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A Study of the Relation between the Changes of Working Style with IT Use and the Employee's Work-Life Balance

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Abstract

The purpose of this study is to observe how the change of employee's working style with using IT and other work environmental factors affect their work-life balance. In recent Japan, many companies have introduced some HRM (Human Resource Management) programs that support employee's work-life balance since their working style has been diversified in these years. However, not few Japanese employees still think that those HRM programs (for example maternity leave, childcare leave, discretionary labor system etc.) are difficult to take or they feel awkward to take it as a right or they think those supportive HRM systems are useless since their workplace are still strongly based on very tight team work organization and too busy to leave their team for their private matter. They often feel as if they are guilty to leave the workplace for their personal circumstances. There are some reasons why it is difficult for Japanese employees to maintain their balance of work and private life. It is caused by Japanese unique situations, for example, a yet strong division of labor by gender role, very long working hours, relatively ambiguous job boundaries etc.) Some Japanese companies have been trying to redesign their jobs and their working styles with using IT systems. Other factors to be considered are their work environment circumstances such as the office atmosphere and relationships with colleagues. The paper focuses on the effects of changing Japanese employees working styles using IT, work environmental factors and employee's comfortability to take HRM programs for their work-life balance. A survey research was used to confirm the correlations between the working style changes, work environmental factors and employee's comfortability of taking HRM programs. The finding is that there are positive correlations between the changes of working style by using IT, relationship with colleagues, office atmosphere and employee's comfortability to take HRM programs for their work-life balance.

Keywords: Work-Life Balance, Change of Working Style, IT, HRM, Comfortability

1. Introduction

The working styles of employees in Japanese company have been diversified in some ways in recent years. For example, the employees have more choices of employment status, working hour, workplace, and so on, compared with last century. Especially, many employees have come to think that their private life is important as much as their working life. In other word, they put more focus on their Work-Life Balance (WLB) rather than before. In fact, in many companies, HRM (Human Resource Management) departments have built up some HR programs that support employee's WLB, such as longer childcare leave, flextime working, teleworking and so

on. Moreover, as it can be seen in Figure 1, the increase in the number of women worker and dual income households have been urging their interest in maintaining their WLB.
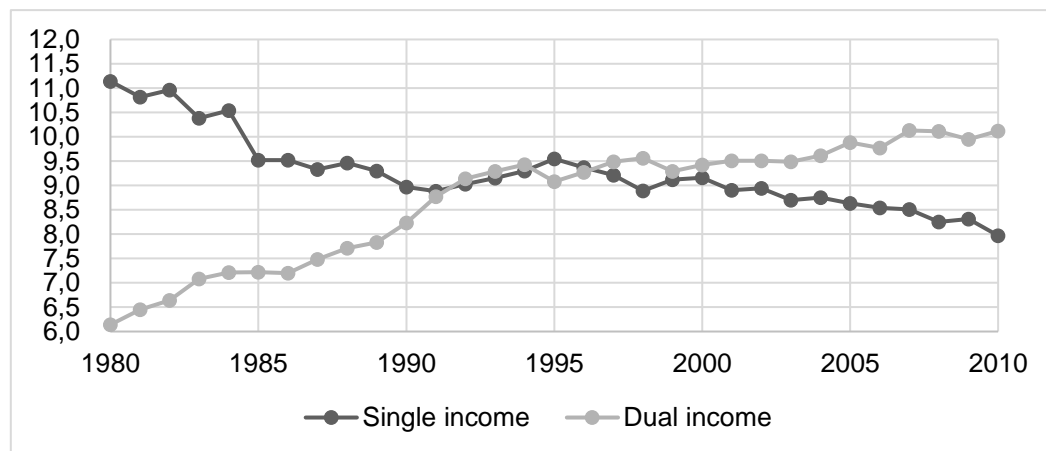

Figure 1. The Rate of Single and Dual Income Family (in Million)
Source: Author's compilation based on Ministry of Internal Affairs and Communications (1980-2001; 2002-2011)

However, despite the existence of that system, not few employees think that it is often very difficult to take those programs to maintain their WLB. Many employees think it is difficult or not unfavorable to leave or postpone their work for the matter of their personal life. This kind of attitude toward work may cause the reputation that Japanese employees are often workaholic. The reasons why this happen are pointed out in various way. For example, high degree of division of labor by gender roll, mandatory forced overtime work, and much ambiguity in job boundaries, so to speak Japanese work characteristic.

In this article, we especially put the emphasis on how the job design that regulates employee's working style in both qualitatively and quantitatively, and how HRM programs affect their WLB. This article also focuses on IT (Information Technology) tools that affect and sometimes change their working style. Therefore, this paper will describe the possibility that IT aided working style might improve their feasibility of WLB.

2. Research Background and Previous Research

It is already indicated that not few employees have difficulty of maintaining their WLB despite of the fact that HRM programs do exists to support that. Actually, the development of HRM programs for WLB are not so inferior or behind compared with other countries. HRM programs for WLB itself are rather developed. Despite of that, for example, the rate of taking childcare leave in Japan shows their difficult situation especially for male workers. The low degree of taking child care leave in Japan is shown as Table 1.

Table 1. The Rate of Male Employees Taking Child Care Leave

	Japan	Norway	Sweden	Germany	Portugal
Rate of taking child care leave	2.65% (2016)	90% (2012)	88.3% (2013)	34.2% (2016)	23.8% (2013)

Source: Author's compilation based on JILPT (2016) and JILPT (2017)

The rate of taking childcare leave are not so high even in Europe except for north Europe. However, Japanese rate is way too low compared with those countries. Figure 2 shows the difficult atmosphere of taking childcare leave in Japanese office for not only men. 76.4% of Japanese employees do not feel it is favorable for men to leave their office because of their child. 26.3% of employees think even women are also not favorable for leaving the office for childcare.
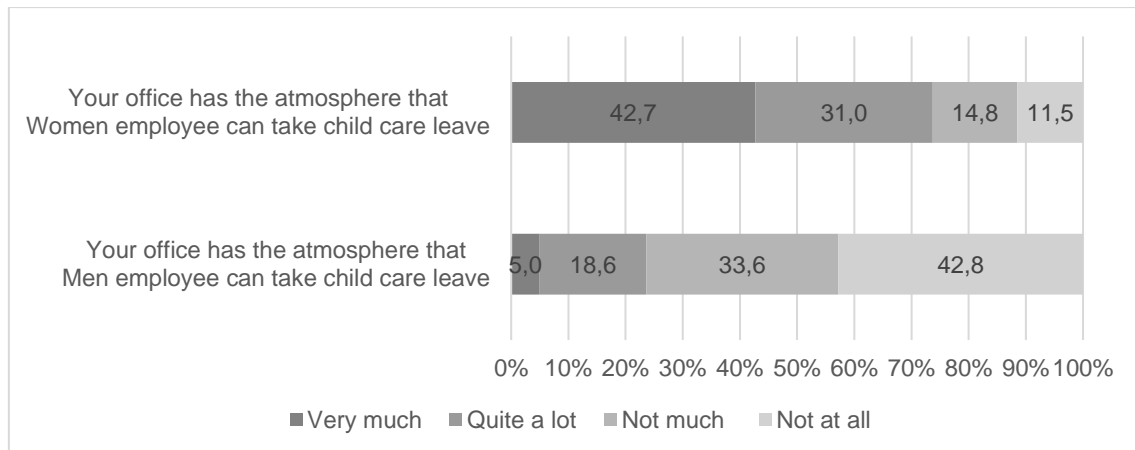
Figure 2. The Office Atmosphere of Employees Taking Child Care Leave
Source: Lifenet (2013)

These imply that the existence of HRM programs itself are not so significant matter. The problem is that many Japanese employees have feeling of not being free or welcome to take those programs. From this point, to promote their better WLB, not only developing HRM programs for WLB but also making their "comfortability" of taking those HRM programs are vital. In other words, increasing employee's comfortability of taking HRM programs for WLB is more important than HRM programs itself.

Then, it should be considered that how they increase their comfortability (of taking HRM programs related to WLB) and what affects their comfortability. Tsutsui (2015) describes from the cultural point of view that division of labor by gender role is still stronger than the Western countries and it makes male employee difficult to leave the office for their family matters.

From more managerial point of view, it is considered that the Japanese way of job design and working style affect their difficulty of taking HRM programs for WLB. In many Japanese companies, each job are not much divided and descripted explicitly compared with western companies, which have job grading system. Japanese skill-based system does not clarify their work boundaries which facilitate better teamwork. However, it has reverse function that it is hard for them to leave his ongoing tasks.

In Japanese skill-based system, some emotional factors such as attitude toward one's work, teamwork orientation mind, cooperativeness are evaluated as their skill to be developed (Endo, 1999). That skill evaluation relates much to their future promotion. Therefore, they might feel that it is a risk if they leave their office or reduce their work for their private reason, the organization evaluates them as in sort of "lack of attitude". The skill-based system not only make their job boundary more ambiguous but also makes them be afraid of being evaluated as low emotional skilled by taking HRM program for their private life.

There are other researches that focus on the relationship with other members at organization. There are some researches that put emphasize on the role of the superior (Carlson, *et al.* 2011; Hammer *et al.* 2007). Allen (2001) indicates the support of the manager is the key of the employee's WLB. Tummers and Bronkhorst (2014) also indicate a good relationship with their supervisor is positively related to meaningfulness of work, which in turn positively correlates to work-family facilitation. It is indicated not only a relationship between members and superior, but also "recognitions and knowledge of HRM programs" (Staines and Galinsky 1992) and "understanding of their subordinates need to maintain both of their work and private life for better productivity" (Galinsky *et al.* 1996). Higgins and Duxbury (1992) indicate that the lack of structural flexibility in the workplace, outdated organizational policies bring negative spillover from their work domain. Kato (2009) points there are complex features to be considered to facilitate employee's WLB. It is implied that the characteristics of "work", "work environment" and "relationship with superior" are fundamentals to be maintained employees' WLB to be well functioned. It is, in other word, necessary that there has a complementarity between HRM and their working factors for employee's WLB.

In recent years, there has been a growing interest in performance-based personnel evaluation in Japan, which promote to clarify individual responsibilities and job boundaries rather than before. This tendency might bring a positive effect to promote employees better WLB. Unless a certain degree of clear individual job boundaries, employees will feel unacceptable to leave their team for some personal reasons. In other word, if the effect of being one's absence is large, it will be difficult for employees to promote their comfortability to take HRM programs for their WLB.

In addition to the personnel grade system, IT tools are one factor to change the job boundaries of employees and the way of coordination with other members and other departments. For example, Fujimoto (2004) points out that the spread of IT tools in white-collar workplaces alters how individuals work or work in their entire department. Fujimoto (2004) compares the high use workplace of IT tools with the low use workplace. The degree of the changes with high use of IT workplace that affect "improvement of skill and knowledge level", "improvement of work efficiency" are greater than low use IT workplace. The changes which affect workplace itself are "declining worker's team work mind and increasing of individualism", "Increase of the cross-sectional project".

The Japan Institute for Labor Policy and Training (JILPT, 1996) points out that the introduction of IT tools to workplace brings the effect of "increase of efficiency in routine work", "acceleration of decision making", "more self-contained work", "reduction of monitoring by superior" and so on. In short, in order to promote employee's WLB in Japanese companies, it is necessary to enlarge their comfortability to take HRM programs for WLB. Only introducing HRM programs are not sufficient for promoting employee's WLB.

3. Research Question and Hypothesis

From those research background and previous research, it will be analyzed that how do the changes of working style by introducing IT affect employee's comfortability of taking HRM programs for WLB. This article has two research questions to be clarified:

- How does the change of working style by IT use affect their comfortability of taking HRM systems related with their WLB?
- How does the working styles have a relation with other factors (work environment and relationship with their superior and colleagues)?

To clarify these research questions, the hypotheses are formed as follow:

H_1: The changing working styles by using IT has the positive correlation with the comfortability of taking HRM system related to WLB.

H_2: The work environment has the positive correlation with the comfortability of taking HRM system related to WLB.

H_3: The relationship with colleagues has the positive correlation with the comfortability of taking HRM system related to WLB.

H_4: The relationship with their superior has the positive correlation with the comfortability of taking HRM programs related to WLB.

4. Data and Empirical Model

The data used in this article is the result of a questionnaire survey which received responses from 104 people by web questionnaire between November 2nd and November 26th, 2015. There are 36 persons from manufacturing industry and 15 from the finance and insurance industry and 12 from the service industry. There were 18 sales accounts, 18 people in product design and development and several other responses from a wide range of functional fields.

In this analysis, multiple regression analysis is calculated using the elements of the hypotheses shown above which are "degree of changing working style by using IT", "work environment", "relationship with superior" and "relationship with colleagues". The regression

analysis will test correlation between those factors and "employee's comfortability to take HRM programs for WLB. The variables for multiple linear regression analysis are shown as Table 2.

Table 2. The Variables for the Multiple Linear Regression Analysis

Variable	Item used	Cronbach's alpha
[Control dummy]		
Demographics	Age	-
	Gender	-
	Size of Company	-
	Managerial position	-
	Occupation category	-
	Marital status	-
	Need of child care	-
	Need of elderly care	-
[Independent variable]		
The degree of changing of working style by introducing IT (composite variable)	Increase of efficiency in routine work	0.867
	Reduction of work with another department	0.866
	Acceleration of decision making	0.860
	Reduction of job range	0.878
	Information spreading quickly to others	0.895
	Reduction of organizational hierarchy	0.872
	Reduction of monitoring by superior	0.868
	Decentralization of decision making	0.886
Office atmosphere	Composite variable of 4 questionnaires	0.663
Relationships with superior	Composite variable of 6 questionnaires	0.931
Relationships with colleagues	Composite variable of 3 questionnaires	0.724
[Dependent variable]		
Comfortabilities for taking HRM programs	Employee's comfortability of taking 6 HRM programs for WLB	-

"The degree of changing of working style by introducing IT" is the variables to describe how much progress has been made in employees work efficiency by introducing IT tools (SNS and groupware, electronic manuals, TV conference system, electronic approval and application system, VPN access).

"Office atmosphere" is the variable to show how good or bad the work environment is. This is composite variable of "the degree of willingness to help other members", "communication with others", "the comfortability of the office", and "degree of allowance for someone's mistake".

"Relationships with superior" is the composite variable of the questions which are "you feel free to ask or express your opinion to your superior", "your superior explains his or her plan",

"your superior listens to your talk and understands what you want to do", "your superior helps to develop your skill and career", "your superior evaluates and treats employees performance fairly", "your superior helps and gives advice when you need some help in work".

"Relationships with colleagues" is the composite variable of "you feel free to talk or ask in work", "you have willingness to help your colleagues when they need help", "Office members are interested in developing the skill and career of subordinate".

Dependent variables are the question to ask how much you feel comfortable when you take HRM programs for WLB. In this article, there are six HRM programs shown as follow. "Flextime working", "Maternity/Childcare leave", "Teleworking", "Short-time working", "Area limited employment", and "Exempt working". With using these variables, the analytical framework is shown as Figure 3.

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┌───────────────────┐
│ Changes of Working│
│   Style with IT   │────────(+)──────────┐
└───────────────────┘                     │
┌───────────────────┐        (+)          │   ┌──────────────────────┐
│ Office Atmosphere │─────────────────────┤   │ Comfortability of     │
└───────────────────┘                     ├──▶│ Taking HRM            │
┌───────────────────┐        (+)          │   │ System related to WLB │
│ Relationship with │─────────────────────┤   └──────────────────────┘
│     Superior      │                     │
└───────────────────┘        (+)          │
┌───────────────────┐                     │
│ Relationship with │─────────────────────┘
│    Colleagues     │
└───────────────────┘
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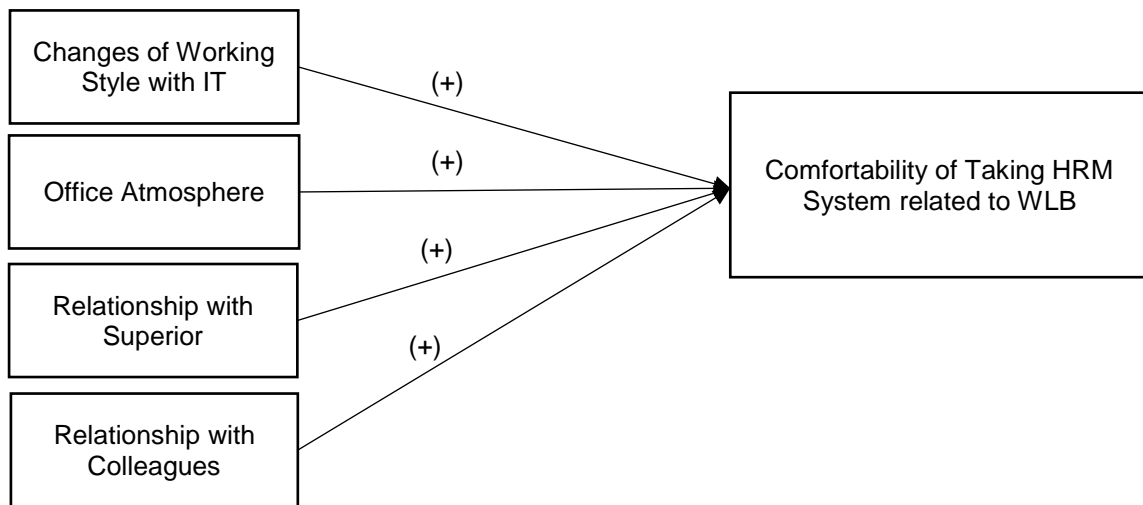
Figure 3. Analytical Framework

5. Result of the Analysis

The multiple linear regression was calculated to predict each comfortability of HRM programs for WLB based on independent variables (Table 3).

Table 3. The Result of the Multiple Linear Regression

	Comfortability of taking				
	Flextime Working	Maternity / Childcare Leave	Teleworking	Short Time Working	Area Limited Employment
Increase of efficiency in routine work	-	0.190* (0.148)	0.438* (0.176)	0.287* (0.168)	0.395*** (0.167)
Reduction of work with another department	-	0.237** (0.152)	0.297** (0.190)	0.359*** (0.194)	0.180*** (0.193)
Acceleration of decision making	-	0.172*** (0.129)	0.328** (0.158)	-	0.404*** (0.183)
Reduction of job range	-	0.324*** (0.152)	0.322*** (0.193)	0.409*** (0.196)	0.485*** (0.189)
Information spreading	0.286** (0.170)	0.389*** (0.122)	0.388*** (0.151)	0.458*** (0.158)	0.345*** (0.168)
Reduction of organizational hierarchy	0.244** (0.207)	0.301*** (0.153)	0.448*** (0.183)	0.363*** (0.199)	0.425*** (0.196)
Reduction of monitoring by superior	0.277** (0.208)	0.298*** (0.155)	0.471*** (0.184)	0.387*** (0.200)	0.417** (0.199)
Decentralization of decision making	0.254** (0.208)	0.391** (0.149)	0.418*** (0.188)	0.448*** (0.194)	0.399*** (0.200)
Good atmosphere at office	-	0. 226* (0.285)	0.258* (0.366)	-	-
Relationships with colleagues	-	-	-	0.273* (0.84)	0.419** (0.407)
Observations	103	103	103	103	103
Adjusted R^2	0.144	0.273	0.23	0.286	0.262

Note: *, ** and *** represent 10%, 5% and 1% significance level respectively. Standard errors are given in the parantheses.

The result shows that many of changing of working style had significant correlations with employee's comfortability to take HRM programs except for exempt working. More interesting finding is that work environmental factors such as the relationship with superior and colleagues, and the office atmosphere did not have positive effects to all comfortabilities of taking HRM programs. There are some significant differences observed in each comfortability.

More specifically, "office atmosphere" had the correlation with taking "maternity/childcare leave" and "teleworking" comfortability. On the other hand, "relationship with colleagues" had the correlation with "short time working" and "area limited employee". Relationship with superior did not have any correlation with any comfortabilities of taking HRM for WLB. Figure 4 shows the brief summary of the multiple linear regression analysis.
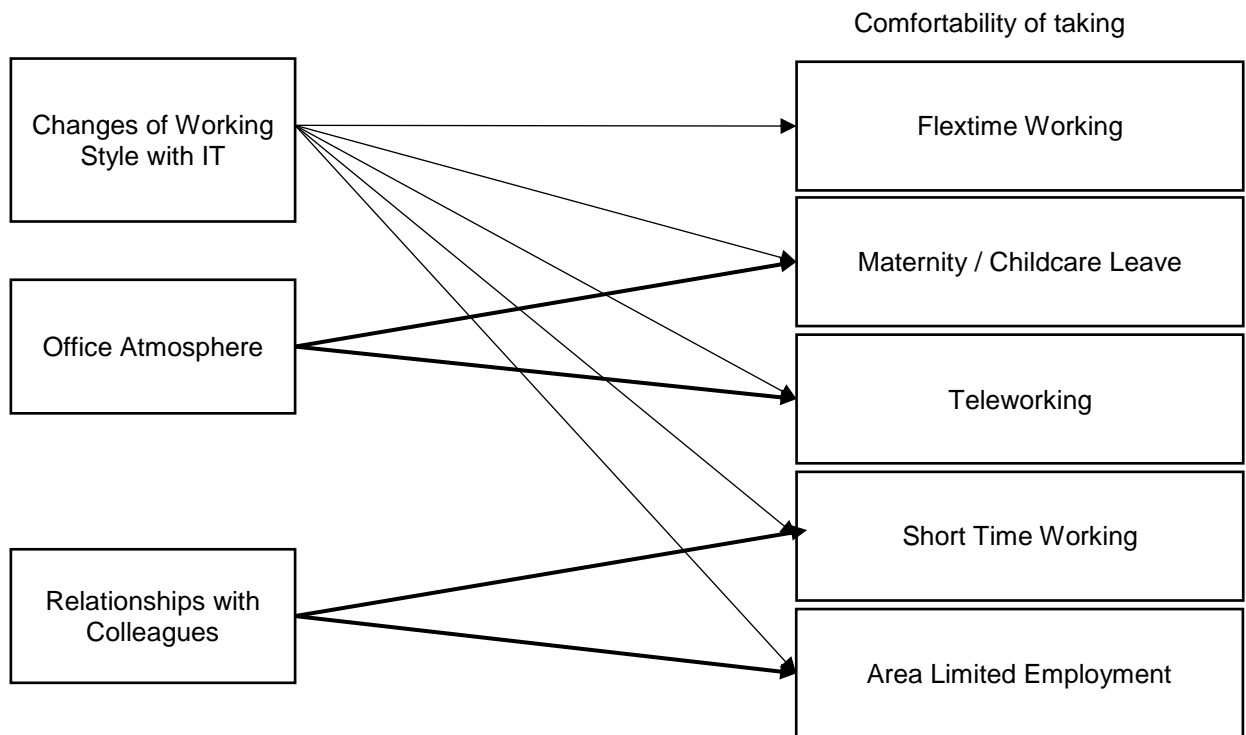
Comfortability of taking

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┌──────────────────┐                          ┌──────────────────────────┐
│ Changes of Working │────────────────────────▶│     Flextime Working     │
│    Style with IT   │                          └──────────────────────────┘
└──────────────────┘                            ┌──────────────────────────┐
                                                 │ Maternity / Childcare Leave │
┌──────────────────┐                            └──────────────────────────┘
│ Office Atmosphere  │──────────────────────────▶┌──────────────────────────┐
└──────────────────┘                            │        Teleworking        │
                                                 └──────────────────────────┘
                                                 ┌──────────────────────────┐
┌──────────────────┐                            │     Short Time Working     │
│ Relationships with │──────────────────────────▶└──────────────────────────┘
│     Colleagues     │                            ┌──────────────────────────┐
└──────────────────┘                            │  Area Limited Employment   │
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Figure 4. The Result of The Multiple Linear Regression Analysis

From these analytical results, the verifications of the hypotheses are summarized as follow.

H_1: *The changing workstyles by using IT has the positive correlation with the comfortability of taking HRM programs related to WLB.*
This was mostly verified except for "exempt working" and there found some variations which working style change has positive effect to the comfortability of each HRM related to WLB.

H_2: *The work environment has the positive correlation with the comfortability of taking HRM programs related to WLB.*
This was partly verified. The office atmosphere had a correlation with the comfortability of taking "maternity / childcare leave" and "teleworking".

H_3: *The relationship with colleagues has the positive correlation with the comfortability of taking HRM programs related to WLB.*
This was also partly verified. "Relationship with colleagues" had a correlation with "short time working" and "area limited employment". That result implies that there are different work environmental factors that increase the employee's comfortability on different HRM programs.

H_4: *The relationship with their superior has the positive correlation with the comfortability of taking HRM programs related to WLB.*

This was not verified. There were no statistical correlations between the degree of relationship with superior and employee's comfortability of taking HRM programs at least in this research.

6. Discussion

From those results of the survey research, it will be described what were found and how are those results shown will be discussed. The aim of this article was to validate the importance of employee's comfortability of taking HRM programs for their WLB and to increase their comfortability is affected by the working style change through IT use.

More specifically, to decline the obstacles for making their comfortability (such as ambiguous individual job boundaries, cumbersome work process in their routine works and higher collectivism among work members) by introducing IT tools was effective on improving their comfortability of taking HRM programs for their WLB. As already described, many Japanese companies adopt skill-based personnel grading system that tends to make individual's job boundary more ambiguous and redundant compared with job grading system.

Moreover, some evaluation criteria such as passion, attitude to their work and willingness of teamwork make employees feel to hesitate to prioritize their private life rather than work. The personnel grading system such as one of the fundamental systems of HRM has the strong path dependency to some extent and personnel grading system are highly relevant with other HRM programs for example, personnel assessment, reward system, and so on. For example, Aoki (2001) implies that the information structures of the firm in coordinating operational decisions and HRM systems have a complimentarily to be functioned. Therefore, it is not easy to change their working style easily and replace skill-based personnel grading system to job grading system.

In fact, many Japanese companies had aimed for shifting to job-based grading system from skill-based grading system according to an attempt to correspond to the performance-based reward system in the past two decades. However, many of them seem to fail or realize that it is not so good approach to change the fundamental HRM system such as personnel grading system just to adopt the evanescent trend.

Based on that, introducing IT tools is able to change their working style more gradually and feasibly as to improve employee's comfortability to prioritize their private life and to balance their work and private life. The survey result indicated to prove that to a certain extent. It was also found that work environmental factor such as the office atmosphere and relationship with other members are important for employees to take some HRM programs for WLB. It was observed that there are different factors to positively affect to improve employee's comfortability in each HRM programs.

More specifically, "the office atmosphere" had a positive effect to the comfortability of taking "maternity / childcare leave" and "teleworking". On the other hand, "relationship with colleagues" had a positive effect to their comfortability to take "short time working" and "area limited employment". The possible reason for this distinction is the degree of physical and mental distance from their workplace. When taking maternity / childcare leave or teleworking, the employee will be divided from their workplace further and longer.

Compared with that, both "short time working" and "area limited employment" are the way of working with temporal and spatial restrictions, but it is not completely separated from the workplace for a certain period as in the former. With this difference, employees might be more hesitated or apology to be divided from the office and members and therefore they might feel that they want to get the allowance from the whole organization for not to be there physically and mentally. On the other hand, the elements that due to time or area limited work which the employees are less divided from the workplace, they might care more about their specific tasks and the close colleagues of the team. Because the employees are still going to their work, even they have some limitations on working with others.

Besides that, there were no significant correlation between the relationship with superior and employee's comfortability of taking HRM programs in this research. It is one different result from previous research. This result might indicate that the relationship with their superior is not so serious factor for their feeling of comfortability of taking HRM programs for WLB, compared with their relationship with colleagues. They might feel more hesitation or apology when leaving workplace or making some inconvenience to their team members rather than their boss. However, why this result occurred needs to be more concerned carefully. Due to its hierarchical organizational character of Japanese company, it is unlikely that there are no correlations with their comfortability and superior's effect.

7. Conclusion

This article indicates two implications. The one is that the changes of working style with IT tools improve the employees' comfortability to take HRM programs for their WLB in Japanese company. The other is that work environmental factors are also important to improve the employee's comfortability. However, it depends on the HRM programs which factor give a positive effect to improve their comfortability. It was inferred that the physical and mental distance from the office and members make that difference.

There are limitations and things to be considered in further research. The author focused on the "comfortability" in this research. However, the feeling "comfortability" and actually "taking" those HRM programs are different and the actual data of usage rate of those HRM programs was not mentioned in this research. The further research is required to clarify the relationship with the actual situation of usage of HRM programs and the change of working style and work environmental factors. The relationship with superior which was not have significant correlation in this article might have some relevancy in "taking" those HRM programs. In addition to that, more theoretical considerations are also required to clarify what are the key factors that affects to improve employee's WLB in Japanese company. In order to describe more explicitly both theoretical and managerial implications that are particularly necessary for Japanese company, the international comparative research will be needed in further research.

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