	Co-workers support	Supervisor support	Benefit satisfaction	Fatigue	Training provision	Organizational commitment
My own ideas are fully utilized in my work.	*0.69*	0.04	0.10	0.16	0.19	-0.08	0.12	0.16	*0.66*	0.03	0.06	0.12	0.14	-0.08	0.17	0.15
I carry out my work by observing and planning it by myself.	*0.63*	0.07	0.09	0.13	0.15	-0.10	0.05	0.13	*0.62*	0.04	0.03	0.11	0.13	-0.11	0.03	0.07
I can fully utilize my talent/ability in my work.	*0.55*	0.15	0.14	0.11	0.15	-0.02	0.17	0.19	*0.49*	0.12	0.12	0.09	0.12	-0.01	0.22	0.19
I can mostly solve the problems that arise in my work.	*0.39*	0.07	0.17	0.05	-0.01	-0.03	0.04	0.18	*0.45*	0.03	0.11	0.04	-0.01	-0.07	-0.01	0.13
The work division that I have to do is clearly identified.	0.12	*0.63*	0.13	0.12	0.10	-0.04	0.09	0.16	0.08	*0.57*	0.10	0.10	0.06	-0.04	0.10	0.11
The division of labor between my co-workers and I is clear.	0.11	*0.58*	0.15	0.12	0.12	-0.03	0.06	0.10	0.05	*0.53*	0.11	0.07	0.08	-0.04	0.01	0.03
My co-workers are trustful.	0.11	0.09	*0.77*	0.21	0.14	-0.04	0.08	0.12	0.07	0.08	*0.76*	0.21	0.14	-0.05	0.09	0.13
My co-workers trust me.	0.17	0.08	*0.72*	0.16	0.07	-0.03	0.06	0.18	0.15	0.05	*0.72*	0.14	0.06	-0.02	0.07	0.16
I have good cooperation from my co-workers in my workplace.	0.18	0.21	*0.47*	0.21	0.15	-0.08	0.14	0.17	0.10	0.17	*0.43*	0.17	0.04	-0.03	0.17	0.19
My co-workers are willing to teach me what I do not know about my work.	0.17	0.16	*0.45*	0.20	0.10	-0.03	0.20	0.14	0.10	0.24	*0.41*	0.18	0.06	-0.08	0.18	0.20
My boss/supervisor is trustful.	0.10	0.05	0.16	*0.80*	0.18	-0.08	0.05	0.15	0.11	0.03	0.16	*0.79*	0.16	-0.10	0.06	0.13
My boss/supervisor treats employees fairly.	0.12	0.08	0.14	*0.77*	0.25	-0.08	0.09	0.11	0.12	0.05	0.13	*0.73*	0.24	-0.13	0.11	0.11
My boss/supervisor deals with employees' complaints effectively.	0.13	0.10	0.11	*0.72*	0.22	-0.08	0.14	0.13	0.13	0.06	0.09	*0.71*	0.22	-0.11	0.14	0.14
My boss/supervisor trusts workers.	0.10	0.03	0.17	*0.70*	0.16	-0.08	0.04	0.14	0.12	0.04	0.15	*0.69*	0.16	-0.10	0.03	0.13
My boss/supervisor is willing to instruct the employees what they do not know about their work.	0.08	0.13	0.15	*0.62*	0.10	-0.03	0.21	0.17	0.01	0.12	0.12	*0.59*	0.07	-0.02	0.21	0.16
My boss/supervisor gives me sufficient information about the management policy of the company and the division.	0.14	0.12	0.11	*0.51*	0.20	-0.06	0.23	0.17	0.05	0.13	0.12	*0.47*	0.12	-0.02	0.29	0.17
Amount of my salary or wage. *Satisfaction	0.11	0.06	0.04	0.19	*0.68*	-0.12	0.09	0.11	0.05	0.02	0.05	0.13	*0.70*	-0.10	0.08	0.18
Welfare system of the company. *Satisfaction	0.04	0.06	0.08	0.14	*0.64*	-0.15	0.09	0.18	0.11	0.07	0.03	0.17	*0.62*	-0.16	0.15	0.07
Holidays and working hours. *Satisfaction	0.08	0.05	0.08	0.15	*0.55*	-0.24	0.08	0.19	0.08	0.03	0.07	0.14	*0.55*	-0.17	0.03	0.22
Facilities and equipment of the company. *Satisfaction	0.07	0.07	0.11	0.13	*0.54*	-0.13	0.12	0.19	0.06	0.04	0.07	0.13	*0.55*	-0.11	0.11	0.20
Possibility of my promotion. *Satisfaction	0.20	0.07	0.08	0.25	*0.54*	-0.06	0.19	0.10	0.11	0.14	0.11	0.24	*0.44*	-0.10	0.26	0.14
My position or rank at the working place. *Satisfaction	0.18	0.12	0.14	0.25	*0.52*	-0.07	0.19	0.13	0.13	0.08	0.05	0.23	*0.41*	-0.09	0.27	0.09
I often feel exhausted. *reversed Q.	-0.06	-0.04	-0.05	-0.08	-0.14	*0.90*	-0.07	-0.08	-0.08	-0.05	-0.05	-0.10	-0.16	*0.90*	-0.07	-0.08
After finishing my work, I feel exhausted. *reversed Q.	-0.05	-0.02	-0.01	-0.08	-0.17	*0.74*	0.00	-0.03	-0.09	-0.03	-0.02	-0.11	-0.20	*0.70*	0.01	-0.02
I feel exhausted when I wake up in the morning. *reversed Q.	-0.08	-0.04	-0.06	-0.08	-0.18	*0.73*	-0.04	-0.11	-0.11	-0.04	-0.06	-0.11	-0.15	*0.67*	-0.06	-0.12
For the past one year, I was given useful training to develop ability and achieve my target.	0.14	0.09	0.11	0.22	0.30	-0.07	*0.63*	0.13	0.11	0.04	0.10	0.16	0.23	-0.04	*0.67*	0.11
In my work, I can master new skills and develop my ability.	0.24	0.06	0.17	0.18	0.20	-0.06	*0.55*	0.21	0.21	0.02	0.13	0.15	0.15	-0.05	*0.57*	0.22
At work, the bosses/supervisors and the seniors are training their subordinates.	0.10	0.13	0.19	0.33	0.24	-0.03	*0.50*	0.16	0.03	0.11	0.18	0.25	0.14	-0.02	*0.48*	0.17
I have strong will to work hard in this company.	0.16	0.07	0.14	0.17	0.15	-0.08	0.11	*0.73*	0.14	0.04	0.12	0.13	0.17	-0.09	0.08	*0.68*
I am willing to contribute to development of this company.	0.19	0.05	0.17	0.19	0.14	-0.10	0.09	*0.68*	0.19	0.01	0.16	0.17	0.11	-0.10	0.08	*0.64*
I have dreams about the future of my company and its work.	0.20	0.12	0.16	0.20	0.30	-0.06	0.13	*0.58*	0.12	0.08	0.14	0.17	0.23	-0.04	0.16	*0.62*
I want to be employed by this company as long as possible.	0.20	0.19	0.09	0.17	0.22	-0.09	0.11	*0.56*	0.17	0.14	0.10	0.14	0.21	-0.11	0.09	*0.55*
My company makes very meaningful contributions to this society.	0.17	0.10	0.14	0.14	0.25	-0.03	0.10	*0.43*	0.10	0.07	0.14	0.13	0.15	0.02	0.18	*0.46*

Note: The italic values are the scores higher than 0.35.

55

Table 2. Descriptive statistics and correlations.

	Mean Male	Mean Female	SD Male	SD Female	1	2	3	4	5	6	7	12	14	11	10	8	9	13	15
1 Age	30.329	28.700	6.826	6.383		0.642**	0.105**	0.232**	-0.553**	0.141**	0.325**	0.205**	0.096**	0.050**	0.089**	0.132**	-0.159**	0.045**	0.220**
2 Tenure	5.581	5.687	5.118	5.268	0.651**		-0.024**	-0.063**	-0.397**	0.035**	0.267**	0.180**	0.074**	0.024**	0.059**	0.023**	-0.046**	0.016*	0.158**
3 University graduate	0.212	0.156	0.408	0.363	0.094**	-0.059**		-0.105**	0.012	0.353**	0.203**	0.059**	-0.051**	0.031**	0.085**	0.073**	-0.113**	-0.023**	0.014
4 Turnover experience	0.682	0.608	0.466	0.488	0.188**	-0.198**	-0.041**		-0.186**	0.019*	-0.012	0.026**	0.052**	0.002	-0.010	0.052**	-0.061**	0.027**	0.049**
5 Marital status	0.347	0.386	0.476	0.487	-0.643**	-0.418**	0.031**	-0.194**		-0.012	-0.116**	-0.148**	-0.080**	-0.020	-0.041**	-0.062**	0.070**	-0.034**	-0.140**
6 Indirect department	0.473	0.420	0.499	0.494	0.133**	0.045**	0.395**	0.004	-0.060**		0.147**	0.091**	-0.033**	0.052**	0.082**	0.134**	-0.164**	0.016	0.064**
7 Position	0.102	0.113	0.303	0.317	0.156**	0.330**	0.013	-0.169**	-0.013	0.000		0.114**	0.034**	0.033**	0.071**	0.090**	-0.058**	0.032**	0.112**
12 Autonomy	3.798	3.579	0.904	0.938	0.215**	0.176**	0.103**	0.018*	-0.160**	0.148**	0.043**		0.304**	0.317**	0.326**	0.336**	-0.246**	0.422**	0.498**
14 Role clarity	4.027	4.011	1.075	1.103	0.092**	0.045**	-0.015	0.051**	-0.093**	-0.010	-0.001	0.177**		0.286**	0.227**	0.202**	-0.126**	0.202**	0.357**
11 Co-worker support	4.190	4.235	0.794	0.762	0.099**	0.056**	0.036**	0.007	-0.063**	0.027**	0.026**	0.422**	0.373**		0.447**	0.330**	-0.191**	0.457**	0.480**
10 Supervisor support	3.830	3.808	1.010	0.984	0.103**	0.072**	0.110**	-0.011	-0.053**	0.107**	0.069**	0.386**	0.316**	0.485**		0.496**	-0.284**	0.531**	0.492**
8 Benefit satisfaction	3.174	3.111	0.932	0.902	0.190**	0.068**	0.121**	0.092**	-0.116**	0.142**	0.076**	0.402**	0.300**	0.394**	0.525**		-0.373**	0.537**	0.535**
9 Fatigue	3.525	3.548	1.211	1.225	-0.147**	-0.041**	-0.172**	-0.045**	0.106**	-0.198**	0.049**	-0.212**	-0.133**	-0.183**	-0.238**	-0.381**		-0.212**	-0.255**
13 Training provision	3.720	3.618	1.052	1.064	0.086**	0.056**	-0.026**	0.017	-0.060**	-0.013	0.057**	0.339**	0.316**	0.398**	0.457**	0.458**	-0.190**		0.490**
15 Organizational commitment	3.993	4.078	0.876	0.829	0.222**	0.177**	0.008	0.022*	-0.146**	0.056**	0.144**	0.400**	0.221**	0.446**	0.446**	0.490**	-0.252**	0.434**	

Note: n=14740(Male), 13114(Female). **p<0.01, *p<0.05.

Correlations for male samples appear above diagonal and female samples below diagonal.

Table 3. Results of hierarchical regression analyses.

Variables	Organizational commitment (Male and Female, n=27,854)			Organizational commitment (Male, n=14,740)		Organizational commitment (Female, n=13,114)	
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 1	Step 2
Demographic variables							
Age	0.16 **	0.09 **	0.10 **	0.17 **	0.10 **	0.18 **	0.10 **
Tenure	-0.02 **	-0.01	-0.02 *	-0.02	-0.01	-0.05 **	-0.03 **
University graduate	-0.06 **	-0.06 **	-0.06 **	-0.06 **	-0.05 **	-0.06 **	-0.07 **
Turnover experience	0.00	0.01	0.01	0.00	0.00	0.01	0.02 **
Marital status	-0.04 **	-0.03 **	-0.03 **	-0.03 **	-0.03 **	-0.04 **	-0.03 **
Indirect department	0.02 **	-0.02 **	-0.02 **	0.02 *	-0.01 *	0.02	-0.02 **
Position	0.05 **	0.01	0.01	0.06 **	0.01	0.04 *	0.00
Rewards							
Autonomy		0.17 **	0.15 **		0.19 **		0.16 **
Role clarity		0.05 **	0.03 **		0.07 **		0.03 **
Co-worker support		0.18 **	0.19 **		0.16 **		0.19 **
Supervisor support		0.11 **	0.10 **		0.11 **		0.11 **
Benefit satisfaction		0.23 **	0.22 **		0.23 **		0.22 **
Fatigue		-0.04 **	-0.04 **		-0.04 **		-0.04 **
Training provision		0.11 **	0.11 **		0.11 **		0.11 **
Interaction terms							
Sample			-0.23 **				
Sample×Autonomy			0.12 **				
Sample×Role Clarity			0.09 **				
Sample×Co-worker support			-0.10 **				
Sample×Supervisor support			0.03				
Sample×Benefit satisfaction			0.02				
Sample×Fatigue			-0.01				
Sample×Training provision			0.00				
$\triangle R^2$	0.12	0.47	0.48	0.12	0.50	0.15	0.46
Adjusted R^2	0.12	0.47	0.48	0.11	0.50	0.15	0.45
F	55.51 **	323.07 **	301.43 **	27.53 **	192.00 **	33.19 **	142.44 **

*Significance at the 5% level; **Significance at the 1% level.

Appendix. Demographic information.

	Gender		Total	Age					Total
	Male	Female		Belowr 20 years old	20-29	30-39	40-49	50 years old and above	
Male	14,740 100.0%	0 0.0%	14,740 100.0%	236 1.6%	7,256 49.2%	5,815 39.5%	1,215 8.2%	218 1.5%	14,740 100.0%
Female	0 0.0%	13,114 100.0%	13,114 100.0%	640 4.9%	6,935 52.9%	4,776 36.4%	734 5.6%	29 0.2%	13,114 100.0%
Total	14,740 52.9%	13,114 47.1%	27,854 100.0%	876 3.1%	14,191 50.9%	10,591 38.0%	1,949 7.0%	247 0.9%	27,854 100.0%

	Working experience					Total	Experience of changing your jobs		Total
	Below 1 year	1 year	2-4 years	5-9 years	10 years and above		Have experience	Have no experience	
Male	1,596 10.8%	2,004 13.6%	4,063 27.6%	4,089 27.7%	2,988 20.3%	14,740 100.0%	10,049 68.2%	4,691 31.8%	14,740 100.0%
Female	1,386 10.6%	1,641 12.5%	3,913 29.8%	3,451 26.3%	2,723 20.8%	13,114 100.0%	7,969 60.8%	5,145 39.2%	13,114 100.0%
Total	2,982 10.7%	3,645 13.1%	7,976 28.6%	7,540 27.1%	5,711 20.5%	27,854 100.0%	18,018 64.7%	9,836 35.3%	27,854 100.0%

	Educational background								Total
	Lower Secondary School	Upper Secondary School	Specialized College	College/ Vocational	University	Graduate School	In the middle of school years	Others	
Male	1,234 8.4%	2,414 16.4%	4,391 29.8%	3,458 23.5%	2,883 19.6%	236 1.6%	51 0.3%	73 0.5%	14,740 100.0%
Female	3,408 26.0%	2,103 16.0%	3,095 23.6%	2,328 17.8%	1,911 14.6%	136 1.0%	67 0.5%	66 0.5%	13,114 100.0%
Total	4,642 16.7%	4,517 16.2%	7,486 26.9%	5,786 20.8%	4,794 17.2%	372 1.3%	118 0.4%	139 0.5%	27,854 100.0%

	Marriage			Total	Department		Total	Position		Total
	Married	Unmarried	Others		Direct department	Indirect department		Managerial position	non-managerial position	
Male	5,120 34.7%	8,747 59.3%	873 5.9%	14,740 100.0%	7,769 52.7%	6,971 47.3%	14,740 100.0%	1,507 10.2%	13,233 89.8%	14,740 100.0%
Female	5,059 38.6%	7,340 56.0%	715 5.5%	13,114 100.0%	7,607 58.0%	5,507 42.0%	13,114 100.0%	1,482 11.3%	11,632 88.7%	13,114 100.0%
Total	10,179 36.5%	16,087 57.8%	1,588 5.7%	27,854 100.0%	15,376 55.2%	12,478 44.8%	27,854 100.0%	2,989 10.7%	24,865 89.3%	27,854 100.0%

	Area				Total
	dongbei	huabei	huadong	huanan	
Male	2,374 16.1%	3,093 21.0%	6,493 44.1%	2,780 18.9%	14,740 100.0%
Female	3,683 28.1%	1,851 14.1%	4,735 36.1%	2,845 21.7%	13,114 100.0%
Total	6,057 21.7%	4,944 17.7%	11,228 40.3%	5,625 20.2%	27,854 100.0%