Predictor of Work and Life Satisfaction among Japanese Nurses: Focusing on Effects of Spillover, Compensation and Segmentation

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ABSTRACT

Nurses are well-known for their dedication to hard work, performing multiple roles of nurse, manager, partner, parent and so on. To promote their work and life satisfaction, this study examined the interactive effects positive spillover (PSP), negative spillover (NSP), compensation (COM) and segmentation (SEG) caused on the interfaces between multiple roles and work and life satisfaction. In 2015, we collected a total of 910 valid data (male=118 female=792) using the academic online survey service. Questionnaire was composed of the work and life satisfaction items, the Multiple Roles Map (MRM) Questionnaire and demographic items. A logistic regression analysis (LRA) supported the significant relationship between predictor and outcomes and led to five conclusions; (1) The NSP effects were more strongly associated with higher work satisfaction than the PSP effects among male nurses, (2) The PSP effects were more strongly connected with work satisfaction than the NSP effects among female nurses. (3) The male nurses coped with negative events in family and private roles by positive events in nurse role. (4) The female nurses compensated the negative events in nurse roles by positive events in family and private roles. (5) Enrichment of the manager role among male nurses and that of the partner role among female nurses will be meaningful to promote their work and life satisfaction.

Keywords: Work Satisfaction, Life Satisfaction, Spillover, Compensation, Segmentation

1. Introduction

Promotion of work and life satisfaction among Japanese nurses is meaningful to reduce job turnover and to progress their well-being. However, it is difficult for them to keep high satisfaction with a good work-life balance because they are hard workers engaging in the multiple roles such as nurse, manager, partner, parents, child and friends (Yamada et al., 2015).

To support their work-life balance, the conventional studies have developed the theoretical perspectives to understand the dynamics of role conflict caused in the interfaces between multiple roles. Theoretically, the dynamics had at least four types of effects; positive

spillover (PSP), negative spillover (NSP), compensation (COM) and segmentation (SEG). The PSP effects mean the experiences in which psychological and physiological good states spill over from one role to another role in relation to one's skills, behavior, positive mood, sense of accomplishment and support. The NSP effects were experiences in which skills, behavior patterns, strain, emotions, beliefs and attitudes spill over negatively from one role to another role. The COM effects overlap with the stress coping effects that experiences in which dissatisfaction in one role leads to trying to find more satisfaction in other roles. The SEG indicates irrelevance between two roles, in which psychological and physiological states remain independent.

To clarify the predictor of work and life satisfaction from

the role conflict perspective, we developed the Multiple Roles Map (MRM) program and collected the episodes of PSP, NSP and COM from female Japanese nurses (Yamada et al., 2015). However, we have not shown statistic evidence especially focusing on the differences between female and male nurses.

Therefore, this study examined the interactive effects of PSP, NSP, COM and SEG and work and life satisfaction to find new predictors of work and life satisfaction among Japanese nurses.

2. Methods

2.1 Participants

In 2015, we collected a total of 910 valid data (male=118 female=792) using the academic online survey service. Their mean age was 41.0 (SD=±9.3) yrs and the seniority was 7.3 (SD=±7.5) yrs.

2.2 Measurements

(1) Work and life satisfaction items

Work satisfaction item and life satisfaction item had a 4 point Likert Scale; (1) dissatisfied, (2) a little dissatisfied, (3) a little satisfied, (4) satisfied. We treated the response (1) as case group, while the other responses of (2), (3) and (4) as control group.

(2) The Multiple Roles Map (MRM) Questionnaire

To assess the effects of PSP, NSP, COM and SEG, we developed the self-administered questionnaire version of the Multiple Roles Map (MRM) for online survey. On the basis of the descriptive evidence of our MRM research (Yamada et al., 2015), we assumed six roles and the role-free time as common multiple roles among Japanese nurses; (1) nurse role (e.g. nurse or midwife), manager role (e.g. preceptor, chief, leader), parent role (mother or father), partner role (e.g. wife, husband, girlfriend, boyfriend), child role (e.g. daughter or son), friend role, and private time (role-free time). The PSP items assessed the degree of good effects from nurse role to other roles and vice versa. The NSP items evaluated the degree of negative effects from nurse role to other roles and vice versa. The COM items questioned that how degree the negative situation caused in nurse role compensated by good situation in

other roles and vice versa. The SEG was evaluated by the answer of “There was no interaction between the roles” in the PSP, NSP and COM items. The nurses experienced the PSP, NSP and COM effects were regarded as the case category and the others were dealt as the control one.

(3) Demographics

The face sheet included the demographics items such as the age, seniority, managerial position, marital status, duty of child care and duty of elderly care.

2.3 Statistic analysis

To examine the relationship between the PSP, NSP, COM and SEG variables and work and life satisfaction variables, a logistic regression analysis (LRA) was conducted. In the LRA, the age, seniority, managerial position, marital status, duty of child care and duty of elderly care were adjusted by a propensity score adjustment. An adjusted odds ratio (OR) was adopted as an index showing the strength of relevance. A 95% confidence interval (95% CI) means significance level of the relationship. We used SPSS 22.0 for the statistical analysis.

2.4 Ethics

This study was approved by the Juntendo University Graduate School of Health and Sports Science and the medical ethical committee of Nagoya City University Graduate School of Medical Sciences.

3. Results

3.1 Results of male nurse

In the results of male nurses (Table. 1), the PSP from nurse to role-free time (OR=6.5), the NSP from nurse to parent (OR=10.1), the NSP from partner, parent and friend to nurse (OR=4.1-6.0), the COM from nurse to manager (OR=5.0) and the COM from partner, child, friend, role-free time to nurse (OR=5.1-9.5) were significantly related with higher work satisfaction. Moreover, the PSP from nurse to manager (OR=5.5) and the COM from nurse to manager (OR=3.7) showed significant relationship with higher life satisfaction. The SEG showed no relationship or not available (N/A) because of the small sample size.

Table 1. The results of the LRA among male nurses.

Interface & Dynamics			PSP	NSP	COM	SEG
Outcome	Role 1	→ Role2	Adjusted OR (95%CI)	Adjusted OR (95%CI)	Adjusted OR (95%CI)	Adjusted OR (95%CI)
Work Satisfaction	Nurse	→ Manager	4.1 (0.8 – 22.2)	1.6 (0.4 – 7.1)	5.0 (1.0 – 26.4)	NA
		→ Partner	3.4 (0.8 – 14.1)	3.1 (0.7 – 13.5)	2.1 (0.5 – 8.7)	NA
		→ Parent	2.8 (0.6 – 12.3)	10.1 (1.8 – 56.3)	3.1 (0.7 – 13.9)	NA
		→ Child	3.3 (0.7 – 15.0)	3.8 (0.9 – 16.6)	2.1 (0.5 – 9.7)	NA
		→ Friend	2.6 (0.6 – 10.8)	2.1 (0.5 – 8.0)	2.8 (0.7 – 11.2)	NA
		→ RFT	6.5 (1.2 – 33.8)	1.9 (0.5 – 7.5)	1.6 (0.4 – 6.3)	NA
	Manager	→ Partner	1.7 (0.4 – 7.1)	2.0 (0.5 – 8.7)	3.2 (0.7 – 13.8)	–
		→ Parent	2.6 (0.7 – 10.5)	4.1 (1.0 – 17.2)	8.0 (1.5 – 43.2)	–
		→ Child	3.5 (0.8 – 16.2)	6.0 (1.3 – 28.7)	4.0 (0.9 – 18.3)	–
		→ Friend	3.0 (0.7 – 13.6)	4.1 (0.9 – 18.0)	9.5 (1.7 – 51.9)	–
		→ RFT	1.6 (0.4 – 6.1)	4.5 (1.1 – 18.8)	5.1 (1.2 – 22.4)	–
		→ RFT	4.0 (0.9 – 17.4)	2.3 (0.6 – 9.0)	5.2 (1.2 – 22.5)	–
Life Satisfaction	Nurse	→ Manager	5.5 (1.4 – 21.5)	1.2 (0.4 – 3.5)	3.7 (1.1 – 11.7)	NA
		→ Partner	2.8 (0.9 – 8.4)	1.6 (0.6 – 4.6)	2.4 (0.8 – 7.2)	0.3 (0.1 – 1.5)
		→ Parent	1.9 (0.6 – 5.7)	1.6 (0.6 – 4.7)	0.7 (0.2 – 2.2)	0.4 (0.1 – 1.6)
		→ Child	2.3 (0.7 – 7.1)	1.7 (0.6 – 5.0)	1.7 (0.5 – 5.4)	0.3 (0.1 – 1.5)
		→ Friend	1.6 (0.5 – 4.7)	1.1 (0.4 – 3.2)	1.8 (0.6 – 5.3)	0.5 (0.1 – 1.9)
		→ RFT	2.5 (0.8 – 7.2)	1.5 (0.5 – 4.1)	1.7 (0.6 – 5.0)	0.6 (0.2 – 2.5)
	Manager	→ Partner	1.9 (0.6 – 6.0)	0.9 (0.3 – 2.5)	2.3 (0.8 – 6.8)	–
		→ Parent	2.2 (0.8 – 6.5)	1.1 (0.4 – 3.1)	2.1 (0.7 – 6.2)	–
		→ Child	1.6 (0.5 – 4.7)	1.8 (0.6 – 5.2)	1.2 (0.4 – 3.6)	–
		→ Friend	1.3 (0.4 – 4.2)	1.2 (0.4 – 3.6)	1.6 (0.5 – 4.8)	–
		→ RFT	1.7 (0.6 – 4.8)	2.2 (0.8 – 6.0)	1.6 (0.6 – 4.6)	–
		→ RFT	2.2 (0.8 – 6.4)	1.4 (0.5 – 3.8)	1.7 (0.6 – 4.8)	–

Bold scores: Significant relationship based on a 95% CI., RFT: Role-free time, NA: not available, Adjusted OR: This study adjusted the age, seniority, managerial position, marital status, duty of child care and duty of elderly care by a propensity score adjustment.

Table 2. The results of the LRA among female nurses.

Interface & Dynamics			PSP	NSP	COM	SEG
Outcome	Role 1	→ Role2	Adjusted OR (95%CI)	Adjusted OR (95%CI)	Adjusted OR (95%CI)	Adjusted OR (95%CI)
Work Satisfaction	Nurse	→ Manager	1.8 (1.0 – 3.2)	0.7 (0.4 – 1.2)	1.5 (0.9 – 2.5)	0.7 (0.3 – 1.5)
		→ Partner	2.0 (1.2 – 3.3)	1.2 (0.7 – 1.9)	1.8 (1.1 – 3.0)	0.6 (0.3 – 1.1)
		→ Parent	2.1 (1.2 – 3.6)	1.0 (0.6 – 1.7)	1.9 (1.1 – 3.2)	0.8 (0.4 – 1.4)
		→ Child	1.7 (1.0 – 2.8)	1.0 (0.6 – 1.7)	1.2 (0.7 – 2.1)	0.9 (0.5 – 1.6)
		→ Friend	1.8 (1.1 – 2.9)	1.0 (0.6 – 1.8)	1.4 (0.9 – 2.4)	0.7 (0.4 – 1.3)
		→ RFT	2.4 (1.4 – 4.1)	0.9 (0.5 – 1.4)	1.6 (1.0 – 2.7)	0.8 (0.4 – 1.4)
	Manager	→ Partner	1.5 (0.8 – 2.7)	0.6 (0.4 – 1.1)	1.1 (0.7 – 1.9)	–
		→ Parent	2.1 (1.2 – 3.5)	1.0 (0.6 – 1.6)	1.6 (0.9 – 2.6)	–
		→ Child	2.3 (1.3 – 4.0)	0.8 (0.5 – 1.4)	2.0 (1.2 – 3.4)	–
		→ Friend	1.4 (0.8 – 2.3)	0.7 (0.4 – 1.2)	1.4 (0.8 – 2.3)	–
		→ RFT	1.7 (1.0 – 2.8)	0.8 (0.4 – 1.4)	1.3 (0.8 – 2.2)	–
		→ RFT	1.9 (1.1 – 3.1)	0.8 (0.5 – 1.4)	1.3 (0.8 – 2.2)	–
Life Satisfaction	Nurse	→ Manager	1.4 (0.9 – 2.2)	0.8 (0.6 – 1.3)	1.1 (0.7 – 1.7)	0.6 (0.3 – 1.2)
		→ Partner	1.7 (1.1 – 2.6)	1.1 (0.7 – 1.7)	1.6 (1.1 – 2.5)	0.7 (0.4 – 1.2)
		→ Parent	1.2 (0.8 – 1.8)	0.9 (0.6 – 1.4)	1.5 (0.9 – 2.3)	0.9 (0.5 – 1.4)
		→ Child	1.3 (0.8 – 2.0)	1.0 (0.6 – 1.6)	1.3 (0.8 – 2.0)	0.8 (0.5 – 1.2)
		→ Friend	1.1 (0.7 – 1.6)	0.9 (0.6 – 1.4)	1.3 (0.9 – 2.0)	0.7 (0.4 – 1.1)
		→ RFT	1.4 (1.0 – 2.2)	1.0 (0.6 – 1.5)	1.1 (0.8 – 1.7)	0.8 (0.5 – 1.4)
	Manager	→ Partner	1.2 (0.8 – 1.9)	1.0 (0.7 – 1.6)	0.9 (0.6 – 1.3)	–
		→ Parent	1.8 (1.1 – 2.7)	0.9 (0.6 – 1.3)	1.6 (1.0 – 2.4)	–
		→ Child	1.3 (0.8 – 2.0)	0.9 (0.6 – 1.4)	1.4 (0.9 – 2.1)	–
		→ Friend	1.3 (0.8 – 2.0)	0.9 (0.5 – 1.4)	1.2 (0.8 – 1.9)	–
		→ RFT	1.2 (0.8 – 1.8)	0.9 (0.5 – 1.3)	1.1 (0.7 – 1.7)	–
		→ RFT	1.3 (0.9 – 2.0)	1.0 (0.6 – 1.4)	1.3 (0.8 – 1.9)	–

Bold scores: Significant relationship based on a 95% CI., RFT: Role-free time, NA: not available, Adjusted OR: This study adjusted the age, seniority, managerial position, marital status, duty of child care and duty of elderly care by a propensity score adjustment.

3.2 Results of female nurse

As the results of female nurses (Table.2), the PSP from nurse to manager, partner, parent, child, friend and role-free time (OR=1.7-2.4), the PSP from partner, parent, friend and role-free time to nurse (OR=1.7-2.3), the COM from nurse to partner, parent and role-free time (OR=1.6-1.9) and the COM from parent to nurse (OR=2.0) were significantly related with higher work satisfaction. Furthermore, the PSP from nurse to partner and role-free time (OR=1.4-1.7), the PSP from partner to nurse (OR=1.8), the COM from nurse to partner (OR=1.6) and the COM from partner to nurse (OR=1.6) showed significant relationship with higher life satisfaction. The NSP and SEG variables didn't show significant relationship with work and life satisfaction.

4. Discussion

4.1 The features of male nurses

In the male nurses, the NSP effects were more strongly associated with work satisfaction than the PSP effects. The results that the NSP related with higher work and life satisfaction were opposite results of theoretical study of NSP. According to these results, appropriate amount of work stress will be necessary for male nurses to recognize high satisfaction from nursing job. Additionally, enrichment of nurse role was also necessary for them because male nurses compensated with stress caused in the partner, child, and friend roles and role-free time by enrichment of nurse role. Furthermore, the enrichment of manager role was also important to keep higher work and life satisfaction because it compensated the negative situation in nurse role. As some study reported male nurses tended to have career orientation, we should focus on the dynamics of manager role.

4.2 The features of female nurses

In the female nurses, the PSP effects were more strongly associated with work satisfaction than the NSP effects. These results supported our descriptive study using the MRM (Yamada et al., 2017) and indicated the effectiveness of positive approach to recognize PSP effects.

Moreover, those who compensated with stress in the nurse role by enrichment of the partner and parent roles role-free time by enrichment of nurse role felt higher work satisfaction. In addition to the results of PSP, fulfillment of the private and family time was important for female to keep their work motivation. Especially, the dynamics of partner role was remarkable. The good situation caused by the interaction between partner role and other roles was related with higher work and life satisfaction.

5. Conclusion

- (1) The NSP effects were more strongly associated with higher work satisfaction than the PSP effects in male nurses.
- (2) The PSP effects were more strongly connected with work satisfaction than the NSP effects in female nurses.
- (3) The male nurses coped with negative events in family and private roles by positive events in nurse role.
- (4) The female nurses compensated the negative events in nurse roles by positive events in family and private roles.
- (5) Enrichment of the manager role among male nurses and that of the partner role among female nurses will be meaningful to promote their work and life satisfaction.

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