

Original Paper**Effects of “concern for others” of Japanese nurses on psychological stress**

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Abstract

The purpose of this study was to examine the negative effects of the “concern for others” of Japanese nurses on their psychological stress. The psychological stress was understood by the relation between stressor and stress response based on the stress model of Lazarus. We used the concept of the spillover between work and family as the stressor. We adopted W-F-NSP and F-W-NSP as the negative stressor, W-F-PSP and F-W-PSP as the positive stressor, the melancholy as negative stress response, and the health condition as the positive stress response to good mental or physical condition. Data were gathered from 2,983 Japanese nurses in 2004. The average age of respondents was 34.13 (SD=9.69) years. The “concern” group (n=656) and the “non-concern” group (n=686) were categorized according to the score of “concern for others” items.

In the result of correlation analysis among stressor and stress response variables in two groups, although W-F-NSP was a negative stressor, F-W-NSP did not reflect a negative stressor. W-F-PSP and F-W-PSP were almost unrelated to the melancholy and the good health condition in both groups. Furthermore, in the result of comparison of two groups in stressor and stress response variables (t-test), it was proved that the “concern” group recognized negative stressor and negative stress response rather than the “non-concern” group. Therefore, it was proved that an interpersonal trait of the “concern for others” was the individual factor of negative stress in Japanese nurses.

Keywords: personality, spillover, stress, work, family

1. Introduction

The “concern for others” is an interpersonal trait as a virtue in Japan. Especially, it is indispensable to nurses. On the other hand, it is one of the constructs of the melancholic type of personality known as specific premorbid personality structure of patients with unipolar depression in the psychiatry of Japan and Germany¹⁾. Moreover, it is reported that this interpersonal trait has high affinity with negative stress, depression or burnout syndrome. However, it is doubtful that these reports can apply to the new problems occurred by the change of society in recent years.

Recently, the concept of the spillover between work and family has been brought to attention by the rapid increase of working woman in Japan²⁾¹³⁾. The concept of a spillover is based on the role theories³⁾¹⁰⁾. The definition of the spillover between work and family is when the situation and consciousness which product in one of the roles of work and family affects another roles' situation and consciousness¹⁾⁴⁾¹²⁾. Specifically, it is remarkable in the nurses who must be compatible in work and family. Therefore, this study focused on the spillover between work and family as a new type of stressor. This stressor has negative aspect and positive one. Definitely, the negative aspect was Work to Family Negative Spillover (W-F-NSP) (ex. I think about the work even when I am in at home.) and Family to Work Negative Spillover (F-W-NSP) (ex. I have to be absent from work,

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leave work early or late for work because of reasons related to family.). The positive aspects were Work to Family Positive Spillover (W-F-PSP) (ex. Housekeeping or taking care of children at home is also progressed in the day which I succeed work.) and Family to Work Positive Spillover (F-W-PSP) (ex. When something good for home or family happen, I am also able to do my best at work.). In recent years, some scholars pointed out that F-W-NSP has the remarkable impact on depression, marital relationship, child rearing stress, and so on^(6,7).

This study examined the negative influence of the “concern for others” of Japanese nurses on the new type of stress in modern society. The psychological stress is understood by the relationship between stressor and stress response based on the stress model of Lazarus and Folkman (1984). We adopted W-F-NSP and F-W-NSP as the negative stressor, W-F-PSP and F-W-PSP as the positive stressor, the melancholy as negative stress response and good health condition as the positive stress response. Concretely, we established two hypotheses. Hypotheses 1 is that the scores of the “concern” group were lower on positive stressor and positive stress response variables than those of the “non-concern” group. Hypotheses 2 is that the score of the “concern” group were higher on negative stressor and negative stress response variables than those of the “non-concern” group.

Moreover, this study also examined about the validity and reliability of Koizumi’s spillover scale⁽⁵⁾. It is because there are no conventional studies which examine the validity and reliability of this new scale except for Koizumi’s original study⁽⁵⁾.

2. Method

2.1 Participants

In this study, the questionnaire investigation concerning the interpersonal traits and job stress of nurses in Japan was carried out in 2004. Data was gathered from Japanese nurses out of several areas of Tokyo and Kanagawa, Saitama, Chiba, Ibaraki, Tochigi, Gunma, and Yamanashi prefectures in Japan. The recovery 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%).

2.2 Measure

(1) Interpersonal Trait of “Concern for Others”

This study regarded the degree of concerned for other people as the “concern for others.” Respondents evaluated how much they concern for coworkers when they must be absent from work by three reasons by 5-point Likert scale. This study adopted the “bad health condition of themselves,” “bad health condition of their child,” and “event of their child’s school” as three reasons. The score of “concern for others” was the sum of the scores of three reasons.

(2) Spillover between Work and Family

This study used the spillover scale between work and family developed by Koizumi⁽⁵⁾. This scale has four subscales of W-F-NSP (4 items), W-F-PSP (4 items), F-W-NSP (4 items), and F-W-PSP (4 items). The high validity and reliability of this scale was confirmed in Koizumi’s original study⁽⁵⁾. Respondents evaluated how often they experienced each item by 4-point Likert scale. The score of each subscale is gained by summing the scores of 4 items.

(3) Melancholy

This study regarded an item which reflects the feeling of melancholy as the melancholy on the whole. The item is that “how degree are you feel a feeling of depression or melancholy in the past several weeks?” Respondents evaluated how much they felt a melancholy by 4-point Likert scale.

(4) Good Health Condition

This study regarded an item which reflects the feeling of good health condition as the good health condition on the whole. The item is that “how degree are you feel a good health condition?” Respondents evaluated how much they felt a good condition by 5-point Likert scale.

2.3 Analysis

First, confirmatory factor analysis was carried out in order to examine validity and reliability of the Koizumi’s spillover scale. Second, samples of this study were categorized two typical groups “concern” group and “non-concern” group based on the total score of items of “concern for others.” Third, the correlation analysis was carried out in order to examine the relevance between stressor and stress response in both groups. Finally, t-test was carried in order to examine the differences of the score of each shown in both groups. All the analysis was carried out using the statistical software of SPSS10.5 and Amos5.0.

3. Results

3.1 Confirmatory factor analysis of Koizumi’s spillover scale

In order to examine validity and reliability of the Koizumi’s spillover scale, confirmatory factor analysis was carried out, using Amos5.0 (statistical analysis software for covariance structural analysis). In this scale, four factor structures were hypothesized according to the precedence studies. The result of this analysis was shown in Figure 1. The fit indices did excellent fit of the model to the data (GFI = .934, AGFI = .909, CFI = .942, RMSEA = .073).

We ignored the result of chi-square test because of the huge number of samples of this study ($\chi^2 = 1668.7$, $df = 98$, $p < .001$). Moreover, the reliability of this scale was verified ($\alpha = .67-.93$). Therefore, the validity and reliability of Koizumi’s spillover scale was proved and all items were used in the following analysis.

3.2 Categorization of concern group and non-concern group

The high and low score group of the “concern for others” were categorized on the basis of 30% of all samples. As a result, people who scored nine or more points were classified into the “concern” group ($n = 656$), and that of four or less points were classified into the “non-concern” group

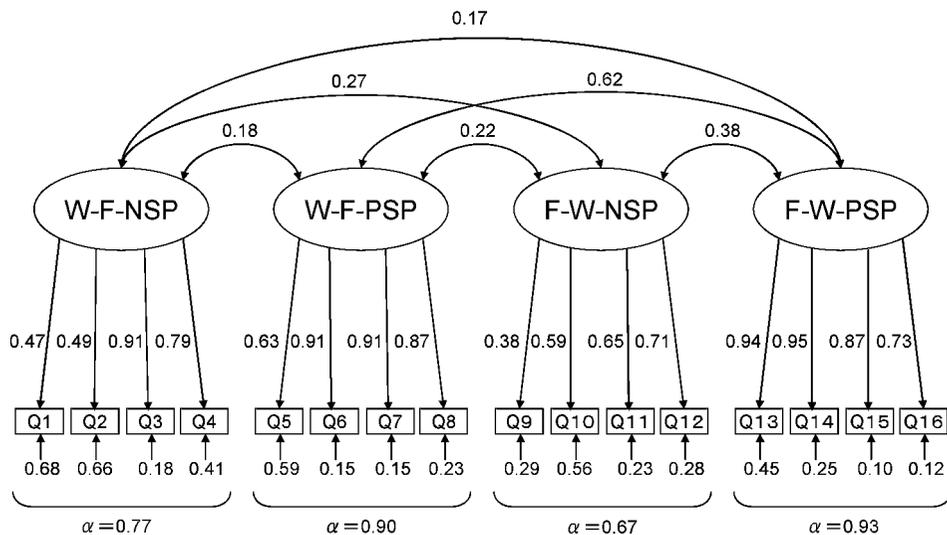


Figure 1 Confirmatory factor analysis of Koizumi’s spillover scale.

Table 1 Correlations between stressor and stress response in concern group and non-concern group.

Group	Stressor	Stress Response	
		Melancholy	Good Health Condition
Concern Group	W-F-NSP	0.26**	-0.14**
	F-W-NSP	-0.17**	0.19**
	W-F-PSP	-0.09*	0.15**
	F-W-PSP	-0.05	0.07
Non-Concern Group	W-F-NSP	0.27**	-0.22**
	F-W-NSP	-0.20**	0.08*
	W-F-PSP	-0.02	0.07
	F-W-PSP	-0.06	0.08*

* $p < .05$, ** $p < .001$

Table 2 Means and standard deviations for the stress variables differentially used by concern group and non-concern group.

	Concern Group		Non-Concern Group		t
	Mean	SD	Mean	SD	
W-F-NSP	11.33	2.93	10.06	2.94	7.94**
F-W-NSP	10.13	2.59	10.82	2.65	-4.82**
W-F-PSP	10.34	3.45	10.72	3.39	-2.04*
F-W-PSP	9.33	3.63	9.50	3.85	-0.82
Melancholy	2.71	0.79	2.55	0.80	3.58**
Good Health Condition	3.29	1.12	3.63	1.07	-5.61**

* $p < .05$, ** $p < .001$

(n = 686).

3.3 Correlation analysis among stressor and stress response variables in two groups

The correlation analysis among stressor and stress response variables was carried out in order to examine the meaning of each stressor in two groups. Do these stressors mean negative or positive one to their good mental or physical condition? Analysis was used SPSS 10.5. Table 1 shows the result of this analysis.

W-F-NSP showed significant positive correlation to the melancholy (concern: $r = .26$, $p < .001$, non-concern: $r = .27$, $p < .001$) and significant negative correlation to the good health condition (concern: $r = -.14$, $p < .001$, non-concern: $r = -.22$, $p < .001$). However, F-W-NSP showed significant negative correlation to the melancholy (concern: $r = -.17$, $p < .001$, non-concern: $r = -.20$, $p < .001$) and significant positive correlation to the good health condition (concern: $r = .19$, $p < .001$, non-concern: $r = .08$, $p < .05$). Therefore, although W-F-NSP is a negative stressor, F-W-NSP was shown as a positive stressor in this result. Moreover, positive stressors of W-F-PSP and F-W-PSP were revealed to have weak the relations to melancholy and the good health condition in both groups.

3.4 Comparison of two groups in stressor and stress response variables (t-test)

Comparison of two groups on the score of stress variables was carried out in order to examine that the interpersonal trait of "concern for others" has high affinity with the negative stress. Table

2 shows the result of t-test using SPSS10.5. The t-test revealed that the scores for the concern group are significantly higher on W-F-NSP and melancholy than those for the non-concern group ($p < .001$). The score for the concern group significantly lower on F-W-NSP ($p < .001$), W-F-PSP ($p < .05$) and the health condition ($p < .001$) than those for the non-concern group.

4. Discussion

4.1 Influence of the spillover between work and family on the stress response

In the results of this study, although strong correlation was not confirmed, W-F-PSP and F-W-PSP were positive concept to good mental or physical condition. Moreover, it was proved that W-F-NSP was negative concept. This result supports the reports of Koizumi that W-F-NSP is related to a greater level of depression or some kinds of stress response^(6,7). However, F-W-NSP was not shown a relation as negative concept. This result was contrary to our intention. It may be easy to consider that the interference of the work by problems or happenings within family may be a negative influence for our good mental or physical condition. It is very strange. There is no evidence to explain the reasons of the result at present. However, some hypothesis may be established. One is that high scored people of F-W-NSP was those who can postpone the work for family and carry out such behavior practically. Furthermore, it is thought that their working environment has enough support system to permit such behavior. The truly stressful circumstance makes dive into the work divorced from the problems of family. It was also thought that the people who can afford to consider to family in working time hours was unrelated to negative stress response.

For the results mentioned above, this study regards W-F-NSP as negative stressor and W-F-PSP F-W-PSP as positive stressor. At the present stage, this study regards F-W-NSP as a magical positive concept for good mental or physical condition.

4.2 Influence of the “concern for others” on the positive stress and the negative one

This study has proved that the scores of a concern group are lower on positive stressor of W-F-PSP, F-W-PSP and F-W-NSP and positive stress response of the health condition than those of a non-concern group. This result demonstrates the hypothesis 1. Furthermore, the scores of a concern group are higher on negative stressor of W-F-NSP and negative stress response of the melancholy than those of a non-concern group. This result demonstrates the hypothesis 2. Therefore, the negative effects of interpersonal traits of “concern for others” on their mental or physical health were proved. Namely, the trait of “concern for others” was the individual factor of a negative stress in Japanese nurses. The application for rest or holiday may difficult for them because of concerning for coworkers. They may be unable to say “no” when they asked for task from someone by this factor. It may also be stressful that they maintain “concern for others” under both situations of work and family. Therefore, this factor cannot be disregarded when intervening in Japanese nurses’ stress.

5. Conclusions and future study

The purpose of this study is to examine the negative influence of the interpersonal trait of “concern for others” on their psychological stress in Japanese nurses. As the result, this study proved that the interpersonal trait of the “concern for others” was the individual factor of a negative stress in Japanese nurses.

However, this study dealt with only one interpersonal trait of “concern for others.” There is room for future investigation that whether the whole the melancholic type of personality has negative effect to the good mental or physical health in Japanese nurses. Therefore, the stress studies dealing with the whole the melancholic type of personality will be needed from now on. Moreover, the reasons of the strange result that F-W-NSP shows a positive correlation to good mental or physical condition must be proved in a future research.

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