The Effect of Work-Home Conflict on IT Employees in Japan: The Moderating Role of Conscientiousness

Full Paper

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Abstract

The purpose of this study is to propose and test a model explicating the effect of work-home conflict on job satisfaction and professional self-efficacy of IT employees in Japan. Conscientiousness was included as a moderator of the relationships above. The model was subjected to structural equation modelling analysis by using the data collected from 312 Japanese IT employees. The results indicate that work-home conflict has a negative impact on both job satisfaction and professional self-efficacy. The negative effect of work-home conflict on job satisfaction is stronger for those who exhibit a higher degree of conscientiousness. In contrast to expectations, conscientiousness does not moderate the negative relationship between work-home conflict and professional self-efficacy of IT employees. Managers should be aware of the negative consequences of work-home conflict because it reduces their employees' degree of job satisfaction and professional self-efficacy. They should also pay more attention to highly conscientious employees.

Keywords

Global IT, the World IT Project, Japan, work-home conflict, job satisfaction, conscientiousness.

Introduction

Information Technology (IT) is a critical tool for businesses to survive in this age in all countries, including Japan. Needs for IT development from both business and government are expanding. IT has become critical in forming successful business strategies, and demand for qualified IT employees is continuously increasing. Therefore, hiring and maintaining qualified IT employees are important for both business and government. However, hiring and maintaining competent IT workforce are difficult tasks, and currently Japan experiences a shortage of IT employees. The supply of IT workers is also expected to shrink in the future. The Japanese workforce itself is shrinking because of decreasing and aging population, like in many other developed countries (National Institute on Aging 2011). Hence, to maintain satisfied and productive IT workforce, it is critical to explore factors that may affect IT employees' job perceptions and behaviors.

Job satisfaction and professional self-efficacy of IT employees have been traditionally considered critical factors affecting various employees' actions in workplace. For example, they may impact productivity, loyalty, and voluntary turnover intentions. Job satisfaction and professional self-efficacy, in turn, are affected by various antecedents, including work-home conflict. Many of the Japanese IT employees experience work-home conflict due to irreconcilable demands from their employers and families. Long

working hours, consistent pressure from work, and tough deadlines may easily destroy personal and family lives of IT professionals in Japan. Building and maintaining sophisticated information systems are challenging tasks in spite of rapid progress in software engineering technologies. IT employees must respond to emergencies, such as system crashes and cyber-attacks. Furthermore, keeping up with the rapid progress in IT is very challenging. As a result, IT employees in Japan are exhausted and overworked (IPA 2008; 2015), and they may not have adequate time for personal and home life.

At the same time, many Japanese IT employers and vendors maintain that IT is an important job, and therefore IT employers do their best to reward, promote, and retain their employees by trying to improve their job satisfaction and enhance their professional self-efficacy. However, long and hard work may result in work-home conflict, which in turn may affect job satisfaction and professional self-efficacy. Therefore, this study proposes the following research question: how does work-home conflict affect job satisfaction and professional self-efficacy of IT employees in Japan? Furthermore, not all employees may be affected equally by work-home conflict. The collectivistic Japanese culture (Hofstede, Hofstede and Monkov 2010), loyalty feelings of Japanese IT employees, and unique performance evaluation criteria demand a high degree of conscientiousness, which is a very important personality dimension. It is possible that conscientiousness moderates the relationship between work-home conflict and job satisfaction as well as between work-home conflict and professional self-efficacy. This study examines this moderating effect.

Based on the results of this study, we hope to identify previously under-explored characteristics of Japanese IT work environment that may be of interest to both researchers and practitioners. Our conclusions and recommendations may help managers make better, more-informed decisions when supervising their IT workforce in order to achieve desirable organizational outcomes.

Theoretical Background and Hypotheses

Work-home conflict, which overlaps with work-family conflict (Greenhaus and Beutell 1985), is a type of inter-role conflict when the role pressures from the work and home domains are mutually incompatible. It exists in forms of time-, strain-, and behavior-based conflicts (Carlson et al. 2000). Time-based conflict happens when time spent at work-related tasks makes it difficult for an employee to participate in home activities. For example, it is well known that working long hours damages home, family, and personal life. Strain-based conflict occurs when stress, pressure, and fatigue experienced at work negatively affect someone's home life. Behavior-based conflict takes place when behaviors and habits acquired at work are incompatible with those required for engaging in home activities. Overall, research suggests that there is frequent conflict between high-performance practices in business and work-life balance (White 2003) due to unavoidable work-home conflict. Among the various consequences of work-home conflict, reduced job satisfaction and diminished professional self-efficacy have both significant importance.

Job satisfaction is an employee's overall assessment of all aspects of his or her job (Spector 1997). It is considered a very important phenomenon in management research because it influences a number of outcomes that are of interest to various stakeholders (Judge et al., 2002; Judge et al., 2001). First, work-home conflict creates a spillover effect when negative mood, attitude, and emotions experienced at home are transferred to one's workplace. As a result, an employee experiencing family or home problems automatically attributes this situation to his/her job and becomes less satisfied with it (Kossek and Ozeki 1998). Second, professional self-efficacy, which refers to an employee's feelings of competence, confidence, and successful achievement at work (Maslach and Jackson 1981), is also negatively affected by work-home conflict because employees experiencing work-home conflict feel burnout, emotional exhaustion, and lack of energy which in turn undermines their work productivity (Ádám, Györffy, and Susánszky 2008). The following hypotheses are proposed:

H1: Work-home conflict has a negative effect on job satisfaction of IT employees in Japan.

H2: Work-home conflict has a negative effect on professional self-efficacy of IT employees in Japan.

It is possible that the strength of the relationships above depends on an IT employee's personality. Out of a variety of personality models, the Big Five personality traits (the Five-Factor Model) (Digman 1990; Goldberg 1990), is the most widely known one. It suggests that there are five general personality dimensions that are relatively stable and which influence one's cognitive processes and behaviors. These include Openness to experience, Neuroticism, Agreeableness, Conscientiousness, and Extraversion. Out of them, it

is believed that conscientiousness, defined as an employee's tendency to be committed, self-disciplined, goal-oriented, achievement-focused, deliberate, persistent, thoughtful, and thorough (Costa, McCrae, and Dye 1991), plays an important role in the context of the Japanese work environment.

A Japanese proverb "the nail that sticks up gets pounded down" reflects a basic premise of the Japanese culture (DeFrank et al. 1985). Isolation of Japanese islands has led to a collectivistic society. Common good, shared goals, and harmony are considered important. Nevertheless, the Japanese corporate culture is competitive. Success and competitiveness are highly regarded (DeFrank et al. 1985), which puts high pressure on the Japanese professionals. Japanese decision-making processes largely involve consensus among executives and managers (Nguyen and Aoyama, 2015). Japanese seniority systems emphasize age and seniority when determining promotions, wages, and participation in decision-making (Abo, 1994).

Overall, in contrast to the Western world, Japan has a truly unique work environment (Hofstede at al. 2010) that is built upon the ancient samurai tradition. First, individuals value the notion of lifetime employment and gradually enhancing their careers inside the same organization. Second, employees tend to be loyal to their organization rather than their profession. Third, it is considered culturally unacceptable to put the minimum hours and effort into one's job and leave immediately when the official work hours are over. Fourth, employees value seniority over salary, and promotion is generally based on one's performance, dedication, and skills. Fifth, it is a collectivistic culture when everyone's needs are taken into consideration and decisions are based on consensus rather than on a manager's assertiveness. As a result, many Japanese employees develop a strong sense of workplace conscientiousness which in turn may influence many of their behaviors and decisions. Thus, conscientiousness was selected as a potential moderator of the causal relationships described above.

Conscientious employees strive for perfection and want to do their job very well. They are well-organized, dependable, and focus on a task at hand, which is a positive attribute from the perspective of their organization. However, in extreme cases, when the level of conscientiousness is very high, it may result in obsessive-compulsive behaviors resulting in lower levels of well-being, damaged personal health, mental issues, and reduced satisfaction (Carter et al. 2016). On the one hand, extremely conscientious employees are perfectionists and even workaholics. On the other hand, when work-home conflict occurs, they are not going to diminish their work effort; instead, they may try to perform at the highest level regardless of their degree of exhaustion and disregard an increasing gap between work and home demands. However, as work-home pressure accumulates, conscientious employees may become more dissatisfied with their job because of their inability to reduce their effort and manage the conflict. Therefore, the more conscientious employees are, the stronger the effect of work-home conflict on their level of job satisfaction is:

H3: Conscientiousness positively moderates the relationship between work-home conflict and job satisfaction of IT employees in Japan.

Because conscientious employees are very diligent and hard-working, they strive towards achieving high professional self-efficacy in their chosen occupation and feel competent, confident, and successful. When work-home conflict arises, employees in general reduce their professional self-efficacy as a way to cope with the irreconcilable demands from home and work. However, highly conscientious employees, despite being dissatisfied with their job (as described above), may somewhat disregard the negative effects of the work-home conflict and still put more effort than their less conscientious colleagues. The key reason is that they want to perceive themselves as competent workers regardless of the work-home conflict. In contrast, employees who exhibit a lesser degree of conscientiousness may, when faced with work-home conflict, reduce their work effort and diminish their professional self-efficacy as a coping mechanism because they put their personal needs over those of their organization. Thus, the more conscientious an employee is, the weaker the impact of work-home conflict on his/her professional self-efficacy:

H4: Conscientiousness negatively moderates the relationship between work-home conflict and professional-self efficacy of IT employees in Japan.

Figure 1 presents the research model and hypotheses. To the best of our knowledge, the possible effects described in the hypotheses above have not been previously investigated in the context of Japanese IT employees. This study attempts to fill that void.
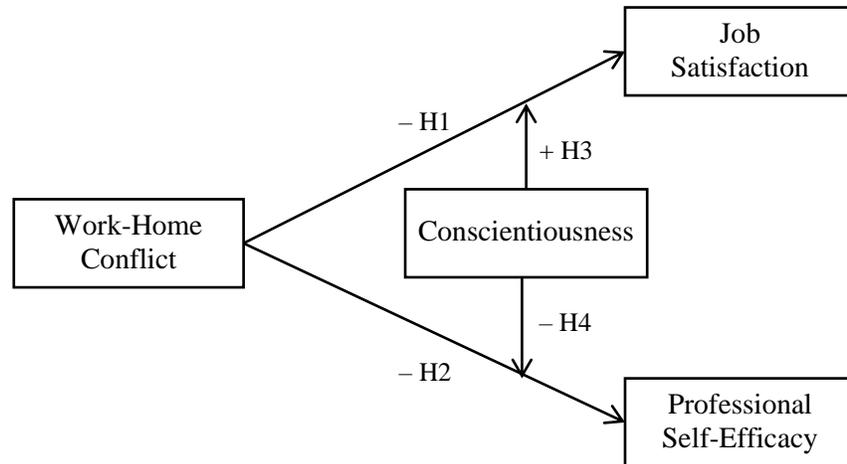
Figure 1: Research model and hypotheses

Methodology

Data for this study was collected as part of the World IT Project[1] (the dataset is a part of a larger project, see Palvia et al. (2017)). A web survey of IT employees in Japan was conducted from September to November 2016 with the help of a web survey company. Overall, 380 responses were collected, out of which 312 were complete and retained for further analysis. Table 1 presents the research instrument. All items were measured on a 5-point Likert-type scale. The model and moderation effects were analyzed in SmartPLS v2.0 which is a second-generation structural equation modelling (SEM) technique suitable for exploratory research (Chin 1998).

Code	Item
Work-home conflict (Kreiner, 2006)	
WHC1	There is a blurring of boundaries between my job and my home life.
WHC2	My work-related responsibilities create conflicts with my home responsibilities.
WHC3	I do not get everything done at home because I find myself completing job-related work.
Job satisfaction (Hackman and Oldham, 1980)	
JS1	In general, I like working here.
JS2	All in all, I am satisfied with my current job.
JS3	In general, I don't like my current job. (R)
Professional self-efficacy (Moore, 1997)	
PSE1	I feel I'm making an effective contribution to what this organization does.
PSE2	In my opinion, I do a good job.
PSE3	I have accomplished many worthwhile things in this job.
PSE4	At my work, I feel confident that I am effective at getting things done.

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[1] http://worlditproject.com

Conscientiousness (Rammstedt and John, 2007)	
I see myself as someone who…	
CON1	Tends to be lazy. (R)
CON2	Does a thorough job.

Table 1. Constructs and Items ((R) – negatively worded items)

Results

The respondents were slightly over 40 years old, on average. Approximately nine percent of them were females. Eighty percent had at least an associate degree (two-year degree) or some university/college education. Over 80% had over five years of IT working experience.

Table 2 presents descriptive statistics and reliability assessment. Conscientiousness had a somewhat low Cronbach's Alpha, but because its Average Variance Extracted (AVE) and Composite Reliability measures were above 0.5 and 0.7, respectively, it was concluded that it meets the minimum reliability requirements. Table 3 shows the matrix of loadings and cross-loadings. The loadings of all items, except PSE1, exceeded the minimum required threshold of 0.7. Nevertheless, PSE1 was retained; when the professional self-efficacy construct was subjected to factor analysis in isolation from other variables, the loading of PSE1 was over 0.7. Thus, its lower loading is a result of a unique weight allocation algorithm in PLS which maximizes the variance of each construct within the context of the entire model. Table 4 demonstrates an excellent level of discriminant validity of the constructs. Harman's (1967) factor analysis was used to test the presence of common method variance. An unrotated solution with unspecified number of factors produced four factors, and the first factor explained only 32% of total variance. Thus, common method variance did not have a confounding effect on the results.

Figure 2 presents the structural model. Each moderation effect (i.e., H3 and H4) was assessed separately to avoid a potentially confounding effect of changes in the measurement model when fourteen new items created through inter-item multiplications are created. Three of the hypotheses (H1, H2, and H3) were supported, and one (H4) was rejected.

Item	Mean	St. Dev.	Alpha	AVE	Comp. Reliab.
WHC1	1.68	1.10			
WHC2	1.79	1.10	0.82	0.730	0.890
WHC3	1.63	0.99			
JS1	2.46	0.94			
JS2	2.24	0.96	0.77	0.659	0.852
JS3	2.34	1.01			
PSE1	2.49	0.83			
PSE2	2.45	0.85			
PSE3	2.46	0.85	0.84	0.634	0.871
PSE4	2.64	0.78			
CON1	2.00	1.08			
CON2	2.22	1.01	0.51	0.659	0.793

Table 2. Descriptive Statistics and Reliability Assessment

Item/ Construct	WHC	JS	PSE
WHC1	**0.798**	-0.200	-0.102
WHC2	**0.901**	-0.330	-0.185
WHC3	**0.862**	-0.222	-0.182
JS1	-0.109	**0.735**	0.339
JS2	-0.201	**0.802**	0.329
JS3	-0.335	**0.892**	0.252
PSE1	0.029	0.322	**0.576**
PSE2	-0.187	0.365	**0.893**
PSE3	-0.106	0.295	**0.845**
PSE4	-0.147	0.243	**0.833**

Table 3. Matrix of Loadings and Cross-loadings

Construct	WHC	JS	PSE
WHC	**0.854**		
JS	-0.305	**0.812**	
PSE	-0.189	0.347	**0.796**

Table 4. Discriminant Validity Assessment (numbers along the diagonal are the square root of the AVE)
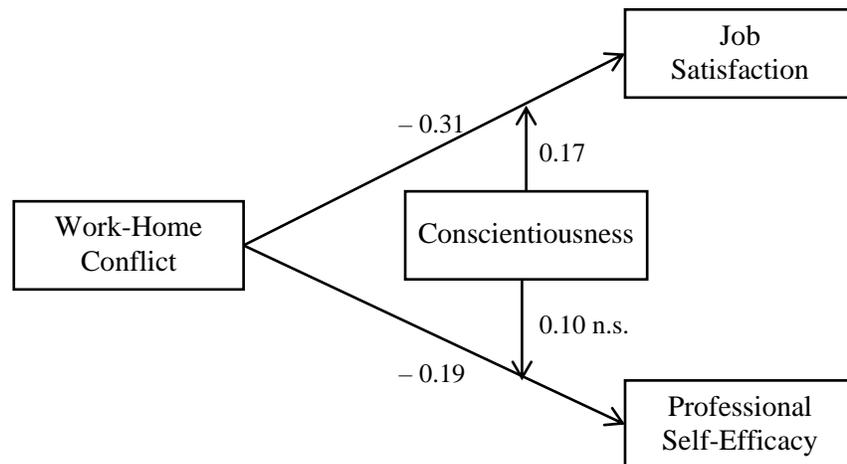

Figure 2: The structural model (all values are significant at p < 0.01 unless indicated otherwise)

Discussion

Theoretical Contribution

The purpose of this study was to test the effect of work-home conflict on job satisfaction and professional self-efficacy of IT employees. Conscientiousness, which is one of the key dimensions of the Five-Factor Model (Digman 1990; Goldberg 1990), was hypothesized to moderate the relationships between work-home conflict and job satisfaction and professional self-efficacy. The model was tested in the context of Japan because it has a unique work culture. For this, a web-based survey was administered to 312 IT employees, and the data were subjected to structural equation modelling analysis in PLS.

First, consistent with H1, work-home conflict has a negative effect on job satisfaction (β = -0.31, $p < 0.01$). Due to the frequently irreconcilable demands of work obligations and home tasks, many employees feel that work interferes with their family-related activities. This conflict creates a spillover effect, and affected employees subconsciously attribute the source of this conflict to their organization and become less satisfied

with their job. For example, the proliferation of mobile email requires employees to be available to respond to organizational correspondence far beyond regular work hours (Turel and Serenko, 2010). On the surface, it seems that this may improve intra-organizational communication flows by facilitating faster replies and accelerating decision-making processes. In reality, this puts additional pressure on employees and creates work-home conflict which in turn reduces their degree of job satisfaction. Whereas the relationship between an employee's job satisfaction and productivity is more complicated than it seems (Judge et al. 2001), it is possible that it may result in lower morale, loyalty, and organizational commitment, which are undesirable consequences from the organizational perspective.

Second, as predicted in H2, work-family conflict also reduces professional self-efficacy (β = -0.19, p < 0.01), but it negatively affects it to a lesser degree compared to its impact on job satisfaction. Recall that the Japanese work environment has a number of unique attributes. It values lifetime employment, organizational loyalty, working beyond regular hours, putting extra effort, collectivistic decision-making, dedication, and skills. Therefore, when the Japanese employees are faced with work-home conflict, they become dissatisfied with their job as well as reduce their professional self-efficacy, but to a lesser degree. In other words, the weaker strength of the work-home conflict – professional self-efficacy relationship is due to the unique cultural attributes; many employees may still strive to overcome their work-home conflict in order to feel competent, confident, and successful at work. Nevertheless, work-home conflict has negative consequences and must be considered when assigning employees tasks beyond their regular work duties.

Third, as described in H3, conscientiousness positively moderates the relationship between work-home conflict and job satisfaction of IT employees in Japan (β = 0.17, p < 0.01). This means that the negative effect of work-home conflict on job satisfaction is stronger for those who exhibit a higher degree of conscientiousness. Conscientiousness is an important attribute of the Japanese organizational work environment. Conscientious employees are hard-working, well-organized, and dependable perfectionists who put their best effort into every task. They immediately notice the mutually incompatible demands from home and work; they want to perform well, but they cannot do so because of the inevitable conflict. As a result, they amplify the degree of dissatisfaction with their job.

Fourth, in contrast to expectations (H4), conscientiousness does not moderate the relationship between work-home conflict and professional self-efficacy of IT employees in Japan. It was hypothesized that when conscientious employees experience work-home conflict, they should exhibit a weaker relationship between work-home conflict and professional self-efficacy than less conscientious employees do. As such, conscientiousness was assumed to suppress the negative effect on work-home conflict on professional self-efficacy. The rationale was that conscientious employees should somewhat ignore the conflicting demands between home and work and put more effort into job-related tasks than those who are less conscientious. The moderating effect, however, was not observed. Regardless of their level of conscientiousness, all Japanese IT employees exhibited the same strength of the relationship between work-home conflict and professional self-efficacy. It is possible that other personality traits or external factors may moderate this relationship. In addition, this result could show that the Japanese IT employees highly value their job and focus on their occupation. Increasing conscientiousness signifies the elevating work ethic perceptions. Yet, the Japanese IT employees would already assume that their work ethic is high and do not necessarily feel increased self-efficacy at the same time being able to ignore conflicting demands of their work and home, representing a very professional profiles.

National culture plays a significant role in forming employees' attitudes and perceptions as studied by earlier Hofstede (1980) and more recently by House et al. (2004). Hofstede collected data from 66 countries from 1967 to 1973 and formed his famous five (currently six) cultural dimensions. His research noted that national culture is a mental code that enables people to define values and what is permitted and forbidden (Palvia et al. 2017). Hofstede's research has dominated the IS field. House et al. (2004) on the other hand has done an extensive research on middle managers and executives and collected data from 61 different countries from 1995 to 1997. House et al.'s (2004) study aimed to build a framework of leadership based on Hofstede's study. More recently, Tabibi et al. (2015) investigated hospital information systems acceptance based on Hofstede's framework and found that Hofstede's organizational culture dimensions are significantly related.

Practical Contribution

In addition to the theoretical insights described above, this study has several managerial implications. Japanese IT managers should be aware of the negative consequences of work-home conflict because it reduces their employees' degree of job satisfaction, which may potentially have disastrous consequences. Job satisfaction is important because it affects the employees' perceptions of all aspects of their jobs. Unsatisfied employees may reduce their work effort, loyalty, and commitment which in turn may negatively affect overall organizational performance. Particularly, managers should pay extra attention to the highly conscientious employees who may potentially experience work-home conflict because they are more likely to exhibit a negative response and reduce their job satisfaction than their less conscientious colleagues. Work-home conflict also reduces professional self-efficacy which in turn may negatively affect employees' self-confidence in the completion of work-related tasks. This further emphasizes the importance of identifying and managing work-home conflict. For this, managers may include the questionnaire items used in the present study as part of their annual organizational survey to identify employees exhibiting dangerous symptoms of work-home conflict as well as those scoring high on conscientiousness because these represent the most important category of employees who may amplify the dissatisfaction with their job in case of work-home conflict. Another useful strategy is to recruit employees with desirable personality traits a priori and to monitor changes in their personality traits.

Conclusion, Limitations, and Future Research Directions

Work-home conflict is a critical factor that has already attracted the attention of both academics and practitioners. The present study clearly demonstrates the importance of this phenomenon in the context of IT employees in Japan. It empirically confirms that work-family conflict reduces both job satisfaction and professional self-efficacy which in turn may affect other important organizational outcomes. The Japanese government acknowledges that work-home conflicts are detrimental, and that we need to minimize them (AFP-JIJI 2015; Associated Press 2015). The present study offers empirical evidence to support this claim. In addition, the negative relationship between work-home conflict and job satisfaction is amplified for conscientious IT employees. Conscientiousness is a high desirable personality trait in most national and organizational cultures. This study, however, shows that its effect may be negative because it amplifies the negative impact of work-home conflict on job satisfaction.

As the paucity of IT employees in Japan is expected to get worse, organizations may need to employ older IT employees. Owing to the increasing average age and a potential rise in the statutory retirement age, organizations will be forced to recruit, motivate, and retain older IT employees. On the one hand, this seems to be a plus because older employees tend to put more emphasis on work-life balance and good relationships with colleagues (Drabe et al. 2015) and, therefore, are more conscientious than their younger colleagues. On the other hand, when faced with work-home conflict, these employees are possibly more likely to become less satisfied with their jobs and possible reduce their loyalty and commitment.

Several limitations of this study need to be noted along with some directions for future research. First, we employed two conscientiousness items from a short version of the Five-Factor Model for parsimony reasons. Future scholars are recommended to repeat the study with the full version to confirm our results. Second, there may be a sampling bias. Because we collected data through a web-based survey, we cannot accurately estimate a non-response bias. Some IT employees indicated that survey was too long (this survey was part of the larger study – The World IT Project) which made some employees reluctant to answer all questions. Therefore, it is possible that busy IT employees might not have participated. Third, surveys consist of self-reported measures; hence the results may suffer from a common method bias. However, given that negative relationships were observed in the proposed model, the presence of the common method bias was unlikely. In addition, negatively-worded items were included in the survey which also minimizes common method bias (Podsakoff et al. 2003). Fourth, the results of this study apply to the context of the Japanese IT sector. Future researchers are recommended to re-test this model in other industries. Fifth, job satisfaction and professional self-efficacy can be influenced by various situational job characteristics (Drabe et al. 2015) and personality traits. Future researchers are recommended to look into this issue further.

To the best of our knowledge, this is the first attempt to understand the effect of work-home conflict on job satisfaction and professional self-efficacy of IT employees in Japan. As the Japanese IT industry needs to

attract and retain qualified employees, more research on the workplace environment is warranted. We hope that the present investigation will inspire future scholars to look into other factors in order to shed more light on other important variables of interest to both academics and practitioners.

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