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Association of Social Skills with Psychological Distress among Female Nurses in Japan

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Abstract: Nursing is a highly stressful occupation. Because nursing work involves interaction with patients and colleagues, competence in social skills may be a key issue in stress management among nurses. However, there are very few studies among nurses focused on social skills together with social support, both of which are important aspects of job stress. The aim of this study was to examine the interrelationships between social skills and social support with job stressors, problem-solving coping, and psychological distress among Japanese nurses. Data from a self-administered questionnaire of 1,197 female nurses who worked for 5 general hospitals in Japan were analyzed. Covariance structure analysis with structural equation modeling techniques showed that social skills and social support were positively related to each other, while they were negatively associated with psychological distress and job stressors, and positively associated with problem-solving coping. Furthermore, the direct association between social skills and psychological distress was stronger than the association between social support and psychological distress. These findings suggested that improving not only social support at work but also individual social skills is important for nurses' mental health.

Key words: Social skills, Social support, Coping, Psychological distress, Nurse, Covariance structure analysis

Introduction

It has often been pointed out that healthcare professionals, especially nurses, have considerable job stress due to high quantitative and qualitative psychological burdens, a wide range of tasks, and multiple aspects of relationships with patients, their families, and other medical coworkers[1)]. In particular, interpersonal conflict is considered one of the major causes of stress among Japanese nurses[1)]. With the developments in medical technology, healthcare professionals are required to acquire considerable clinical skills and knowledge, and have been facing increasing job stress. As a result, depression, burnout, anxiety, and sleep problems among hospital nurses have been reported as occurring frequently[1–4)]. Psychological distress and poor mental health in nurses have been given as reasons for higher turnover, and a shortage of nurses may lead to a decline in the quality of nursing care[5, 6)]. However, it is difficult for nurses themselves to reduce these burdens caused by their jobs. Therefore, the ability to successfully cope with job stress is important for stress management among nurses.

The concept of social skills represents the ability to interact with other people appropriately and effective-

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ly[7]. Social skills have been investigated from various perspectives such as behavior, emotion, cognition, social interaction, interpersonal communication, and personality, and one promising characteristic of social skills is that they can be learned through training[8]. Previous research concerning social skills was mainly conducted on children with developmental disorders or adults with psychiatric problems such as schizophrenia, social anxiety, and depression[9–15]. However, social skills are also a key factor in interacting with those who are not ill, such as working people. Because a socially skillful person can interact well, incidence of interpersonal conflict may be reduced. As for nurses' social skills, previous studies focused on their communication skills. Good communication between health care professionals and patients is fundamental for the delivery of high quality medical care and it has often been reported that communication skills of health care professionals should be improved[16–18]. However, these studies referred to only communication skills. Other forms of social skills pertaining to work, as well as communication skills, should be examined. It would be reasonable to consider skills in troubleshooting and management which have possibilities of improving job performance. In this study, social skills were assessed using three measurements for specific skills required at work: "troubleshooting skills" concerning dealing with conflict, "management skills" related to task accomplishment, and "communication skills" generally needed in social interaction. These skills are consistent with the concept of social skills defined by Aikawa[7].

In addition, Lazarus & Folkman[19] suggested that social skills are one of an individual's resources to cope with stress, along with social support, and are associated with social support. In the field of job stress research, the importance of social support at work has drawn attention[20–23]. Social support has been broadly defined as the resources provided by others[24], included instrumental, informational, and emotional support[25]. The benefits of social support for mental and physical health have been found in a number of studies[21, 22, 25]. It was also indicated that social support moderates the relationship between stressors and stress responses[22, 23, 26], thus, social support seems not only directly but also indirectly related to psychological distress through perception of stressors[22]. Social support has also been identified as a key factor in management of job stress as well as prevention of burnout among nurses[26–28].

Furthermore, a person who has a positive interpersonal environment such as receiving a great deal of social support may choose effective coping with regard to stressors[21, 22]. Coping has several dimensions, such as problem-focused/emotion-focused or active/avoidance[19, 29], and previous studies have reported problem-focused and active strategies appear to play a major role in effective coping[30–32]. It is believed that social skills are also important factors in reducing psychological distress because they have an effect of creating coping choices and enabling a person to reduce perception of stressors[19, 33]. Therefore, it is reasonable to examine not only the direct relationship between social skills and psychological distress, but also to take into account other interrelated factors. To date, however, few studies have examined a model including stress-related factors linking social skills with psychological distress grounded in Lazarus & Folkman's theoretical framework[19].

The aim of this study was to examine the direct and indirect association of social skills and social support with job stressors, problem-solving coping, and psychological distress among Japanese nurses using covariance structure analysis. The results of this study may provide useful information for future solutions for improving working conditions of nurses.

Subjects and Methods

Subjects

The survey was conducted in June of 2005, on 1,820 nurses working at 5 general hospitals (2 local government-established hospitals, a national center, a university hospital, and a Red Cross hospital) in the Chubu region of Japan. A self-administered questionnaire was distributed via the nursing management division of the hospital. The completed questionnaires were collected in a sealed envelope from individual units. One thousand five hundred and eighty-four nurses participated in this survey and the total response rate was 87.0% (ranged from 80.6% to 99.6% by hospital). The responses of 69 male nurses were excluded because the subjects' number was too small compared to females. Three hundred and eighteen subjects who gave incomplete responses for one or more key study variables were also excluded from the analysis. Finally, 1,197 female nurses (mean age 30.1 ± 7.8 yr, range 20–60) were analyzed in this study. "Nurses" in our study defined as "registered nurses" and "assistant nurses" except for "nursing support workers" who do not hold license to perform nursing duties.

Measures

The questionnaire was prepared using the corresponding subscales of the Co-Labo[34]. This contained job stressors, coping, and psychological distress assessed by the Job Stress Scale-Revised Version[35], social skills[36], and social support[37]. Each scale has been reported to show high reliability and validity[35–37].

Job stressors

Job stressors which describe potential stressful situations in the workplace were assessed using 28 items, scored on a 5-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). High scores indicated high levels of subjective stressors. It was composed of 2 subscales: quantitative stressors, which consisted of "excessive workload" and "time pressures" (13 items; e.g. 'The amount of work in my job is beyond my ability to do by myself'), and qualitative stressors, which consisted of "role ambiguity" and "lack of discretion" (15 items; e.g. 'I don't have enough authority to make important decisions').

Coping

Problem-solving coping was assessed using 9 items (e.g. 'I made an action plan and followed it'). In this study, we employed only problem-solving coping which consisted of problem-focused and active strategies because previous studies have reported these strategies appear to be effective[30–32]. Subjects were asked to identify the most distressing problem that they had experienced in the workplace during the previous 3 months, and then to indicate the extent to which they had used the strategy described by the particular item, ranging from 1 ('not used at all') to 4 ('used a great deal'). High scores indicated frequent use of the coping strategy.

Psychological distress

This study used psychological distress as the outcome variable: stress responses caused by job conditions. Psychological distress were assessed using 37 items from psychological stress reactions scale, scored on a 5-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). High scores represented high levels of psychological distress. It was composed of 5 subscales: fatigue (4 items; e.g. 'I am completely tired after I have finished working'), irritation (6 items; e.g. 'Little annoyances make me angry'), tension (5 items; e.g. 'I get nervous and shaky when approached by a supervisor'), psychosomatic symptoms (5 items; e.g. 'My heart sometimes races'), and depressive symptoms (7 items; e.g. 'I feel depressed').

Social skills

Social skills which pertain to interpersonal conflict, task accomplishment, and general communication were assessed using 16 items, scored on a 5-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). High scores indicated a high level of social skills. It was composed of 3 subscales: troubleshooting (6 items; e.g. 'I can deal with troubles with those around me'), management (5 items; e.g. 'I can arrange my work successfully'), and communication (5 items; e.g. 'I can express requests or feelings honestly').

Social support

Social support from supervisors and coworkers was assessed using 5 items (e.g. 'He/She gives me advice when he/she notices that I am worried about interpersonal conflict'). Items were scored on a 5-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). High scores indicated a high extent of perceived social support. The content of these items consisted mainly of informational and emotional support.

Demographic variables

Sociodemographic data, such as age, gender, marital status, and work-related factors, including working years as a nurse (yr), job title (non-administrative, administrative, or other), employment type (full-time, part-time, or other), certification (registered nurse/assistant nurse) were collected as potential confounding variables, and working schedule (shift work/non-shift work).

Statistical analysis

The correlation coefficients between the study variables were calculated using Pearson's correlation. As some relatively high correlation coefficients were observed between each variable, variance inflation factors (VIF) of each variable were checked to confirm absence of multicolinearity.

In order to test the theoretical model we hypothesized, covariance structure analysis was conducted with structural equation modeling (SEM) techniques. We formulated the following hypotheses regarding the association of social skills and social support with job stressors, problem-solving coping, and psychological distress.

Hypothesis 1: Social skills and social support are positively related to each other.

Hypothesis 2: Both social skills and social support are negatively related to psychological distress.

Hypothesis 3: Both social skills and social support are negatively related to job stressors.

Hypothesis 4: Both social skills and social support are positively related to problem-solving coping.

Hypothesis 5: Both social skills and social support are indirectly related to psychological distress through job stressors and problem-solving coping.

Based on previous findings indicating that coping has specificity varied in accordance with the type of job stressors[29, 38, 39], we constructed a model with separate paths from quantitative stressors and qualitative stressors. We analyzed the covariance matrix using the maxi-

mum likelihood method of estimation. The fit indexes including the χ^2 statistic, the goodness of fit (GFI), the adjusted goodness of fit (AGFI), the root mean square error of approximation (RMSEA), and comparative fit index (CFI) were used to test overall adaptability of the model to data. The optimum model was selected by examining relative changes in Akaike's information criteria (AIC). In this study, total scores of each subscale were used as indicators of the observed variables, while the scales of social skills, social support, and psychological distress were used as indicators of the latent factors.

p-values lower than 0.05 were regarded as being statistically significant. All data were analyzed using SPSS version 12.0J and AMOS version 5.0 for Windows.

Ethical considerations

After the procedures were approved by the Aichi Nursing Association, managers at each hospital agreed to conduct the survey. Subjects were given written instructions as to the purpose and methods of the study, privacy protection, and voluntary participation. Consent from each subject was confirmed by their filling out the questionnaires following the ethical guidelines for epidemiological research in Japan[40]. The questionnaire was not designed to be anonymous, however, all responses were analyzed without personal data to protect confidentiality.

Results

Demographic characteristics and work-related variables of the subjects

Characteristics of the study subjects are shown in Table 1. Out of 1,197 subjects, almost half of them worked less than or equal to 5 yr as a nurse, most of the subjects were unmarried (72.2%), in non-administrative positions (86.4%), full time workers (97.8%), registered nurses (98.4%), and shift workers (96.0%).

Descriptive statistics

Table 2 shows descriptive characteristics (means, standard deviations, Cronbach's alpha) and Pearson correlations between study variables. All variables have satisfactory reliabilities with Cronbach's alpha coefficients of 0.70 or higher, which were in the preferable range, except for Tension (0.61). The correlations among study variables were almost all statistically significant, social skills were negatively correlated with job stressors and psychological distress, and positively correlated with problem-solving coping and social support.

Table 1. Characteristics of the subjects (n=1,197[a])

	Number	%
Age (yr)	1,150[a]	
20–29	714	62.1
30–39	284	24.7
40–49	116	10.1
50–60	36	3.1
Marital status	1,171[a]	
Married	325	27.8
Unmarried	846	72.2
Working years as a nurse (yr)	1,176[a]	
<1	133	11.3
1–5	436	37.1
6–10	302	25.7
11–20	236	20.1
>21	69	5.9
Job title	1,162[a]	
Non-administrative	1,004	86.4
Administrative	71	6.1
Other	87	7.5
Employment type	1,178[a]	
Full-time	1,152	97.8
Part-time	21	1.8
Other	5	0.4
Certification	1,127[a]	
Registered nurse	1,109	98.4
Assistant nurse	18	1.6
Working schedule	1,128[a]	
Shift work	1,083	96.0
Non-shift work	45	4.0

[a]The numbers did not add up to the total number of the participants because of occasional missing data.

Model testing

Covariance structure analysis was performed and applied to the model diagram. Results of the analyses showed that the fit indexes of the proposed model were as follows: $\chi^2(54)=600.97$, GFI=0.94, AGFI=0.89, CFI=0.89, RMSEA=0.09, AIC=674.97. After making some modifications based on modified indexes (e.g. Since problem-solving coping was not shown to have a significant association with qualitative stressors (β=0.05, n.s.), this path was removed), the model fit adequately to the data shown in Fig. 1; $\chi^2(48)=217.96$, GFI=0.97, AGFI=0.95, CFI=0.96, RMSEA=0.05, AIC=303.96. According to the criteria for fit indexes[41], all indicators suggested a good or acceptable fit of the model to the data.

Social skills consisted of troubleshooting skills, management skills, and communication skills. The standard coefficient of communication skills (β=0.56) was smaller than troubleshooting skills (β=0.76) or management skills (β=0.69). As we hypothesized, social skills

Table 2. Descriptive characteristics and Pearson correlations among psychosocial factors (n=1,197)

	Variables (range)	Mean	SD	Cronbach α	Job stressors 1	Job stressors 2	Coping 3	Psychological distress 4	5	6	7	8
1	Quantitative stressors (13–65)	33.5	5.80	0.77	1.00							
2	Qualitative stressors (15–75)	29.2	5.39	0.74	0.32 ***	1.00						
3	Problem-solving coping (9–36)	20.1	4.49	0.81	0.08 **	–0.23 ***	1.00					
4	Fatigue (4–20)	14.7	3.12	0.80	0.51 ***	0.40 ***	–0.04	1.00				
5	Irritation (6–30)	17.0	4.83	0.86	0.18 ***	0.30 ***	–0.12 ***	0.28 ***	1.00			
6	Tension (5–25)	14.0	3.10	0.60	0.37 ***	0.49 ***	–0.12 ***	0.48 ***	0.33 ***	1.00		
7	Psychosomatic symptoms (5–25)	11.0	4.56	0.84	0.29 ***	0.35 ***	0.00	0.39 ***	0.24 ***	0.42 ***	1.00	
8	Depressive symptoms (7–35)	19.9	5.77	0.87	0.44 ***	0.60 ***	–0.12 ***	0.63 ***	0.37 ***	0.64 ***	0.46 ***	1.00
9	Troubleshooting skills (6–30)	17.9	3.25	0.71	–0.10 ***	–0.35 ***	0.28 ***	–0.24 ***	–0.39 ***	–0.41 ***	–0.16 ***	–0.37 ***
10	Management skills (5–25)	13.9	2.93	0.70	–0.11 ***	–0.41 ***	0.29 ***	–0.25 ***	–0.05	–0.42 ***	–0.14 ***	–0.33 ***
11	Communication skills (5–25)	14.7	3.58	0.75	–0.13 ***	–0.28 ***	0.19 ***	–0.19 ***	–0.09 **	–0.43 ***	–0.15 ***	–0.38 ***
12	Social support from supervisors (5–25)	14.4	3.68	0.95	–0.18 ***	–0.33 ***	0.09 **	–0.21 ***	–0.15 ***	–0.15 ***	–0.12 ***	–0.24 ***
13	Social support from coworkers (5–25)	16.7	3.04	0.95	–0.10 ***	–0.24 ***	0.14 ***	–0.14 ***	–0.11 ***	–0.15 ***	–0.17 ***	–0.23 ***

	Variables (range)	Mean	SD	Cronbach α	Social skills 9	10	11	Social support 12	13
1	Quantitative stressors (13–65)	33.5	5.80	0.77					
2	Qualitative stressors (15–75)	29.2	5.39	0.74					
3	Problem-solving coping (9–36)	20.1	4.49	0.81					
4	Fatigue (4–20)	14.7	3.12	0.80					
5	Irritation (6–30)	17.0	4.83	0.86					
6	Tension (5–25)	14.0	3.10	0.60					
7	Psychosomatic symptoms (5–25)	11.0	4.56	0.84					
8	Depressive symptoms (7–35)	19.9	5.77	0.87					
9	Troubleshooting skills (6–30)	17.9	3.25	0.71	1.00				
10	Management skills (5–25)	13.9	2.93	0.70	0.55 ***	1.00			
11	Communication skills (5–25)	14.7	3.58	0.75	0.44 ***	0.38 ***	1.00		
12	Social support from supervisors (5–25)	14.4	3.68	0.95	0.09 **	0.01	0.06 *	1.00	
13	Social support from coworkers (5–25)	16.7	3.04	0.95	0.18 ***	0.11 ***	0.18 ***	0.24 ***	1.00

*: p<0.05, **: p<0.01, ***: p<0.001.

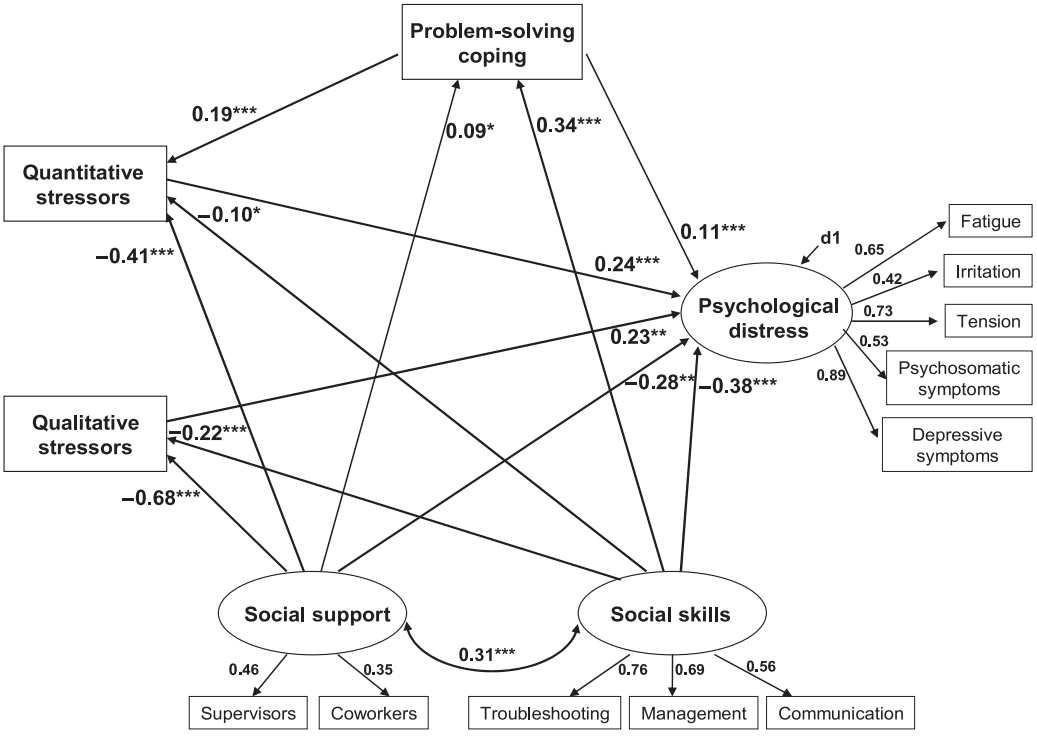

Fig. 1. Results of covariance structure analysis (n=1,197).

*: p<0.05, **: p<0.01, ***: p<0.001.

GFI=0.97, AGFI=0.95, CFI=0.96, RMSEA=0.05, AIC=303.96, χ^2=217.96

GFI: goodness of fit index, AGFI: adjusted goodness of fit index, CFI: comparative fit index, RMSEA: root mean squared error of approximation.

All paths are significant at p<0.05.

and social support were positively related to each other (r=0.35, $p<0.001$). The standardized coefficients shown in Fig. 1 were all statistically significant. Social skills were negatively related to psychological distress (β=–0.38, $p<0.001$), quantitative stressors (β=–0.10, $p<0.05$), qualitative stressors (β=–0.22, $p<0.001$) and positively related to problem-solving coping (β=0.34, $p<0.001$). On the other hand, social support was negatively related to psychological distress (β=–0.28, $p<0.01$), quantitative stressors (β=–0.41, $p<0.001$), qualitative stressors (β=–0.68, $p<0.001$) and positively related to problem-solving coping (β=0.09, $p<0.05$). However, problem-solving coping was positively related to psychological distress (β=0.11, $p<0.001$) and quantitative stressors (β=0.19, $p<0.001$). Both quantitative stressors and qualitative stressors were positively related to psychological distress (β=0.24, $p<0.001$; β=0.23, $p<0.01$, respectively). In addition, based on the relative magnitudes of standardized coefficients, social skills were more strongly related to both psychological distress and problem-solving coping than social support (psychological distress –0.38 vs. –0.28, problem-solving coping 0.34 vs. 0.09, and social skills vs. social support, respectively). On the other hand, social skills were more weakly related to both quantitative stressors and qualitative stressors than social support (quantitative stressors –0.10 vs. –0.41, qualitative stressors –0.22 vs. –0.68, and social skills vs. social support, respectively).

Furthermore, our results suggested indirect associations between social skills, social support, and psychological distress through quantitative stressors, qualitative stressors, and problem-solving coping (shown in Table 3). Both social skills and social support were weakly and indirectly related to psychological distress through quantitative stressors (social skills –0.02, social support –0.09), qualitative stressors (social skills –0.05, social support –0.16), and problem-solving coping (social skills 0.04, social support 0.01). Every indirect relationship was smaller than the direct one (e.g. –0.04 vs. –0.38, social skills to psychological distress via problem-solving coping vs. social skills to psychological distress, respectively).

Though the results are not indicated in tables or figures, we conducted an additional analysis to control for potential confounders. There were demographic variables considered as potential confounders such as age, job title, employment type, certification, and working schedule. Significant associations with model variables were observed only in age. Therefore, age was included as a covariance. After controlling for age, model fit indexes were almost the same as those of the proposed model before modification (n=1,150; $\chi^2(67)=794.52$, GFI=0.92, AGFI=0.87, RMSEA=0.09, AIC=870.52). Therefore, control variables were removed from final model shown in Fig. 1.

Discussion

This study examined the direct and indirect association of social skills and social support with job stressors, problem-solving coping, and psychological distress among Japanese nurses using covariance structure analysis. The results showed that (1) social skills and social support were different in the strength of associations with psychological distress, job stressors, and problem-solving coping, (2) although social skills and social support were negatively and directly related to psychological distress, they were positively and indirectly related to psychological distress through problem-solving coping. This study provides some findings with regard to the function of social skills and social support related to psychological distress.

First, it is notable that the association between social skills and psychological distress (β=–0.38) was stronger than the association between social support and psychological distress (β=–0.28). Previous research on social support revealed that social support at work had a positive effect on mental or physical health[21, 22, 25]. Studies involving nurses also suggested that support groups could be useful for stress and burnout prevention[26, 28]. It is noteworthy that our findings imply that social skills may have the potential to be one of an individual's resources in reducing psychological distress, in addition to social support. The current study sug-

Table 3. Coefficients of indirect associations between social skills, social support, and psychological distress through job stressors or coping

1	2	3	1 to 2	2 to 3	1 to 3 via 2
Social skills	Quantitative stressors	Psychological distress	–0.10	× 0.24	= –0.02
Social support	Quantitative stressors	Psychological distress	–0.41	× 0.24	= –0.09
Social skills	Qualitative stressors	Psychological distress	–0.22	× 0.23	= –0.05
Social support	Qualitative stressors	Psychological distress	–0.68	× 0.23	= –0.16
Social skills	Problem-solving coping	Psychological distress	0.34	× 0.11	= 0.04
Social support	Problem-solving coping	Psychological distress	0.09	× 0.11	= 0.01

gests that increasing social skills has a larger impact on mental health than on the other indicators of this model.

Second, social skills and social support are also negatively related to job stressors. Social support was related to both quantitative and qualitative stressors (β=–0.41, β=–0.68). This means that social support has the possibility to reduce psychological distress indirectly through reducing perceived job stressors. Although the effect appeared to be smaller (β=–0.10, β=–0.22), social skills played the same role in this study. Since social skills are more strongly related to qualitative stressors than quantitative stressors, they work well particularly for qualitative stressors such as "role ambiguity" and "lack of discretion". In terms of primary prevention for mental health, it is important to reduce the perception of job stressors. Our results suggest that the possibility for intervention to improve individual social skills and social support at work might reduce psychological distress indirectly through reduction of subjective job stressors, as well as intervention in the work environment such as workload control or working conditions.

Third, social skills and social support are positively related to problem-solving coping and they have small but adverse indirect associations on psychological distress via problem-solving coping. Although previous findings showed that enhancing positive, active, and problem-focused coping is basically effective in solving the existing problems in the workplace[30–32], our results suggest that using too much problem-solving coping may lead to a secondary increase in psychological distress. According to Cohen *et al.*[42], active coping can also have adverse effects on one's health and behavior such as accumulative fatigue when a person engages in prolonged active and effortful coping. Our results from covariance structure analysis supported the "costs of coping" accompanied by active efforts to solve problems[42] could have an adverse effect on psychological distress. In addition, problem-solving coping was related to quantitative stressors but they were not related to qualitative stressors. The findings that coping mechanisms change in accordance with situational contexts in which they are used[29, 38, 39] were supported by the data. On the basis of these findings, we would recommend flexible adoption of coping strategy based on situations, not only problem-solving coping but also other copings.

Regarding the correlations between psychological distress and social skills, troubleshooting skills were generally strongly and negatively related to psychological distress such as tension, irritation, and depressive symptoms. As "troubleshooting skills" mean skills for conflict resolution when dealing with trouble with others, they are especially needed in the various situations of nursing practice. Without adequate skills for conflict resolution, however, the potential for conflict is high and it may be difficult to make effective use of resources at work such as a supportive work environment. Therefore, interventions focused on "troubleshooting skills" may also impact psychological distress and perception of job stressors as well as improving nursing quality.

This study had the following limitations. First, this study was conducted in a cross-sectional design, thus a causal relationship cannot be determined. However, covariance structure analysis can delineate and demonstrate complicated statistical models, causal relationships, or interrelationships between variables to be analyzed using path analysis even though cross-sectional data is used. Second, this study is based on subjective assessments only, and there may be self-reported bias. We must consider other methods for assessment, regarding social skills in particular, such as objective indicators or mutual evaluations from supervisors or coworkers for future studies. Third, the number of complete responses was relatively small (n=1,197) compared to number of total responses (n=1,584). However, sample size in the present study was enough to test the statistical significance of the results. Finally, we have to be careful when applying the results of this study to practical interventions for nurses. Social skills can be improved through training[8], not only by individual effort but also by encouragement from others[43], since there is limited research that has been carried out in the workplace. Most studies on social skills training were conducted on adults, adolescents, and children with special needs, however, few studies involving Japanese nurses have investigated the effects of communication skills training[44, 45]. In the current study, social skills as latent factors consisted of three observed variables such as troubleshooting skills, management skills, and communication skills. Their standardized coefficients were 0.76, 0.69, and 0.56, respectively. This means that troubleshooting skills or management skills may be considerable factors in social skills as latent factors rather than communication skills. It is important to note that social skills have various aspects other than communication skills. These results may be explained by job characteristics of the subjects of this study, nurses. In this study, "troubleshooting skills" means "skills in dealing with trouble with others" and "management skills" means "skills of accomplishing tasks successfully". Because nurses were exposed to working with various people and excessive job demands, these skills are also required for nurses to carry out their work appropriately and effectively. It would be desirable to conduct further studies and to verify our results in interventional stud-

ies for nurses in terms of the improvement of social skills, including not only communication skills but also troubleshooting or management skills.

In conclusion, despite the limitations mentioned above, this study showed the significance of evaluating social skills among nurses using three aspects of social skills (troubleshooting, management, and communication). It is important for nurses' mental health to improve not only social support at work but also individual social skills. Providing nurses with social skills training courses may be useful and contribute to future solutions targeting working conditions of nurses.

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