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Assessing Nurses' Work-life Balance of a Regional Teaching Hospital in Taiwan

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Abstract. This study examines if nurses with different demographic variables have different work-life balance by using seven questions of burnout dimension from the Chinese version of safety attitudes questionnaire in a regional teaching hospital in Taiwan with the 2015 internal data. The results show that gender (with the unequal variance assumption), supervisor/manager, reporting events in the past 12 months, job status, and experience in organization have significant influences on late work. Job status and experience in organization have significant impacts on individual or family plan change due to work factors. Besides, reporting events in the past 12 months has a significant impact on missed meals. Therefore, late work should be placed in the first priority followed by individual or family plan change due to work factors and missed meals in order to improve nurses' work-life balance.

Introduction

Mennino et al. [1] stated that the atmosphere of the workplace (culture) is an important factor to result in negative spillover in both home-to-job and job-to-home directions. The negative spillover indicates there is a work-family conflict. That is, employees might try to find a balance between their jobs and families. In fact, a person who has a negative spillover in family might not be able to concentrate on his or her job. On the other hand, if a person is stressful in his or her job, the life is to be influenced negatively.

AbuAlRub and Alhijaa [2] pointed out that nurses are the biggest workforce in the healthcare organizations and can possess enough power to move the organizational culture toward a better patient safety culture. Thus, it is of interest to observe the work-life balance from nurses' viewpoints. Nurse burnout is associated with patient healthcare quality and job dissatisfaction, and an increase in a nurse' workload could cause higher infections [3]. Moreover, Shanafelt et al. [4] showed that medical errors are highly related to the degree of burnout and mental quality of life.

The Chinese version of safety attitudes questionnaire (SAQ) developed by the Taiwan Joint Commission on Hospital Accreditation has eight dimensions including burnout dimension with seven questions that is used to assess the medical staffs' work-life balance in healthcare organizations in Taiwan annually [5,6]. The study conducted by Mennino et al. [1] showed that different demographic variables might have different impacts on spillover. Due to different demographic variables, it is of interest to assess how nurses perceive in work-life balance in terms of seven questions in burnout dimension by using independent sample t test for mean differences and one-way analysis of variance (ANOVA).

Literature Review

The Chinese version of SAQ has eight dimensions. Six of eight dimensions that consist of teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of management, and working conditions with thirty questions are from Sexton et al. [7]. The seventh dimension borrowed from Maslach burnout inventory-human services survey is emotional exhaustion with nine questions to assess medical staffs' degree of fatigue [6]. The eighth dimension is burnout which assesses the medical staffs' work-life balance with seven questions: 1. Missed meals, 2. A hasty meal, 3. All-day work without any rest, 4. Individual or family plan change due to work factors, 5. Poor sleep, 6. Less than five-hour sleep at night, and 7. Late work [6].

Except for burnout dimension, each respondent was asked to assess each dimension by a five-point Likert scale from strongly disagree with a numerical value of one to strongly agree with a numerical value of five. In contrast, burnout dimension uses a four-point scale that measures the frequency per week, such as less than one day per week, 1-2 days per week, 3-4 days per week, and 5-7 days per week with the numerical values of 1, 2, 3, and 4, respectively [6]. That is, a higher value indicates the employee is toward the work-life imbalance. In addition, there are ten demographic variables in the Chinese SAQ survey including job position [6]. In this study, job position focuses on nurses solely.

Research Method

Nurses with different demographic variables of a regional teaching hospital in Taiwan are assessed if they have different perceptions on burnout based on the internal survey results conducted in October-November 2015 from the Chinese version of SAQ. The number of effective questionnaires is 334. The frequencies and percentages in each demographic variable are depicted in Table 1.

Table 1 Distributions of demographic variables of this case hospital

Demographic Variable		Frequency	Percentage
Gender	1. Male	18	5.4
	2. Female	316	94.6
Age	1. Less than 20 years old	8	2.4
	2. 21-30 years old	139	41.6
	3. 31-40 years old	125	37.4
	4. 41-50 years old	53	15.9
	5. 51-60 years old	9	2.7
	6. 61 years old and above	0	0
Supervisor/Manager	1. Yes	28	8.4
	2. No	306	91.6
Reporting events in the past 12 months	1. No	205	61.4
	2. 1-5	113	33.8
	3. 6-10	14	4.2
	4. 11-15	2	0.6
	5. More than 15	0	0
Job status	1. Full time	303	90.7
	2. Part time	11	3.3
	3. Agency	6	1.8
	4. Contact	14	4.2
Experience in organization	1. Less than 6 months	54	16.2
	2. 6 to 11 months	8	2.4
	3. 1 to 2 years	53	15.9
	4. 3 to 4 years	45	13.5
	5. 5 to 10 years	78	23.4
	6. 11 to 20 years	87	26.0
	7. 21 years or more	9	2.7

Table 1(Cont.)

Experience in position	1. Less than 6 months	61	18.3
	2. 6 to 11 months	9	2.7
	3. 1 to 2 years	59	17.7
	4. 3 to 4 years	54	16.2
	5. 5 to 10 years	90	26.9
	6. 11 to 20 years	58	17.4
	7. 21 years or more	3	0.9
Education	1. Junior high school and below	0	0
	2. Senior high school	1	0.3
	3. College/University	322	96.4
	4. Graduate school and above	11	3.3
Direct patient contact	1. No	10	3.0
	2. Rare	20	6.0
	3. Very often	304	91.0

The scale for these seven questions in burnout ranges from one to four, where smaller values indicate a better work-life balance. In order to assess if nurses with different demographic variables perceive burnout differently from an overall viewpoints, independent sample t test for mean differences with $\alpha = 0.05$ is used to test gender and supervisor/manager. In addition, one-way ANOVA with $\alpha = 0.05$ is used to evaluate the other seven demographic variables, and then Bonferroni method is chosen to perform the post hoc analysis [8].

Research Results

Independent sample t test is used to test if nurses perceive different burnout in terms of gender and supervisor/manager. From Table 2, males and females do not perceive burnout differently except for Item 7 (late work) with the unequal variance assumption. That is, male nurses have relatively higher frequencies in late work than female nurses. From Table 3, employees who are not in charge of supervisors/managers tend to have higher frequency in late work (Item 7) statistically.

Table 2 Mean differences on burnout for gender

Question	Assumption	t	Sig.	Post Hoc
1	Equal Variance	.859	.391	
	Unequal Variance	1.112	.279	
2	Equal Variance	.685	.494	
	Unequal Variance	.781	.444	
3	Equal Variance	1.214	.226	
	Unequal Variance	1.300	.209	
4	Equal Variance	.732	.465	
	Unequal Variance	.933	.362	
5	Equal Variance	.943	.346	
	Unequal Variance	1.014	.323	
6	Equal Variance	.517	.606	
	Unequal Variance	.614	.546	
7	Equal Variance	1.828	.069	
	Unequal Variance	2.875	.009	1 > 2

Table 3 Mean differences on burnout for supervisor/manager

Question	Assumption	t	Sig.	Post Hoc
1	Equal Variance	-.579	.563	
	Unequal Variance	-.541	.593	

Table 3(Cont.)

2	Equal Variance Unequal Variance	.278 .348	.781 .730	
3	Equal Variance Unequal Variance	-.877 -1.108	.381 .275	
4	Equal Variance Unequal Variance	-.155 -.155	.877 .878	
5	Equal Variance Unequal Variance	-.044 -.046	.965 .964	
6	Equal Variance Unequal Variance	.303 .322	.762 .749	
7	Equal Variance Unequal Variance	-3.964 -3.965	.000 .000	2 > 1 2 > 1

Age does not show any significant impacts on these seven questions depicted in Table 4. Employees who report different events in the past 12 months have significant perceptions on Items 1, 2, and 7 as shown in Table 5. The post hoc analysis shows that employees who report 6-10 events have significantly lower frequencies than employees who report zero events in missed meals and late work. Table 6 summarizes how job status influences burnout. The results show that contract-based employees have significantly higher frequencies than part-time employees and full-time employees in Items 4 (individual or family plan change due to work factors) and 7 (late work), respectively.

Table 4 ANOVA results on burnout for age

Item	F	Sig.	Bonferroni
1	.643	.632	
2	1.037	.388	
3	.498	.737	
4	1.835	.122	
5	1.020	.397	
6	1.450	.217	
7	.747	.560	

Table 5 ANOVA results on burnout for reporting events in the past 12 months

Item	F	Sig.	Bonferroni
1	5.718	.001	1 > 3
2	3.718	.012	
3	1.149	.329	
4	2.443	.064	
5	1.553	.201	
6	1.337	.262	
7	3.453	.017	1 > 3

Table 6 ANOVA results on burnout for job status

Item	F	Sig.	Bonferroni
1	1.607	.188	
2	2.357	.072	
3	2.172	.091	
4	2.994	.031	4 > 2
5	1.596	.190	
6	1.222	.302	
7	2.751	.043	4 > 1

Employees with different experiences in organization have different frequencies in Items 2, 4, and 7 illustrated in Table 7 statistically. In addition, the post hoc analysis shows that employees with 5 to 10 years in organization perceive lower frequencies statistically than those with less than 6 months in organization and those 3 to 4 years in organization in Items 4 and 7, respectively. From Table 8, employees with different experiences in position have different perceptions in Items 4 and 7. However, the post hoc analysis does not show any difference among different experiences in position. Table 9 shows that employees with different educations do not perceive burnout differently. Finally, in Table 10, employees who have direct patient contact perceive differently in Item 2 (a hasty meal), but the Bonferroni method does not show any differences among different levels of direct patient contacts.

Table 7 ANOVA results on burnout for experience in organization

Item	F	Sig.	Bonferroni
1	1.782	.102	
2	2.520	.021	
3	1.972	.069	
4	2.550	.020	1 > 5
5	1.321	.247	
6	1.272	.270	
7	3.041	.007	3 > 5

Table 8 ANOVA results on burnout for experience in position

Item	F	Sig.	Bonferroni
1	1.251	.280	
2	1.383	.221	
3	1.728	.114	
4	2.276	.036	
5	.895	.499	
6	.691	.657	
7	2.559	.020	

Table 9 ANOVA results on burnout for education

Item	F	Sig.	Bonferroni
1	.129	.879	
2	.588	.556	
3	.265	.767	
4	.063	.939	
5	.619	.539	
6	1.271	.282	
7	.079	.924	

Table 10 ANOVA results on burnout for direct patient contact

Item	F	Sig.	Bonferroni
1	1.475	.230	
2	3.826	.023	
3	2.593	.076	
4	1.700	.184	
5	2.327	.099	
6	1.900	.151	
7	.253	.777	

Conclusions

The purpose of this study is to examine if nurses have different work-life balance by using these seven questions of burnout dimension from the internal surveyed data in 2015 of a regional teaching hospital based on the Chinese SAQ survey. The results show that gender (with the unequal variance assumption), supervisor/manager, reporting events in the past 12 months, job status, and experience in organization have significant impacts on late work. Besides, job status and experience in organization have significant influences on Item 4 (individual or family plan change due to work factors). Further, reporting events in the past 12 months has an impact on missed meals significantly. Item 7 (late work) should be placed in the highest priority in order to improve nurses' work-life balance followed by Item 4 and Item 1 (missed meals).

Institutional Review Board Approval

The clinical trial approval certificate (ethic statement) was approved by Cheng Ching General Hospital in Taichung City, Taiwan with protocol number of HP150029.

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