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Factors Influencing Ego-resilience in Nursing Students

Jun Hee Noh[1], EunJu Lim[2]

[1]*Assistant Professor, Department of Nursing, Woosuk University, Wanju-Gun, Jeollabuk-Do, Korea, junhee0802@woosuk.ac.kr*
[2]*Assistant Professor, Red Cross College of Nursing, Chung-Ang University, Seoul, Korea, dew7590@cau.ac.kr*

Abstract

The objective of this study was to examine the variables influencing the ego-resilience of female university students majoring in nursing. Data were collected from 109 nursing students during the period from March to June 2013, and analyzed using descriptive statistics, t-tests, ANOVAs, Pearson's correlation coefficients, and multiple linear regression analyses using the SPSS WIN 18.0 program. Ego-resilience showed a statistically significant, positive correlation with internal health locus of control ($r = .303$, $p = 0.001$), one of the sub-domains of health locus of control. Self-esteem ($t = -5.508$, $p < 0.001$) and internal health locus of control ($t = 2.995$, $p = 0.003$) affected ego-resilience and explained 24.9% of the variance ($F = 7.736$, $p < 0.001$). These findings suggest that if nursing students' internal locus of control and ego-resilience are maximized, it will enhance their health-related knowledge and be helpful in adjusting to school life through controlling and overcoming stress in their environment. Thus, nursing students' teachers need to provide positive feedback and encouragement to maximize students' disposition toward an internal locus of control, and students should make an effort to enhance their self-esteem by cultivating an optimistic attitude, positive emotional experiences, and self-confidence.

Keywords: *Resilience, Health locus of control, Nursing students*

1. Introduction

Rapid advances in science and technology in the 21st century are evident in the healthcare environment. This has resulted in more complex and diverse responsibilities in nursing, in addition to patients' expectations of high-level nursing services. These circumstances demand professional nurses with strong clinical skills for coping with emergencies and myriad complicated situations [1]. As a result, university nursing students have an excessive workload compared to students in other majors because they must acquire expert knowledge and skills in addition to preparation for the national examination [2]. Some students overcome these challenges and carry out their duties successfully, while others have difficulty recovering from emotional problems or maladjustment to campus life [3]. Ego-resilience, an important concept related to adjustment, refers to the ability to cope resiliently and flexibly with changing situational needs or internal/external stress. High ego-resilience is a state that allows a person to overcome stress or adversity. Those with high ego-resilience have a positive self-image and a strong internal locus of control, and can therefore adjust successfully by responding flexibly to changing situational needs [4]. Thus, for university nursing studentspreparing for future professional responsibilitiesand adjusting to a new environment, ego-resilience is a major predictor of successful adaptation to campus life [5]. In addition, ego-resilience is an important factor for beginner nurses who have just graduated from school and are adapting to a new work environment in which various unpredictable situations occur [6].

For these reasons, ego-resilience is a tendency that nursing students need and rely on,not only when adjusting to school life but also in their future nursing positions in

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hospitalsand community settings.

Another related concept is health locus of control, or an individual's expectations about what determines health status [7]. Beliefs about the maintenance and management of health affect various types of health-related behaviors. Health locus of control can be changed through training, and can help nursing students reduce their negative emotions and overcome difficult situations [8].

Assessing nursing students' ego-resilience and health locus of control is highly meaningful. As future nursing professionals who will act as healthcare providers in the community after graduation, they should be prepared to cope flexibly with anxiety, depression, and maladaptation. They should also have a positive influence on patients' health locus of control.

Thus, this study was conducted in order to assess the health locus of control and ego-resilience among female university students in their 2nd or 3rd year of nursing studies, and to identify factors affecting their ego-resilience. The results of this study provide basic information needed to enhance the ego-resilience of nursing students who will play important roles as healthcare providers in the future.

The specific aims of the study were as follows: (1)identify characteristics of female undergraduate students majoring in nursing, (2) measure levels of ego-resilience and health locus of control, (3) test for differences in ego-resilience and health locus of control according to socio-demographic characteristics, (4) examine the correlations between ego-resilience and health locus of control, and (5) determine which factors affect ego-resilience.

2. Methods

2.1. Study Design

This study was cross-sectional and utilized a descriptive survey.

2.2. Data Collection and Participants

Subjects were 109 female undergraduate students majoring in nursing at one of three universities in South Korea who completed a structured self-report questionnaire. To ensure the reliability of this study, data were collected across the country with consideration of regional similarities and differences. The selected regions ranged from metropolitan areas to small- and medium-sized cities. Data were collected from March to June 2013, and all participants were informed about the study's purpose and methods. According to the results of a power analysis using the G*Power 3 program [9], if this study had eight independent variables, a significance level (α) of 0.05, power (1-β) of 0.80, and an effect size of 0.15, the minimum required sample size was 103. Therefore, the number of subjects (N = 109) is considered sufficiently large.

2.3. Measurements

2.3.1. Ego-resilience: Ego-resilience refers to the tendency to respond flexibly to situational demands or stressful situations [10]. Ego-resilience was measured using the questionnaire developed by Wagnild and Young [10], which we paid a copyright royalty to use; the Korean version was translated by Shin [11]. This questionnaire consists of 25 items: 17 items on personal ego-resilience and eight on the respondent's acceptance of his/her own life. Each item was answered using a 7-point Likert scale ranging from 1 (not at all) to 7 (absolutely yes), so the total score ranged from 25 to 175. A high score indicates a high level of ego-resilience. Cronbach's α for this tool was 0.83 in the current study.

2.3.2. Health locus of control: Health locus of control is a person's belief that all happenings throughout his/her life are caused by his/her own behavior, fate, or external forces [12]. We used the Multi-dimensional Health Locus of Control Scale developed by Wallston and Wallston [6] and translated by Cho and Kim [13]. We modified the 5-point scale to a 6-point scale in order to exclude the tendency to choose the median value. Health locus of control is divided into three domains, and the scale includes six questions on internal locus of control, six on dependence locus of control, and six on chance locus of control for a total of 18 questions. The total score ranges from 18 to 108, and a higher score within the internal sub-domain indicates belief in the influence of one's own behavior on health, as opposed to a strong influence of fate or other external forces.

2.3.3. Other Variables: The socio-demographic characteristics surveyed were age, grade, economic status, social support, major satisfaction level, self-esteem, and perceived health status. These data were collected using a structured questionnaire.

2.4. Procedures

All participants agreed to participate in the study and signed a written consent form that assured confidentiality before the study began. Data were collected with a self-report questionnaire.

2.5. Data Analysis

Data analysis was conducted with SPSS for Windows, version 18.0 (IBM Corporation, Armonk, NY, USA).

Subjects' socio-demographic characteristics, ego-resilience, and health locus of control were analyzed using descriptive statistics.

Differences in ego-resilience and health locus of control according to socio-demographic characteristics were analyzed by t-tests and ANOVAs, and post-hoc comparisons were performed using Scheffe's method.

Correlations between ego-resilience and health locus of control (overall and by sub-domain) were analyzed using Pearson's correlation coefficients.

Factors affecting students' ego-resilience were identified through the use of multiple linear regression. An alpha level of 0.05 was used for all statistical tests.

3. Results

3.1. Socio-demographic Characteristics

The socio-demographic characteristics of female undergraduate students majoring in nursing are shown in Table 1.

The average age of our subjects was 20.76 years; 94.5% were younger than 23, and 5.5% were 23 years or older. Sophomores made up 51.4% of the sample, and the other 48.6% were juniors. Most (85.3%) were from the middle class, and 57.8% had an average level of family and peer support. Major satisfaction was reported to be medium by 65.1% of subjects, 45.0% reported medium levels of self-esteem, and 43.1% had a healthy perceived health status.

Table 1.Socio-demographic Characteristics (*N* = 109)

Characteristics	Categories	*n*	(%)
Age (years)	<23	103	(94.5)
	≥23	6	(5.5)
Grade	2	56	(51.4)
	3	53	(48.6)
Economic level	Poor	13	(11.9)
	Moderate	93	(85.3)
	Rich	3	(2.8)
Support of family and peers	Unsatisfied	3	(2.8)
	Moderate	63	(57.8)
	Satisfied	43	(39.4)
Satisfaction with major	Unsatisfied	8	(7.3)
	Moderate	71	(65.1)
	Satisfied	30	(27.5)
Self-esteem level	Low	24	(22.0)
	Middle	49	(45.0)
	High	36	(33.0)
Perceived health status	Unhealthy	15	(13.8)
	Moderate	41	(37.6)
	Healthy	47	(43.1)
	Very healthy	6	(5.5)

3.2. Ego-resilience and Health Locus of Control

The mean level of ego-resilience was 113.08, and mean health locus of control was 66.73 (see Table 2). In terms of the sub-domains, mean internal health locus of control was 26.70, mean dependence health locus of control was 20.66, and mean chance health locus of control was 19.37 (internal locus of control was highest).

3.3. Differences in Ego-resilience and Health Locus of Control According to Socio-Demographic Characteristics

Differences in ego-resilience and health locus of control according to socio-demographic characteristics are shown in Table 3.

Table 3.Differences in Ego-resilience and Health Locus of Control According to Socio-demographic Characteristics (*N*=109)

Characteristics	Categories	Ego-resilience			
		Mean ± SD	*t/F*	*p*	Sc
Age	<23	113.25±12.65	.586	0.559	
	≥23	110.16±9.74			
Grade	2	113.89±13.95	.650	0.517	
	3	112.29±11.05			
Economic level	Poor	108.92±10.88			
	Moderate	113.31±12.70	1.912	0.153	
	Rich	124.00±3.00			
Support of family and peer	Unsatisfied[a]	100.33±2.52			
	Moderate[b]	111.57±13.40	3.502	0.034	a,
	Satisfied[c]	116.19±10.57			
Satisfaction with major	Unsatisfied	106.25±8.92			
	Moderate	112.80±12.79	1.833	0.165	
	Satisfied	115.57±12.18			
Self-esteem level	Low[a]	105.54±10.39			
	Middle[b]	110.06±9.18	21.191	<0.001	a,
	High[c]	122.22±12.56			
Perceived health status	Unhealthy	115.67±12.88			
	Moderate	113.81±11.69	.356	0.785	
	Healthy	112.83±10.99			
	Very healthy	110.47±18.42			

The analysis revealed a significant difference according to level of support from family and peers (F = 3.502, p = 0.034)and self-esteem (F = 21.191, p < 0.001). According to the results of the post-hoc analysis, the level of ego-resilience was significantly higher when subjects were "satisfied" with the level of support from family and peers than when they were "unsatisfied" or "moderate" (F = 3.502, p = 0.034), and when self-esteem was high (F = 21.191, p < 0.001). There was also a significant difference in health locus of control according to economic level (F = 3.217, p = 0.044).

Table 2.Ego-resilience and Health Locus of Control (*N* = 109)

Categories	*Mean* ± *SD*	Range	Min	Max
Ego-resilience	113.08 ± 12.50	25–175	86	168
Health locus of control	66.73 ± 8.73	18–108	42	105
Internal health locus of control	26.70 ± 3.81	6–36	17	36
Dependence health locus of control	20.66 ± 4.97	6–36	6	36
Chance health locus of control	19.37 ± 4.17	6–36	7	33

3.4. Correlations between Ego-resilience and Health Locus of Control

The correlations between ego-resilience and health locus of control are shown in Table 4. Ego-resilience and health locus of control were significantly positively correlated (r = .241, p = 0.011). Ego-resilience also correlated significantly with the sub-domain internal health locus of control (r = .303, p = 0.001).

Table 4.Correlations between Ego-resilience and Health Locus of Control

Variable	Ego-resilience
	r (*p*)
Health locus of control	.241 (0.011)
Internal health locus of control	.303 (0.001)
Dependence health locus of control	.165 (0.086)
Chance health locus of control	.032 (0.745)

3.5. Factors Affecting Ego-resilience

The effects of internal health locus of control and socio-demographic characteristics on ego-resilience are shown in Table 5. The regression analysis included, as independent variables, all of the socio-demographic characteristics measured and all variables that correlated with internal health locus of control. In this study, self-esteem (t = -5.508, p < 0.001) and internal health locus of control (t = 2.995, p = 0.003) affected ego-resilience and together explained 24.9% of the variance (F = 7.736, p < 0.001). In particular, self-esteem (β = -0.475) was most influential on ego-resilience.

Table 5.Factors Influencing Ego-resilience

Variables	*B*	*SE*	*β*	*t*	*p*
Constant	118.955	14.114		8.428	<0.001
Self esteem	-7.536	1.368	-.475	-5.508	<0.001
Internal health locus of control	.813	.271	.248	2.995	0.003
	R^2 = 0.349, F = 7.736 (p < 0.001)				

4. Discussion

We assessed nursing students' ego-resilience and health locus of control and observed a relatively high mean score for ego-resilience (113.08). Although it is not easy to compare directly due to the difference in research tools, this result is similar to results reported by Park and Lee [5,14] in their study with university students (a mean score of 2.72 out of 4). Ego-resilience is a dynamic characteristic that changes over time, and is essential for nursing students who must adjust flexibly to a changing environment, overcome high stress, and carry out their work in both campus life and their future job. Thus, it is considered necessary to develop ego-resilience promotion programs for nursing students to support adaptation to campus life and strategies for strengthening adaptability.

Subjects' mean health locus of control was 66.73. Among the sub-domains, internal locus of control was highest, followed by dependence locus of control and chance locus of control. This order of the sub-domains is consistent with the results of previous studies on health locus of control among nursing students [8,15]. However, the mean score of chance locus of control in this study was lower than reported by Cha [8], while the scores of internal locus of control and dependence locus of control were higher. This supports the conclusion that because nursing students have a certain level of health-related knowledge and know-how compared to students in other majors, their internal locus of control is high and their chance locus of control is low [8]. Moreover, because those with a tendency toward an internal locus of control are more sensitive to health information and tend to increase their knowledge more so than those with other beliefs, guidance to maximize internal locus of control, actively acquire information, and take more interest in personal health status would be helpful. This guidance would help nursing students to further improve their health-related knowledge and adjust to campus life through greater control in a stressful environment.

In this study, ego-resilience and health locus of control correlated positively (r = .241, p = 0.011). In particular, ego-resilience was significantly related to the sub-domain internal health locus of control (r = .303, p = 0.001). This result supports previous findings showing that those with high ego-resilience are able to control their behavior through healthy interpersonal relationships and proper control of emotions such as anger [16], and that those with a tendency toward internal locus of control are successful in controlling stress and also tend to have high ego-resilience [8].

We found that among the sub-domains of health locus of control, internal locus of control affected nursing students' ego-resilience, as did self-esteem. The explanatory power of these factors was 24.9%. Self-esteem was found to be the most influential factor affecting ego-resilience. This is similar to a previous report stating that those with a resilient ego have high self-esteem and are emotionally stable [17]. Accordingly, teachers should create a class environment such that students may speak their thoughts freely, and should provide positive feedback and encouragement. Students must make an effort to enhance their self-esteem by cultivating an optimistic attitude, positive emotional experiences, and self-confidence. Further, self-esteem may be utilized to enhance ego-resilience.

5. Conclusions

This descriptive, correlational study attempts to identify factors affecting the ego-resilience of female university students majoring in nursing. This study also attempted to explain the associations between ego-resilience and health locus of control as an effort to promote a healthy physical and psychological lifestyle for nursing students. Health locus of controlwas identified as a significant correlates of the ego-resilience of nursing students. What is more, self-esteem was found to be the most significant factor impacting nursing students' ego-resilience. This study is meaningful in that it provides basic practical information for structuring nursing education, in particular information related to students' positive adaptation to campus life [16].

There are several limitations of this study. Owing to its nature as a one-time, cross-sectional study, it was difficult to demonstrate cause-and-effect relationships among the variables. In addition, because the subjects of this study were limited to the nursing students of universities selected through convenience sampling, future research should generalize our findings through replication with a larger sample size, including nursing students from more diverse areas.

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Authors

Jun Hee Noh, RN, PhD
Assistant Processor, Department of Nursing, Woosuk University, Wanju-Gun, Jeollabuk-Do, Korea.
Interests: Nursing education, Resilience, Health behaviors

EunJu Lim, RN, PhD
Assistant Processor, Red Cross College of Nursing, Chung-Ang University, Seoul, Korea.
Interests: Nursing education, Simulation, Qualitative research