

Original Paper**An empirical study on work stress and health conditions of Japanese nurses**

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Abstract

This research examines the relationship between the job satisfaction and work-family balance, which are thought to be two factors that have influence on work stress and health conditions with many restrictions.

In this study, the questionnaire (investigation) related to the two variables of nurses in Japan was carried out in 2004. Valid respondents were 2,983 nurses throughout several areas of Kanagawa, Tokyo and Saitama Prefecture in Japan. The average age of respondents was $34.13 \pm SD9.69$. For the analysis, the covariance structural modeling method was chosen to examine the cause and effect relationships of several complex constructs at the same time.

The results show interpersonal conflict factors influence job satisfaction and work-family balance valuables negatively. In brief, more interpersonal conflict decreases job satisfaction and work-family balance significantly ($p < .001$). In addition, path analysis shows that job satisfaction has a negative influence on health conditions and negative on work stress in particular ($p < .001$). Similarly, the work-family balance has a positive influence on health conditions and a negative influence on work stress in particular ($p < .001$). The findings suggest that nurses should be managed in consideration of the above appropriately to decrease the work stress and boost health conditions. The implication of this study is that the intervention as one of the organizational designs to reduce the work stress and enhance the health conditions can improve the effects of the job satisfaction and work-family balance. Reduction of the work stress and enhancement of the health conditions also appeared to be helpful for work motivation of nurses in Japan.

Keywords: work stress, health conditions, job satisfaction, work-family balance, interpersonal conflict

1. Introduction

Cuncurrent with aging the problems of aging and declining birthrate, the working environment of nurses in Japan has become increasingly difficult. However, little consideration has been paid either to work-related problems or their stress health condition. Generally, tiredness and stress are experienced during or after dairy activities such as work, sport and study. However, they are distinguished from each other with respect to the kinds of symptoms manifested (Saito, 1996). In previous studies, stress has been paid attention in context with a social life, while the concept of work-family balance has only appeared in recent years.

The first stage of this study is the hypothesis model. This indicates the rationale of the pass model relating to the influence identified as two factors from stressors, and job satisfaction and work-family balance leading to stress responses (strains) and health conditions. This research examines the relationship between job satisfaction and work-family balance, which are thought to be two factors

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that have influence on work stress and health conditions with many restrictions.

2. Theoretical Background

Academically, work stress can be understood by the relationship between stressor and stress response based on the stress model of Lazarus and Folkman (1984). Two studies from this perspective under these circumstances have been carried out. However, little consideration has been paid to the study of stress at work or the health conditions of nurses in Japan.

Work-family balance has only recently been recognized as an aspect of work-family conflict. It is a form of inter-role conflict in which role pressures from the work and family domains are mutually incompatible in some respect (Greenhaus&Beutell,1985; Koizumi, et al., 2001; Koizumi et al., 2003). The conflict does not operate in one direction only : family responsibilities sometimes interferes with work (FIW), with work responsibilities can interfere with family (WIF). In particular, nurses with a severe workload can have difficulties in adequately balancing the two areas of life.

Some researchers suggest that conflicts between the work and family domains can occur when (1) time consumed by one role results in a lack of time for the other, (2) strain caused by the activities of one role makes it difficult to fulfill responsibilities in the other, or (3) in-role behavior in one domain is incompatible with the role behavior in the other domain. The time conflict is fairly obvious and probably most salient to us. So is strain—if we're totally stressed-out at work, we may not be able to deal with our family responsibilities and vice versa. However, the behavior component is less obvious. It has been suggested that we may sometimes behave in ways in one domain that is incompatible with the other domain. For instance, being a perfectionist may be useful at work, but the same behaviors at home may lead to less effective parenting or in other ways inhibit one from adequately fulfilling family responsibilities (i.e., Frone, et al., 1992; Frone, et al., 1997; Kossek, 1990; Kossek&Ozeki, 1998).

Accordingly, this study set up the theoretical model as follows (figure 1, figure 2). These models regard the "Amount of Work" and "Interpersonal Conflict" as stressor, especially. The "Amount of Work" was composed by the variables of the "Multi Task", "Severe Time", and "Much Task". The "Interpersonal Conflict" was composed by the variables of the "Human Relation with Coworker", "Bully at Work", and "Human Relation at Work". It is because we judged these variables reflect the degree of the interpersonal conflict basically. Moreover, this study deals with the "Health Condition" and "Work Stress" as stress response in each model. Furthermore, intervention factor of "Job Satisfaction" and "Work-Family Balance" was set between these stressor and stress response in these models. Therefore, the causality between the components of these models was understood by above theoretical framework.

3. Method

3.1 Participants

This study, based on a questionnaire investigation concerning the interpersonal traits and job stress of nurses in Japan was carried out in 2004. Data was gathered from Japanese nurses from several areas of Kanagawa, Tokyo, and Saitama prefectures in Japan. This investigation was carried out only the participants who approved the response. Therefore, the collection rate of the questionnaire was 100%. The total number of valid respondents was 2,983. The average age of respondents was 34.13 (SD=9.69) years old. The average of service years was 9.30 (SD=8.21). The rate of married woman was 47.7% and unmarried woman was 52.3%. Their workplace was the outpatients' ward (9.6%), sick ward (81.3%), sanatorium (0.6%), and others (8.6%). Detail of nurse's occupation was nurse (80.2%), semi-nurse (7.9%), maternity nurse (3.8%), and others (8.1%).

3.2 Measure

In this study, the items such as multi task, severe time pressure, heavy workload, human relations with coworkers bullying bully at work, and other aspects of human relation at work are evaluated by 4-point Likert scale in advance. These are the factors are influenced by some variables. Furthermore, respondents evaluated how often they experienced three valuables such as work-family balance, health conditions and work stress by 4-point Likert scale. As a result, health condition model and work stress model are developed as pass analysis model.

3.3 Analysis

For the purposes of analysis, the covariance structural modeling method was chosen due to its examining appropriateness for the cause and effect relationships of several complex constructs at the same time. Therefore, the statistical software of the SPSS10.5 and Amos4.0 was used for analysis of this study.

4. Results and Discussion

Correlation, mean and standard deviation of each variable by covariance structural analysis to inspect the hypothesis model are shown for table 1. The first model investigated the job satisfaction and work-family balance variables leading to health conditions (Figure 1). The fit indices revealed an excellent fit of the model to the data (GFI = .952, AGFI = .906, CFI = .922, RMSEA = .100). We ignored the result of chi-square test because of the huge number of samples of this study ($\chi^2 = 706.0$, $df = 23$, $p < .01$). The second model investigated the job satisfaction and work-family balance variables leading to work stress (Figure 2). The fit indices revealed an excellent fit of the model to the data (GFI = .949, AGFI = .900, CFI = .915, RMSEA = .103). We ignored the result of chi-square test because of the huge number of samples of this study ($\chi^2 = 749.5$, $df = 23$, $p < .01$).

As a result, interpersonal conflict factors influence job satisfaction and work-family balance variables negatively. In brief, more interpersonal conflict decreases job satisfaction and work-family balance significantly ($p < .001$). In addition, path analysis shows that the job satisfaction has a significant negative influence both on health conditions and work stress ($p < .001$). Similarly, the work-family balance has a positive influence on health conditions and a negative influence on work

Table 1 Correlation, mean and standard deviation of each variable by covariance structural analysis

	1	2	3	4	5	6	7	8	9	10
1. Multi Task	—									
2. Severe Time	0.60*	—								
3. Much Task	0.55*	0.64*	—							
4. Human Relation with Coworker	0.21*	0.16*	0.24*	—						
5. Bully at Work	0.10*	0.09*	0.16*	0.65*	—					
6. Human Relation at Work	0.15*	0.10*	0.17*	0.66*	0.62*	—				
7. Job Satisfaction	-0.09*	-0.07*	-0.17*	-0.26*	-0.24*	-0.29*	—			
8. Work-Family Balance	-0.12*	-0.14*	-0.21*	-0.15*	-0.12*	-0.15*	0.44*	—		
9. Health condition	-0.08*	-0.08*	-0.13*	-0.16*	-0.15*	-0.18*	0.41*	0.38*	—	
10. Work Stress	0.11*	0.12*	0.14*	0.19*	0.17*	0.21*	-0.33*	-0.32*	-0.27*	—
M	3.56	3.68	3.33	2.27	1.83	1.92	2.94	2.80	3.45	2.94
SD	0.65	0.61	0.78	0.94	0.95	0.90	0.94	0.93	1.09	0.73

* $p < .001$

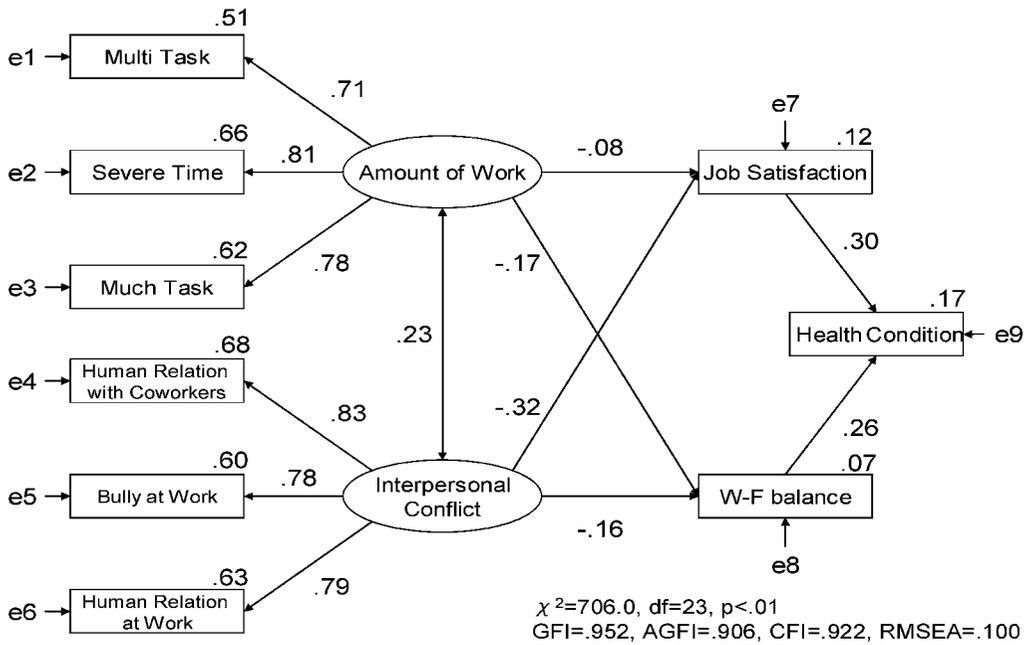


Figure 1 Health Condition Model.

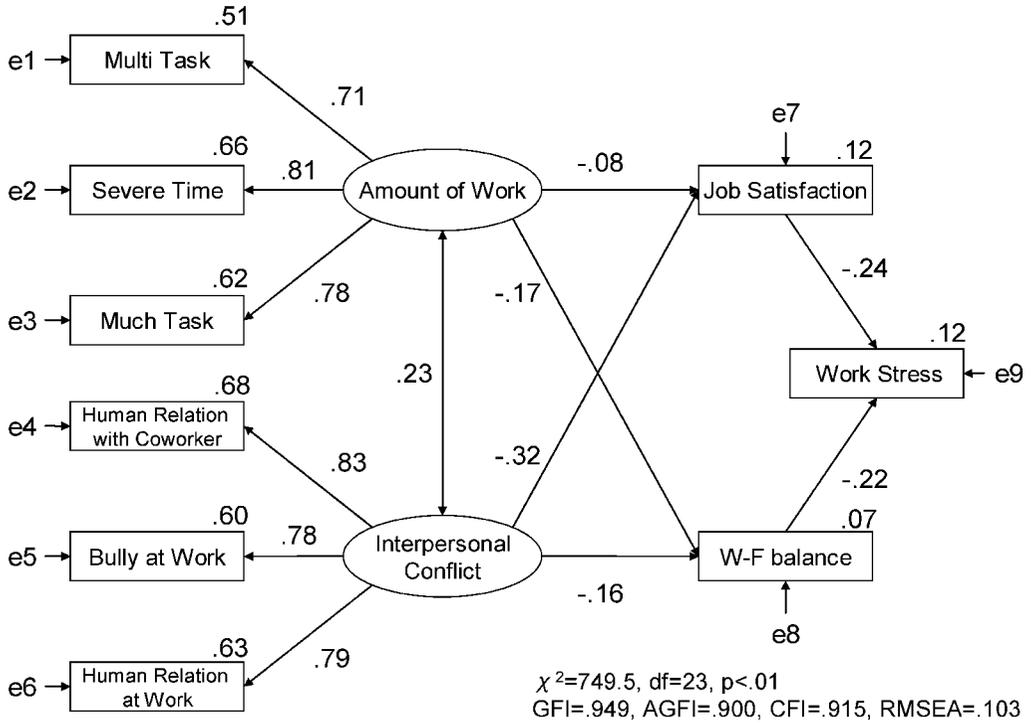


Figure 2 Work Stress Model.

stress significantly ($p < .001$).

The findings suggest that nurses should be managed in consideration of the above adequately to decrease work stress and boost health conditions. The implication of this study is that intervention as one of the organizational designs to reduce work stress and enhance the health conditions can improve in job satisfaction and work-family balance. A reduction in work stress and an enhancement health conditions appeared to help motivate nurses in Japan. Consequently, it is expected that Japanese medical society will continue to improve.

5. Concluding Remarks

This study examined the relationship between the job satisfaction and work-family balance. Its findings suggest that nurses should be managed carefully with regard to job satisfaction and work-family balance to decrease work stress and improve health conditions. In other words, reduction of stress at work and enhancement of the health conditions can help nurses in Japan.

Over the past the decades, several health problems have even been associated with work stress and physical health conditions. Concern has been raised in the business organizations, such as in among factory environment. However, traditional human resource management in hospitals has lacked the skills to motivate medical staff. Code that supports nurses in their efforts to improve workplace and working conditions, is available whether through collective bargaining or the use of workplace advocacy strategies (Glady, 2001), human resource professionals should proactively place more attention on specific programs for nurses in training and elsewhere (Carol, 2001). In general, nurses tend to pay little attention to while economic incentives. The problem is that present human resource management systems to coping stress help nurse cope with stress are not transparent (Mizuno & Nakajima, 2002). Therefore more attention needs to be paid to medical staff, in particular to nurses, who play a vital roles in medical care system.

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Supplemental Note

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