

The Factors Affecting the Adversity Quotient of Nurses and Office Workers

Hae Young Woo¹ and Jung Hee Song^{*2}

¹First Author, College of Nursing, Hanyang University

^{*2}Corresponding Author, Department of Nursing, Ansan University
¹why996527@hanmail.net, ²sjh1994@hanmail.net

Abstract

This is a descriptive research to identify the factors affecting the adversity experienced by nurses and office workers. The research was conducted among 270 nurses at a general hospital and 192 office workers in the metropolitan area, and the collected data were analyzed using an SPSS 20.0 program. Statistically significant differences were found in emotional intelligence and the adversity quotient between nurses and office workers. Nurses had both variables at lower levels compared to office workers. Statistically significant correlation was found between the adversity quotient and emotional intelligence in each group. In each group, emotional intelligence significantly affected statistically the adversity quotient. It accounted for 19.0% for nurses and 26.0% for office workers. On the basis of these results, it is necessary to develop and employ a program to improve emotional intelligence, which was found to affect the level of adversity quotient, and develop an intervention strategy to raise the adversity quotient, particularly a customized intervention strategy for nurses who had emotional intelligence and adversity quotient at lower levels compared to office workers. The objective is to help them cope efficiently with their changing job environment and to improve the quality of each work service, the nurses' and office workers' job satisfaction, and their quality of life.

Keywords: *emotional intelligence, adversity, nurse, office worker*

1. Introduction

Nurses required to provide good-quality nursing service in the rapidly changing medical environment may be exposed too much stress due to the characteristics of their job. The Issue Brief [1] of the Korea Research Institute for Vocational Education and Training, which deals with the actual status of emotional labor by occupation, found that among the occupational groups with relatively higher levels of emotional labor, the healthcare-related group scored 3.93 ± 0.813 out of 5, which was the fifth highest, following the food service and sales groups. Office workers fail to be free of job-related stress due to the unstable working environment caused by long-term recession and excessive work. Job stress was associated with organizational members' job satisfaction, job commitment, and turnover intention, which could affect the financial, time, and human resource management of an organization; therefore, it is essential to manage these factors for the purpose of an efficient organization operation and management. In relation to this issue, greater attention has been paid recently to the psychosocial aspect of individuals, and greater interest has been taken in such psychosocial factors as the adversity quotient and emotional intelligence.

Emotional intelligence means the ability to understand, evaluate, and express one's own feelings and those of others, regulate one's own emotions and those of others effectively, and use such emotions with the objective of planning one's own life and implementing one's plan [2]. In today's society where diverse service industries develop constantly, the emotional intelligence of service providers faced with high levels of stress

may have an impact on the quality of service they provide as well as on organizational members' job stress; for this reason, the importance of emotional intelligence is emphasized. As emotional intelligence has been found to be associated with non-cognitive techniques and abilities or capabilities, which may affect personal ability, research on this issue is being conducted in diverse fields [3].

Literature review found that the emotional intelligence of senior welfare facility workers directly and indirectly affected the quality of service [4]; Lee and Song [5] found that nurses' emotional intelligence and self-efficacy might be important factors that could reduce job stress. Park, Park & Moon[6] who tried to determine the moderating effects of emotional intelligence on the association between emotional labor and turnover intention of general hospital nurses, reported that the association between emotional labor and turnover intention was controlled by self emotion appraisal and utilization of emotion. Ko [3], who assessed the moderating effects of emotional intelligence between job embeddedness and turnover intention, found that the higher the level of emotional intelligence was, the lower the level of turnover was and that individuals whose emotional intelligence was at higher levels were more likely to succeed in their job, compared to those whose emotional intelligence was at lower levels, by regarding lots of job demands or limited job resources as challenging factors and by coping positively with them instead of regarding them as stressors. Emotional intelligence is an important variable that can have an impact on service providers' job stress and turnover intention, as well as on the quality of service.

The adversity quotient profile refers to the response quotient in coping with adversity and indicates human beings' ability to overcome adversity and how they have overcome adversity [7]. The adversity quotient profile is a subjective belief that individuals may feel when they face adversity while they adapt themselves to an organization [8]. It can predict human resilience and endurance and can be used to improve social and organizational effectiveness [7]. In other words, the adversity quotient profile is a scale for assessing organizational adaptation that can predict job performance ability and work performance and be used as a basic instrument to develop a strategy for workers' adaptation and success [9], therefore, it can be used as a psychosocial approach to manpower management, including turnover management. In South Korea, nevertheless, only a few studies have been conducted on the adversity quotient to assess the risk-coping ability of high school and college students in terms of studies, career, and employment, while limited research has been conducted in workers [10].

This study aimed to determine the association between emotional intelligence and the adversity quotient of nurses and office workers, identify the factors affecting adversity, and provide basic data that could help develop an intervention program to cope efficiently with the working environment, improve the quality of service, and improve the quality of life for workers.

2. Methods

2.1. Design

This is descriptive research to identify the factors affecting the adversity experienced by nurses and office workers at tertiary medical institutions.

2.2. Subjects

This study was conducted among nurses at a general hospital and office workers in the metropolitan area who understood the purpose of this study and agreed to participate in the research. The number of subjects was determined using a G* Power 3.1.2 program and convenience sampling was performed with 300 nurses and 300 office workers. Of the

questionnaires returned, 270 for nurses and 192 for office workers were finally analyzed, with the exception of those containing unreliable data.

2.3. Instrument

2.3.1. Adversity Quotient Profile

The adversity quotient was measured by the Adversity Quotient Profile (AQP) developed by Stoltz [11]. AQP is an instrument to measure human beings' response to adversity and is divided into four areas: Control, Origin, Reach, and Endurance (CO₂RE) [11]. It consists of 20 items in total—5 in each area—and each item has a five-point scale. The total score doubles the sum: 200 in total [11]. ≤59 out of 200 means unnecessarily suffering from adversity, 60-94 failing to exert the potential to overcome adversity, 95-134 seeming to cope well with adversity but suffering from an accumulated burden, 135-165 enduring adversity relatively well, and 166-200 possessing the ability to cope definitely with adversity [9]. For the reliability of the instrument, Cronbach's σ was .84 in the previous research and .85 in this study.

2.3.2. Emotional Intelligence

The Wong and Law Emotional Intelligence Scale (WELIS) developed by Wong and Law [12] and used by Choi [13] in the previous research was used to measure emotional intelligence. This scale consists of 16 items in total: 4 about self emotion appraisal, 4 about others' emotion appraisal, 4 about utilization of emotion, and 4 about regulation of emotion. Each item has a 7-point Likert scale with scores ranging from 1 (*absolutely no*) to 7 (*totally yes*), with higher scores meaning higher levels of emotional intelligence. For the reliability of the instrument, Cronbach's σ was .87 at the time of its development, .90 in Choi [13], and .92 in this study.

2.4. Data Collection and Ethical Consideration

The data were collected with the approval of the Institutional Review Board in my university from September to November 2013. To collect data from nurses, I explained the purpose and methods of the research to senior nursing officers or chief nurses and got consent to data collection. Two groups of nurses and office workers were given explanation of the purpose of research, how to complete the questionnaire, cautions, freedom to participate in research, anonymity, and confidentiality and were asked to review the written consent containing this explanation, sign it, and complete the questionnaire. A self-administered questionnaire was used.

2.5. Data Analysis

The collected data were analyzed using an SPSS Win 20.0 program in the following way:

- The respondents' general characteristics, adversity quotient, and emotional intelligence were assessed by real number, percentage, mean, and standard deviation.
- Independent t-test and X_2 test were used to see the differences in the adversity quotient and emotional intelligence between nurses and office workers.
- Pearson's correlation coefficient was used to determine the association between the adversity quotient and emotional intelligence of the subjects.
- Stepwise multiple regression analysis was used to assess the factors affecting the adversity quotient of the subjects.

3. Results

3.1. General Characteristics of Respondents

The general characteristics of the respondents are presented in Table 1. As for the nurses, they were aged 29.7 ± 6 on average; 6 (2.2%) out of 270 in total were male and 264 (97.8%) were female. The mean career was 75.05 ± 77.16 months and the subjects worked for an average of 45.72 ± 1.45 hours on a weekly basis. As for the office workers, they were aged 33.61 ± 6.36 on average; 114 (59.4%) out of 192 in total were male and 78 (40.6%) were female. The mean career was 85.64 ± 70.44 months and they worked for an average of 51.51 ± 8.94 hours on a weekly basis. 156 nurses (58.9%) and 126 office workers (65.6%) had their own way of coping with stress.

3.2. Differences in Health Status, Adversity Quotient, and Emotional Intelligence between Subjects

The differences in health status, adversity quotient, and emotional intelligence between subjects are presented in Table 2. No statistically significant difference was found in health status between nurses and office workers as the nurses scored 2.47 ± 0.78 out of 5 and the office workers scored 2.38 ± 0.75 .

Office workers had a statistically significant higher adversity quotient than nurses: office workers scored 141.69 ± 18.71 on average and nurses scored 133.06 ± 17.79 ($t = -5.02$, $p < .001$). Among the sub-areas of the adversity quotient, both groups scored highest for Reach, with statistically significant inter-group differences ($t = -2.07$, $p = .04$), and lowest for Owner, with statistically significant inter-group differences ($t = -4.19$, $p < .001$).

Office workers had significantly higher levels of emotional intelligence than nurses: office workers scored 4.95 ± 0.84 and nurses scored 4.71 ± 0.69 on average ($t = -3.21$, $p = .001$). Among the sub-areas of emotional intelligence, nurses scored highest for self emotion appraisal, followed by others' emotion appraisal and utilization of emotion, whereas office workers scored highest for self emotion appraisal, followed by utilization of emotion and others' emotion appraisal. Statistically significant inter-group differences were found in all of the four sub-areas.

Table 1. Demographic Characteristics of Participants

Characteristics	Categories	Nurse(n=270)		Office worker(n=192)	
		N	%	N	%
Gender	Male	6	2.2	114	59.4
	Female	264	97.8	78	40.6
Education	College	124	45.9	40	20.8
	University	122	45.2	23	12.0
	Graduated school	24	8.9	129	67.2
Religion	Yes	117	43.3	83	43.2
	No	153	56.7	109	56.8
Married state	Yes			105	54.7
	No			85	44.3
	No answer			1	0.5
Position of work unit(Nurse)	Staff nurse	239	88.5		
Position of work unit(Nurse)	Charge nurse	29	10.7		
	Head nurse	2	0.7		

Position of work unit(Office worker)	staff	69	35.9		
	Senior assistant	36	18.8		
	Manager	10	5.2		
	Head of a section	33	17.2		
	Assistant director	20	10.4		
	A chief clerk	5	2.6		
	other	19	9.9		
Method of stress management	Yes	159	58.9	126	65.6
Method of stress management	No	111	41.1	66	34.4

3.3. Level of Adversity Quotient for Nurses and Office Workers

The level of adversity quotient for nurses and office workers is presented in Table 3. Their health status, adversity quotient, and emotional intelligence are presented in Table 2. For the adversity quotient, 148 nurses (54.8%) scored 95-134, which means seeming to cope well with adversity but suffering from an accumulated burden, and 108 (40.0%) scored 135-165, which means enduring adversity relatively well. 10 (3.7%) scored 166-200, which means possessing the ability to cope definitely with adversity, and 4 (1.5%) scored 60-64, which means failing to exert the potential to overcome adversity.

104 office workers (54.4%) scored 135-165 for the adversity quotient, which means enduring adversity relatively well, and 64 (33.5%) scored 95-134, which means seeming to cope well with adversity but suffering from an accumulated burden. 20 (10.5%) scored 166-200, which means possessing the ability to cope definitely with adversity, and 3 (1.6%) scored 60-64, which means failing to exert the potential to overcome adversity.

Table 2. Difference Level of Variables between Nurses and Office Workers

Characteristics	Nurses		Office worker		T or F	p
	Mean	SD	Mean	SD		
Health Status	2.47	0.78	2.38	0.75	1.23	.22
AQP	133.06	17.79	141.69	18.71	-5.02	.000
Control	32.47	5.35	35.04	5.82	-4.92	.000
Owner	27.22	4.12	29.13	5.25	-4.19	.000
Reach	34.63	7.31	36.05	7.13	-2.07	.04
Endurance	31.60	7.98	34.08	7.98	-3.30	.001
Emotional intelligence	4.71	0.69	4.95	0.84	-3.21	.001
Self emotion appraisal	5.00	0.83	5.26	0.97	-2.99	.003
Other's emotion appraisal	4.82	0.79	4.98	0.94	-1.98	.049
Regulation of emotion	4.33	0.92	4.53	1.09	-2.09	0.37
Utilization of emotion	4.69	0.82	5.04	1.07	-3.73	.000

Table 3. Difference Level of Variables between Nurses and Office Workers

Score of AQP	Nurse	Office worker
	N(%)	N(%)
60-94	4(1.5)	3(1.6)
95-134	148(54.8)	64(33.5)
135-165	108(40.0)	104(54.4)
166-200	10(3.7)	20(10.5)
χ^2 (df)	24.002(3), $p=.000$	

3.4. Correlation between Adversity Quotient and Emotional Intelligence

Both nurses ($r=.438$, $p<.001$) and office workers ($r=.520$, $p<.001$) had an adversity quotient statistically correlated significantly with emotional intelligence (Tables 4 and 5). As for nurses, significant correlation was found in all the sub-areas of emotional intelligence and the adversity quotient except for endurance and others' motion appraisal. In particular, the strongest positive correlation was found between control and self emotion appraisal, followed by that between control and regulation of emotion. That is, those with better self emotion appraisal are better at controlling any adversity. Significant positive correlation was found between reach and others' emotion appraisal, regulation of emotion, and utilization of emotion; however, it was weak (Table 4).

As for office workers, the strongest positive correlation was found between control and self emotion appraisal and no correlation was found between endurance and others' emotion appraisal. This result implies that endurance, which indicates how long any difficult situation persists, among the sub-areas of the adversity quotient is irrelevant to others' emotion appraisal.

Table 4. Correlation between the Adversity Quotient and Emotional Intelligence of Nurses

Variable	AQP				
	Total	control	owner	reach	endurance
total	.438 ($<.001$)	.456 ($<.001$)	.459 ($<.001$)	.217 ($<.001$)	.164 (.007)
Self emotion appraisal	.430 ($<.001$)	.426 ($<.001$)	.380 ($<.001$)	.237 ($<.001$)	.200 (.001)
Other's emotion appraisal	.238 ($<.001$)	.234 ($<.001$)	.327 ($<.001$)	.154 ($<.001$)	.017 (.078)
Regulation of emotion	.358 ($<.001$)	.418 ($<.001$)	.337 ($<.001$)	.139 ($<.001$)	.154 (.011)
Use of emotion	.388 ($<.001$)	.391 ($<.001$)	.433 ($<.001$)	.188 ($<.001$)	.148 (.015)

Table 5. Correlation between the Adversity Quotient and Emotional Intelligence of Office Workers

Variable	AQP				
	Total	control	owner	reach	endurance
total	.520 ($<.001$)	.520 ($<.001$)	.496 ($<.001$)	.148 (.041)	.282 (.001)
Self emotion appraisal	.440 ($<.001$)	.458 ($<.001$)	.388 ($<.001$)	.201 (.005)	.179 (.013)
Other's emotion appraisal	.424 ($<.001$)	.405 ($<.001$)	.442 ($<.001$)	.073 (.319)	.257 (.078)
Regulation of emotion	.414 ($<.001$)	.438 ($<.001$)	.371 ($<.001$)	.098 (.178)	.245 (.011)
Use of emotion	.443 ($<.001$)	.416 ($<.001$)	.437 ($<.001$)	.122 (.092)	.255 ($<.001$)

3.5. Factors Affecting Adversity Quotient

The results from the regression analysis to identify the factors affecting the adversity quotient of the subjects are presented in Table 6. Age, career, weekly working hours, and emotional intelligence, each of which was expected to affect the adversity quotient on the basis of literature review were inputted to determine the influence. Tolerance was estimated to be more than 0.1 (1.0) and the variance inflation factor (VIF) less than 10 (1.000); therefore, multicollinearity was not found among variables. Both nurses and office workers had emotional intelligence significantly affect stepwise selection among the variables, accounting for 19.0% for nurses and 26.0% for office workers. That is, the higher the levels of emotional intelligence are, the higher the adversity quotient is in both groups.

Table 6. Influencing Factors on Adversity Quotient

Category	Model	B	Standardized coefficients β	t	p	R ²	Adj R ²	F	p	VIF
Nurse	(Constant)	79.28		11.62	.000	.194	.190	63.120	.000	
	El	11.39	.44	7.950	.000					1.000
Office worker	(Constant)	95.43		12.30	.000	.264	.260	66.971	.000	
	El	11.34	.51	8.180	.000					1.000

4. Discussion

This study aimed to investigate the emotional intelligence and adversity quotient of nurses and office workers, identify the factors affecting adversity, and provide basic data that could help develop a nursing intervention for nurses and office workers to cope efficiently with their working environment, to improve the quality of their service, and to improve the quality of their life.

Statistically significant differences were found in the adversity quotient and emotional intelligence between nurses and office workers as nurses had a lower adversity quotient than office workers. For the adversity quotient, nurses scored 133.06 ± 17.79 on average, which means seeming to cope well with adversity but suffering from an accumulated burden. In contrast, office workers scored 141.69 ± 18.71 on average, which means enduring adversity relatively well. Nurses scored lower for the adversity quotient than office workers probably because of the special working environment of hospitals. They are required to perform excessively heavy work among patients with health problems, caregivers, and other healthcare professionals in such a special environment and have psychosocial difficulties, as well as physical ones simply due to an irregular schedule, excessively heavy work, and higher role expectation [9]. It is therefore necessary to relieve the physical burden and difficulties through the improvement in the working environment and to employ a program that can allow individuals to reduce the psychological burden at workplace and emotional labor. Employing such a program that raises the adversity quotient for nurses would relieve job stress and help reduce the turnover rate. Such is also expected to enhance personal and occupational efficiency, improve work performance, and create qualitative improvement in medical service.

Office workers had significantly higher levels of emotional intelligence than nurses: office workers scored 4.95 and nurses 4.71 on average, both of which were at middle or higher levels. In the same scale, the nurses scored higher for emotional intelligence than the general hospital nurses in Park, Park and Moon[6] (4.57 on average) and in Han [14] (4.43) but lower than those in Jeon and Yom [15] (4.83). Among its sub-areas, they scored highest for self emotion appraisal and lowest for regulation of emotion, consistent with the literature review [16]. This result demonstrates that nurses generally have moderate or higher levels of emotional intelligence and that they are good at self emotion appraisal but relatively poor at regulation of emotion.

The result that nurses had lower levels of emotional intelligence than office workers suggests the need to promote emotional intelligence to help nurses cope effectively with a situation and, especially, the need to intensively manage and promote the regulation of emotion and utilization of emotion for which they scored lower among their sub-areas. Baek [17] confirmed that nurses saw their emotional intelligence improve through a coaching program, whereas Seo [18] found that high school students saw their emotional intelligence improve by a visual design course. Since it has been confirmed that emotional intelligence can be improved through diverse types of education and training, it is urgent to develop and employ a program to allow nurses to improve their emotional intelligence, which is at lower levels than other occupational groups.

Both groups had emotional intelligence significantly correlated with the adversity quotient: the higher the level of emotional intelligence was, the higher the adversity quotient was [19]. In other words, improving emotional intelligence also improves one's ability to cope with adversity. Emotional intelligence was the most important factor affecting the adversity quotient. Office workers had adversity more strongly affected by emotional intelligence than nurses: it accounted 26% for office workers and 19.0% for nurses. Given the fact that emotional intelligence was a significant factor in both groups although the impact size differed, it is possible to raise the adversity quotient and reduce negative results (such as an increase in the turnover rate and a decrease in job satisfaction) by developing and employing an intervention strategy to improve emotional intelligence. Given the fact that adversity quotient is a factor to predict individuals' job performance ability and work performance [8,20], it is most of all important to raise the adversity quotient with the aim of inducing positive results related to job. The adversity quotient is an individual's will to overcome any adversity. This may not only be affected by individuals' innate disposition but also controlled by socio-environmental variables in social life. It is therefore crucial to develop a program that raises the adversity quotient by occupational group and to present customized strategies.

Work performance is important from the perspective of a social organization. This is also true for medical organizations, as well as for general enterprises. Work performance may be connected directly with the profit generation of general enterprises and with patients' health promotion and recovery in medical organizations. On this basis, an organization operator needs to pay attention to improving the adversity quotient for individuals in pursuit of better work performance.

These results are expected to be useful as basic data that can help develop a strategy to raise the adversity quotient and improve emotional intelligence for the purpose of workers' adaptation and success.

5. Conclusion

This study aimed to investigate the emotional intelligence and adversity quotient of nurse practitioners and office workers, identify the factors affecting these variables, and contribute to the development of interventions to cope efficiently with the working environment and improve the quality of service and the quality of life for workers. Nurses had both emotional intelligence and the adversity quotient at lower levels than office workers; the higher the level of emotional intelligence was, the higher the adversity quotient was in both groups. This result implies that emotional intelligence is an important factor to account for the adversity quotient and that it is necessary to develop an intervention strategy that can improve emotional intelligence by occupation group and raise the adversity quotient with the objective of enhancing personal and occupational performance and improving the quality of life.

Since convenience sampling was performed with only two occupation groups, the results can hardly be generalized to all the occupation groups. Repetitive research involving a diversity of variables affecting the adversity quotient, as well as comparison among diverse occupation groups, should be conducted in pursuit of wide-ranging utilization of the results.

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Authors



Hae-Young, Woo

- 1999. 02. Department of Nursing, Hanyang University (Bachelor)
- 2003. 08. Department of Nursing, Hanyang University (Master)
- 2008. 08. Department of Nursing, Hanyang University (Ph D.)
- 2005. 03 ~ College of Nursing, Hanyang University



Jung-Hee, Woo

- 1999. 02. Department of Nursing, Hanyang University (Bachelor)
- 2005. 02. Department of Nursing, Hanyang University (Master)
- 2008. 02. Department of Nursing, Hanyang University (Ph D.)
- 2008. 03 ~ 2011.02. Department of Nursing, Kimcheon University
- 2011. 03 ~ 2015.01. Department of Nursing, Jeonju University
- 2015. 03 ~ Department of Nursing, Ansan University