

## Variables Influencing Ego Integrity of the Hospitalized Older Adults\*

Sung Ji Park

Associate Professor, Department of Secondary Special Education, Wonkwang University, Republic of Korea  
(psungji@wku.ac.kr)

### ARTICLE INFO

#### *Article history:*

Received 30 July 2024

Revised 11 August 2024

Accepted 14 August 2024

#### *Keywords:*

Depression,

Ego integrity,

Hospitalized older adults,

Physical health,

Social support

### ABSTRACT

The purpose of this study was to identify the variables affecting hospitalized older adults individuals' ego integrity. The survey was conducted through one-on-one interviews by nurses with older adult patients aged 65 and over who were hospitalized in a general hospital from June to August 2022. The variables were included general characteristics, physical health, depression, social support, and ego integrity. Descriptive statistics were performed to calculate percentages, means, and standard deviations of variables. T-tests, ANOVA, were used to see the difference of variables based on general characteristics of the older adults. Correlations were also calculated to find out the relationship among variables. The results indicated that social support is the most affective variable for the ego integrity of hospitalized older adult patients, and depression, age, and whether or not the patient had undergone surgery are followed. Specifically, patients who received more social support, experienced lower levels of depression, were older, and had not undergone surgery exhibited higher levels of ego integrity. The study analyzed the factors influencing ego integrity in hospitalized older adult patients through multiple regression analysis, considering age, highest level of education, surgical history, type of health insurance, and the study's main variables: physical symptoms, depression, and social support as independent variables. The results showed that age, surgical history, depression, and social support significantly affected ego integrity. Given the increased role of healthcare providers due to the implementation of comprehensive nursing care services, social support as a nursing intervention is crucial. Especially in a hospital setting where emotional and informational support is limited, it is important to provide various nursing interventions through social support to help older adult patients achieve ego integrity while maintaining their physical, social, and psychological health.

\* This work was supported by research funding from Wonkwang University in 2023.

## 1. Introduction

Hospitalized older adult patients experience various difficulties. Hospitalization limits opportunities for contact with family and friends, reduces opportunities for social activities, and consequently leads to psychological issues such as social isolation and loneliness (Just et al., 2022). Hospitalization also contributes to physical deterioration. The reduced amount of physical activity and the continuous bed rest during hospitalization lead to a decrease in muscle mass, weakening overall physical condition (Evensen et al., 2017). These psychological and physical constraints can also lead to cognitive problems. The reduction in cognitive stimulation, which is usually obtained through various daily experiences, can result in a decline in cognitive function (Dasgupta, 2016). These negative aspects experienced by hospitalized older adult patients can cause the decision to hospitalize for health reasons to lead to adverse outcomes, worsening their health instead.

Ego integrity is a concept proposed by Erikson (1950) as a developmental task in old age, involving viewing one's past life with a sense of coherence and accepting the impending death calmly. As an indicator of successful aging (Martin et al., 2015), ego integrity involves accepting all life's trajectories — achievements, resignations, joys, and pains — as necessary for a meaningful life. Therefore, older adults who achieve ego integrity tend to accept their life's various trajectories as they are and are satisfied with their relationships with others (Berk, 2018). Psychosocially healthy older adults experience a comfortable and stable old age through ego integrity, while those who do not achieve it may perceive their lives as failures and feel anxious and deeply despondent about not having the time to rectify perceived failures (van der Kaap-Deeder et al., 2022).

As the importance of ego integrity for the older adults has been highlighted, numerous studies have been conducted on the variables influencing it (Kim & Kim, 2003; Kim & Kang, 2018; Jung & Oh, 2015). The level of physical health in older adults are related to ego integrity (Kim & Park, 2014). Since physical health is directly linked to the quality of life, it also affects ego integrity. It is challenging for older adults to form ego integrity when their quality of life is diminished due to deteriorating physical health. The decline in physical health of the older adults restricts most daily activities, lowering life satisfaction (Puvill et al., 2016) and preventing them from fully realizing their abilities. Additionally, observing their declining physical health may lead to feelings of the futility of past efforts and despair.

In a similar vein, depression among the older adults can also hinder ego integrity (Jung & Oh, 2015). In a depressed state, individuals are likely to lose a positive perspective on their lives, view past experiences negatively, and lose hope for the future (Bueno-Pacheco et al., 2021). Consequently, a negative judgment of one's life can impede the formation of ego integrity. This tendency is likely to be more pronounced among hospitalized older adults. The need for separation from family due to surgery or prolonged treatment, anxiety about not recovering as before, and a lack of freedom in daily life may exacerbate depression among hospitalized older adults, hindering them from viewing their lives positively.

Social support refers to emotional and practical assistance received from significant others (Kang, 2020). Social support includes emotional support such as understanding, comfort, and empathy from friends or family, informational support providing helpful information for problem-solving or deci-

sion-making, practical support that aids in daily living, and social relational support through friendly connections (Ko, Wang, & Xu, 2013). Many studies revealed the social support is important to maintain overall health of the older adults (Kim & Lee, 2017; Yoon, Sohn, & Kil, 2017; Lee, Kim, & Nam, 2017). Various forms of social support received during challenging times help individuals overcome adversity (Choi, Chae, & Song, 2009; Zanjari et al., 2022).

In addition to the three variables mentioned so far, general characteristics of hospitalized older adults, such as age, type of illness, and whether they have undergone surgery, may also affect their ego integrity. This study aims to expand the variables influencing the ego integrity of hospitalized older adults beyond psychological factors to include general variables, thereby enhancing the practice of older adults care.

## 2. Methods

### 2.1 Research design

This study is a descriptive research aimed to identify the physical health, depression, social support, and ego integrity of hospitalized older adult patients and analyze the relationships among these factors to determine the influencing variables on ego integrity of hospitalized older adults.

### 2.2 Participants and data collection

To determine the sample size for this study, G-Power 3.1 was used, and a minimum of 150 participants was calculated to maintain a power of 0.85 at a medium effect size and a significance level of 0.05. Data collection was conducted over two months, from June to August 2022, targeting hospitalized patients who understood the study's purpose and consented to participate in the survey.

The survey was conducted after the researcher had an interview with the institution's officials and obtained permission for data collection. Patients who had consented to the use of their information at the time of hospitalization were introduced to the researcher by nurses in each ward when the patients were nearing discharge. The researcher then conducted one-on-one interviews directly with the participants.

During the survey, the researcher explained the study's purpose, significance, confidentiality, voluntary participation, and the option to withdraw at any time. Participants were assured that the information would not be used for purposes other than the study, and consent forms were obtained. The survey took approximately 20 to 30 minutes to complete, and a small token of appreciation was given afterward. Although 175 participants were initially surveyed, considering the dropout rate, the final data analysis included 142 completed surveys.

### 2.3 Variables

#### 2.3.1 General characteristics

The general characteristics of the hospitalized older adults were included demographic variables

like gender, age, spouse, and education level and hospitalization-related variables like surgery status, hospital department, and primary caregiver. The specific characteristics are presented in Table 1.

### 2.3.2 *Physical health*

To measure physical health, the physical health assessment tool developed by Choi and Chung (1990) as part of the Older adults Health Assessment Tool was used. This tool reflects changes in various bodily functions due to normal aging, including skin and appendages, nervous system, sensory systems (vision, hearing, taste, touch, and smell), musculoskeletal system, cardiovascular system, respiratory system, digestive system, endocrine system, sexual function, and urinary system. The tool consists of 24 items covering six factors like eating, grooming, excretion, activity, sleep, and sexual life. Each item is rated on a scale of 1, 3, or 5 points, with higher scores indicating better physical health.

### 2.3.3 *Depression*

The depression scale for hospitalized older adult patients used the Short Form of the Geriatric Depression Scale (SGDS) developed by Yesavage and Sheikh (1982) and standardized into the Korean version (SGDS-K) by Cho et al. (1999). This tool is a self-report screening test consisting of 15 items, designed to be easily understood and answered by older adults with reduced physical and cognitive functions. Each item is scored with 'Yes' as 0 points and 'No' as 1 point, with negative items being reverse scored. A higher total score indicates a greater level of depression. The tool categorizes depression as follows: 0-5 points indicate normal, 6-10 points indicate mild depression, and 11-15 points indicate severe depression.

### 2.3.4 *Social support*

Social support refers to the positive resources an individual can obtain from their interpersonal relationships (Cohen & Hoberman, 1983). In this study, the tool developed by Song (1991), based on Cohen and Hoberman's (1983) social support tool, was used. This tool, designed to measure perceived social support among the older adults, consists of 20 items, including 6 items for informational support, 5 items for material support, 5 items for emotional support, and 4 items for ego integrity support. Each item is scored on a scale from 'not at all' (0 points), 'sometimes' (1 point), 'often' (2 points), to 'always' (3 points), with higher scores indicating higher perceived social support.

### 2.3.5 *Ego integrity*

To measure ego integrity in hospitalized older adult patients, a tool developed by Chang et al. (2007) was used, examining the subjective and cognitive evaluation, psychological well-being, and socio-cultural context of the older adults. This tool consists of 21 items across three domains: transcendence, self-reliance, and interpersonal relationships. Each item is rated on a 5-point Likert scale from 'not at all' (1 point) to 'very much' (5 points), with higher scores indicating higher levels of ego integrity.

## *2.4 Data analysis*

The data collected in this study were analyzed using the SPSS 29.0 statistical program as follows:

1) The general characteristics of the participants and the characteristics related to hospitalization were calculated using frequency, percentage, mean, and standard deviation.

2) The physical health, depression, social support, and ego integrity of the participants were calculated using frequency, percentage, mean, and standard deviation.

3) Differences in physical health, depression, social support, and ego integrity according to the general characteristics and hospitalization-related characteristics of the participants were analyzed using t-tests and ANOVA.

4) The relationships between physical health, depression, social support, and ego integrity of the participants were analyzed using Pearson's product-moment correlation coefficient.

5) Multiple regression analysis was conducted to identify the variables influencing the participants' ego integrity.

## **3. Results**

### *3.1 General characteristics of the participants*

The general characteristics of the participants in this study are shown in Table 1. Among the 142 participants, 83 were female (58.5%). The average age was  $70.06 \pm 4.87$  years, with 76 participants (53.5%) being over 60 years old. There were 126 participants (88.7%) who had a spouse. The highest level of education for the participants was high school graduation for 56 participants (39.4%), middle school graduation for 40 participants (28.2%), elementary school graduation or below for 31 participants (21.8%), and college graduation or higher for 15 participants (10.6%). Additionally, 78 participants (54.9%) reported having a religion.

Regarding living arrangements, 83 participants (58.5%) lived with their spouse only, 41 participants (28.9%) lived with their spouse and children, and 18 participants (12.7%) lived alone. The main source of income for 74 participants (52.1%) was allowances from their children, with 51 participants (35.9%) receiving less than 500,000 KRW per month. Previous occupations included housewives (40 participants, 28.2%), laborers and skilled workers (22 participants, 15.5%), and educators or public servants (21 participants, 14.8%). For hospitalization-related characteristics, 72 participants (50.7%) regularly took medication. The departments of hospitalization were orthopedics (83 participants, 58.5%), surgery (24 participants, 16.9%), neurosurgery (22 participants, 15.5%), and internal medicine (13 participants, 9.2%). Among the participants, 92 (64.8%) underwent surgery during hospitalization. The primary caregivers were spouses for 67 participants (47.2%), daughters for 27 participants (19.0%), and others including hired caregivers for 21 participants (14.8%). Medical expenses were entirely covered by family for 85 participants (59.9%).

Regarding types of medical insurance, 122 participants (85.9%) had health insurance, 18 participants (12.7%) had other private insurance, and 2 participants (1.4%) had medical aid. The participants'

self-perceived health status was reported as poor by 51 participants (35.9%), average by 48 participants (33.8%), and good by 43 participants (30.3%).

**Table 1.** General and hospitalization-related characteristics of the participants

				N=142
Characteristic	Category	Frequency (n)	Percentage (%)	M±SD
<b>Gender</b>	Male	59	41.5	
	Female	83	58.5	
<b>Age (years)</b>	60s	76	53.5	70.06±4.87
	70s	56	39.4	
	80s and above	10	7.0	
<b>Spouse</b>	Yes	126	88.7	
	No	16	11.3	
<b>Education Level</b>	Elementary school or below	31	21.8	
	Middle school	40	28.2	
	High school	56	39.4	
	College or higher	15	10.6	
<b>Religion</b>	Yes	78	54.9	
	No	64	45.1	
<b>Living Arrangements</b>	Living alone	18	12.7	
	Living with spouse only	83	58.5	
	Living with spouse and children	41	28.9	
<b>Main Source of Income</b>	Children's allowance	74	52.1	
	Pension, severance pay	39	27.5	
	Property income	11	7.7	
	National pension	7	4.9	
	Labor income	4	2.8	
	Other	7	4.9	
<b>Monthly Allowance</b>	Less than 500,000 KRW	51	35.9	
	500,000 - 1,000,000 KRW	44	31.0	
	More than 1,000,000 KRW	47	33.1	
<b>Previous Occupation</b>	Housewives	40	28.2	
	Agriculture	14	9.9	
	Commerce	19	13.4	
	Labor and skilled workers	22	15.5	
	Educators and civil servants	21	14.8	
	Professionals	15	10.6	
<b>Regular Medication Usage</b>	Yes	72	50.7	
	No	70	49.3	
<b>Hospital Department</b>	Orthopedics	83	58.5	
	Neurosurgery	22	15.5	
	Surgery	24	16.9	
	Internal Medicine	13	9.2	
<b>Surgery Status</b>	Underwent surgery	92	64.8	
	Did not undergo surgery	50	35.2	

Table 1. Cont.

Characteristic	Category	Frequency (n)	Percentage (%)	M±SD
<b>Primary Caregiver</b>	Spouse	67	47.2	
	Son	15	10.6	
	Daughter-in-law	12	8.5	
	Daughter	27	19.0	
	Other	21	14.8	
<b>Medical Expense Burden</b>	Fully covered by family	85	59.9	
	Half covered by family	22	15.5	
	Partially covered by family	16	11.3	
	Fully covered by self (including spouse)	15	10.6	
	Other	4	2.8	
<b>Type of Medical Insurance</b>	Health insurance	122	85.9	
	Medical aid	2	1.4	
	Other private insurance	18	12.7	
<b>Current Health Status</b>	Good	43	30.3	
	Average	48	33.8	
	Poor	51	35.9	

### 3.2 Physical health, depression, social support, and ego integrity among the participants

The descriptive statistics for the participants' physical health, depression, social support, and ego integrity are presented in Table 2. The average score for physical health among the participants was  $2.60 \pm 0.29$ . The average depression score was  $4.46 \pm 3.23$ , with 79 participants (55.6%) classified as normal, 54 (38.0%) experiencing mild depression, and 9 (6.3%) reporting moderate depression. The average social support score was  $1.59 \pm 0.47$ , and the average ego integrity score was  $2.77 \pm 0.58$  among the participants.

Table 2. Physical health, depression, social support, and ego integrity among the participants

N=142				
Characteristic	Category	N (%)	Range	Mean ± SD
Physical Health			1~3	$2.60 \pm 0.29$
Depression	Normal	79 (55.6)	0~15	$4.46 \pm 3.23$
	Mild	54 (38.0)		
	Severe	9 (6.3)		
Social Support			0~3	$1.59 \pm 0.47$
Ego integrity			1~4	$2.77 \pm 0.58$

### 3.3 Differences in physical health, depression, social support, and ego integrity according to the participants' general characteristics

The differences in physical health, depression, social support, and ego integrity according to the participants' general characteristics are presented in Table 3.

**Table 3.** The differences in physical health, depression, social support, and ego integrity according to the participants' general characteristics

Charac- teristics	Category	Physical Health			Depression			Social Support			Ego integrity		
		(Mean±SD)	T/F	p	(Mean±SD)	T/F	p	(Mean±SD)	T/F	p	(Mean±SD)	T/F	p
N=142													
<b>Gender</b>	Male	2.63±0.27	1.217	.225	4.29±3.34	-0.549	.584	1.66±0.52	1.427	.156	2.78±0.55	0.249	.804
	Female	2.57±0.30			4.59±3.16			1.54±0.44			2.76±0.60		
<b>Age (Years)</b>	60s	2.65±0.25	3.135	.047*	3.84±2.86	3.423	.035*	1.62±0.47	2.396	.095	2.72±0.57	3.121	.047*
	70s	2.52±0.34			5.30±3.41			1.50±0.45			2.76±0.58		
	80s and above	2.62±0.21			4.50±4.03			1.83±0.55			3.20±0.47		
<b>Spouse</b>	Yes	2.62±0.27	1.471	.160	4.28±3.17	-1.958	.052	1.62±0.47	1.985	.049*	2.77±0.56	-0.144	.887
	No	2.46±0.40			5.94±3.40			1.37±0.48			2.79±0.75		
<b>Education Level</b>	Elementary or below	2.60±0.35	2.260	.084	4.90±3.28	0.865	.461	1.51±0.45	1.587	.195	2.87±0.60	2.860	.039*
	Middle School	2.50±0.32			4.90±2.93			1.51±0.45			2.55±0.51		
	High School	2.65±0.22			4.04±3.26			1.69±0.49			2.85±0.58		
	College or above	2.65±0.27			4.00±3.78			1.57±0.49			2.83±0.59		
<b>Religion</b>	Yes	2.61±0.30	-0.645	.520	4.22±3.06	1.007	.316	1.54±0.47	1.326	.187	2.74±0.58	-0.512	.610
	No	2.58±0.29			4.77±3.42			1.65±0.48			2.79±0.57		
<b>Living Arrangement</b>	Living Alone	2.39±0.40	5.695	.004**	6.11±3.20	3.311	.039*	1.35±0.40	6.591	.002**	2.75±0.67	2.908	.058
	Only with Spouse	2.64±0.28			4.43±3.14			1.54±0.46			2.69±0.54		
	With Spouse and Children	2.61±0.23			3.80±3.22			1.78±0.47			2.95±0.59		
<b>Main Income</b>	Children's Allowance	2.56±0.32	1.167	.329	4.70±3.31	1.738	.130	1.59±0.49	1.573	.172	2.70±0.64	1.658	.149
	Pension, Retirement Pay	2.65±0.23			4.18±2.89			1.68±0.47			2.87±0.48		
	Property Income (Rent, Financial)	2.64±0.23			3.64±2.33			1.42±0.42			2.70±0.40		
	State Allowance	2.61±0.26			6.29±3.77			1.44±0.51			2.76±0.82		
	Employment Income	2.81±0.86			1.00±2.00			1.83±0.50			2.47±0.22		
	Other	2.50±0.44			5.00±4.32			1.28±0.12			3.24±0.31		
<b>Monthly Allowance</b>	Less than 500,000 KRW	2.59±0.30	2.786	.065	4.29±3.55	0.986	.376	1.54±0.48	2.330	.101	2.87±0.61	2.725	.069
	500,000~1,000,000 KRW	2.53±0.34			5.02±3.22			1.51±0.42			2.60±0.57		
	Over 1,000,000 KRW	2.67±0.21			4.13±2.84			1.71±0.49			2.82±0.53		

Table 3. Cont.

Charac- teristics	Category	Physical Health (Mean±SD)	T/F	p	Depression (Mean±SD)	T/F	p	Social Support (Mean±SD)	T/F	p	Ego integrity (Mean±SD)	T/F	p
<b>Past Occupation</b>	Full-time Housewife	2.55±0.33	1.896	.086	4.48±3.23	1.288	.267	1.50±0.42	2.397	.031*	2.64±0.61	1.802	.103
	Agriculture	2.50±0.37			3.93±2.87			1.53±0.49			2.91±0.59		
	Commerce	2.62±0.25			3.74±3.00			1.68±0.60			2.76±0.50		
	Labor/Tech nical	2.51±0.32			5.45±3.42			1.45±0.31			2.55±0.56		
	Teaching/ Public Sector	2.73±0.18			3.81±2.89			1.77±0.44			2.99±0.54		
	Professional	2.68±0.19			4.07±3.75			1.85±0.60			2.93±0.58		
	Other	2.67±0.25			6.18±3.19			1.40±0.39			2.87±0.57		

\*p < 0.05, \*\*p < 0.01

The difference in physical health according to the general characteristics of the participants showed that those in their 70s had the lowest physical health (F=3.135, p=.047), and those living alone had significantly lower physical health (F=5.695, p=.004). The difference in depression according to the general characteristics of the participants also showed that those in their 70s had the highest depression scores (F=3.423, p=.035), and those living alone had significantly higher depression scores (F=3.311, p=.039). The difference in social support according to the general characteristics of the participants showed that those with a spouse had significantly higher social support than those without (t=1.985, p=.049), and those living alone had significantly lower social support (F=6.591, p=.002). In terms of past occupation, those who were in labor or skilled jobs had significantly lower social support scores (F=2.397, p=.031). The difference in ego integrity according to the general characteristics of the participants showed that those aged 80 and above had the highest ego integrity (F=3.121, p=.047), and those with a middle school education had significantly the lowest ego integrity (F=2.860, p=.039).

### 3.4 Differences in physical health, depression, social support, and ego integrity according to the hospitalization-related characteristics of the participants

The differences in physical symptoms, depression, social support, and ego integrity according to the hospitalization-related characteristics of the participants are presented in Table 4.

Table 4. The differences in physical symptoms, depression, social support, and ego integrity according to the hospitalization-related characteristics of the participants

N=142													
Charac- teristics	Category	Physical Health (Mean±SD)	T/F	p	Depres- sion (Mean±SD)	T/F	p	Social Support (Mean±SD)	T/F	p	Ego Integrity (Mean±SD)	T/F	p
<b>Regular Medication</b>	Taking	2.54±0.29	-2.376	.019*	5.07±3.15	2.299	.023*	1.58±0.43	-0.261	.795	2.75±0.50	-0.501	.617
	Not taking	2.66±0.29			3.84±3.21			1.60±0.52			2.79±0.65		

Table 4. Cont.

Charac- teristics	Category	Physical Health (Mean±SD)	T/F	p	Depres- sion (Mean±SD)	T/F	p	Social Support (Mean±SD)	T/F	p	Ego Integrity (Mean±SD)	T/F	p
<b>Department</b>	Orthopedics	2.58±0.31	1.025	.384	4.27±3.32	1.212	.308	1.62±0.47	3.096	.029*	2.76±0.57	2.592	.055
	Neurosurgery	2.70±0.21			3.86±3.06			1.74±0.44			3.05±0.44		
	Surgery	2.58±0.32			5.46±3.26			1.35±0.44			2.62±0.66		
	Internal Medicine	2.58±0.25			4.92±2.63			1.58±0.53			2.63±0.60		
<b>Surgery</b>	underwent	2.60±0.29	0.358	.721	4.83±3.23	1.825	.070	1.57±0.45	-0.777	.438	2.69±0.58	-2.302	.023*
	Did not undergo	2.59±0.30			3.80±3.15			1.63±0.51			2.92±0.55		
<b>Caregiver</b>	Spouse	2.66±0.25	1.851	.123	4.27±3.23	0.695	.597	1.65±0.45	1.575	.184	2.77±0.54	2.376	.055
	Son	2.57±0.28			4.60±3.33			1.67±0.54			3.00±0.68		
	Daughter- in-law	2.47±0.24			3.42±3.02			1.63±0.41			2.71±0.52		
	Daughter	2.60±0.34			5.11±3.19			1.40±0.39			2.53±0.56		
	Other	2.50±0.42			4.76±3.39			1.55±0.58			2.94±0.63		
<b>Treatment Cost Burden</b>	Entirely Family	2.56±0.31	2.257	.066	4.71±3.19	2.020	.095	1.64±0.46	1.115	.352	2.71±0.58	2.433	.050
	Half Family	2.65±0.24			3.55±3.05			1.57±0.62			2.82±0.68		
	Partly Family	2.59±0.27			5.38±3.85			1.56±0.41			2.63±0.48		
	Entirely Personal	2.78±0.14			3.00±2.17			1.36±0.35			3.02±0.42		
	Other	2.49±0.43			6.25±4.03			1.64±0.46			3.38±0.33		
<b>Type of Health Insurance</b>	Health Insurance	2.59±0.30	0.376	.687	4.38±3.25	0.317	.729	1.63±0.49	4.073	.019*	2.82±0.58	3.647	.029*
	Medical Aid	2.78±0.35			5.00±1.41			1.78±0.35			2.76±0.00		
	Other Private Insurance	2.60±0.26			5.00±3.23			1.30±0.29			2.43±0.52		
<b>Current Health Status</b>	Good	2.68±0.23	2.392	.095	3.19±2.48	10.108	<.001**	1.57±0.43	0.603	.548	2.82±0.56	0.815	.445
	Average	2.58±0.29			4.06±3.23			1.65±0.57			2.81±0.61		
	Poor	2.55±0.33			5.92±3.27			1.54±0.41			2.69±0.67		

\*p &lt; 0.05, \*\*p &lt; 0.01

In the differences in physical symptoms according to hospitalization-related characteristics, those who were taking medication regularly had significantly lower physical symptoms compared to those who were not ( $t=-2.376$ ,  $p=.019$ ). In the differences in depression according to hospitalization-related characteristics, those taking regular medication had significantly higher depression scores ( $t=2.299$ ,  $p=.023$ ), while those who responded that their current health status was poor had significantly lower depression scores ( $F=10.108$ ,  $p<.001$ ). In the differences in social support according to hospitalization-related characteristics, those hospitalized in the neurosurgery department had significantly higher social support scores ( $F=3.096$ ,  $p=.029$ ), and those with medical aid had significantly higher social support scores compared to those with other types of medical insurance ( $F=4.073$ ,  $p=.019$ ). In the differences in ego integrity according to hospitalization-related characteristics, those who did not undergo surgery had significantly higher ego integrity compared to those who did ( $t=-2.302$ ,  $p=.023$ ), and those with medical insurance had significantly higher ego integrity scores compared

to those with medical aid or other types of insurance ( $F=3.647, p=.029$ ).

### 3.5 Relationship between physical health, depression, social support, and ego integrity of the participants

The relationship between physical health, depression, social support, and ego integrity of the participants is presented in Table 5.

**Table 5.** The relationship between physical health, depression, social support, and ego integrity of the participants  
N=142

	Physical Health	Depression	Social Support
	r(p)		
Depression	-.528(<.001)**		
Social Support	.128(.130)	-.280(<.001)**	
Ego Integrity	.281(<.001)**	-.411(<.001)**	.456(<.001)**

\* $p<.05$ , \*\* $p<.01$

There was a significant positive correlation between ego integrity and physical health ( $r = .281, p < .001$ ), as well as between ego integrity and social support ( $r = .456, p < .001$ ). In contrast, a significant negative correlation was found between ego integrity and depression ( $r = -.411, p < .001$ ). Additionally, the participants' depression showed a significant negative correlation with physical health ( $r = -.528, p < .001$ ) and social support ( $r = -.280, p < .001$ ).

### 3.6 Factors influencing ego integrity in participants

The results of multiple regression analysis conducted to identify variables influencing ego integrity in participants are presented in Table 6.

**Table 6.** Factors influencing ego integrity in participants

	$\beta$	t	p	Adjusted R <sup>2</sup>	F	p
(Constant)		-7.799	.426	.385	13.627	<.001**
Age	.243	3.503	<.001**			
Education beyond middle school (ref. Middle school)	.131	1.909	.058			
No surgery (ref. Surgery)	.154	2.247	.026*			
Medical insurance, medical protection (ref. Other insurance)	.104	1.509	.134			
Physical health	.121	1.498	.137			
Depression	-.262	-3.172	.002**			
Social support	.309	4.353	<.001**			

\* $p<.05$ , \*\* $p<.01$

To identify the factors influencing participants' ego integrity, a multiple regression analysis was conducted with the independent variables of age, education level, and surgery status, type of medical insurance, physical symptoms, depression, and social support. The analysis revealed that the significant factors affecting ego integrity were age, surgery status, depression, and social support. The explanatory power of the selected measurement variables for ego integrity was found to be 38.5% ( $F=13.627$ ,  $p<.001$ ). The variable that had the most significant impact on participants' ego integrity was social support ( $\beta =.309$ ,  $p<.001$ ), followed by depression ( $\beta =-.262$ ,  $p=.002$ ), age ( $\beta =.243$ ,  $p<.001$ ), and surgery status ( $\beta =.154$ ,  $p=.026$ ). In other words, participants had higher ego integrity when they received more social support, had lower levels of depression, were older, and had not undergone surgery.

#### 4. Discussion and Conclusion

This study aimed to investigate the relationship between physical health, depression, social support, and ego integrity among hospitalized older adult patients, and to identify variables influencing ego integrity.

The study results showed that the average score for physical health perceived by the hospitalized older adults was  $2.60\pm 0.29$  on a 5-point scale, indicating a 'moderate' level of health. This is similar to the subjective health status perceived by the older adults aged 60 and above in South Korea over a six-year longitudinal study, which reported average scores of 2.76 (2006), 2.75 (2008), and 2.66 (2010) on the same scale (Min, 2013). Additionally, a study utilizing data from the 6th and 7th National Survey of Older Koreans found that the subjective health status perceived by the older adults significantly deteriorated over the study period (Ha & Kang, 2021).

The average depression score among the hospitalized older adults was  $4.46\pm 3.23$ , which is lower than the scores found in previous studies using the same depression scale for community-dwelling (5.4) and institutionalized older adults (8.0) (Song & Kim, 2007). However, a previous study comparing the depression levels between hospitalized and non-hospitalized older adults showed that the general older adults had significantly lower depression scores than the hospitalized older adults (Seo & Oh, 1996). In this study, 54 (38.0%) of the hospitalized older adults had mild depression, and 9 (6.3%) had severe depression. The prevalence of mild or severe depression was higher than that reported in rural older adults (36.3%) (Kim, 2014) and urban older adults (33-38%) (Kim et al., 2002). According to an international study, 31.19% of hospitalized older adults exhibited depressive symptoms, showing a significant difference compared to the general older adults (Borgohain & Gupta, 2018). However, the depression scores of older adult participants can vary depending on measurement tools, regions, and methodologies, indicating that it is challenging to simply compare depression levels based solely on scores.

Among the hospitalized older adults, those living alone had significantly lower physical health scores and higher depression scores. The isolation of older adults living alone is related to the level of social support, and low social support exacerbates physical health (Jeong & Yoon, 2015). Therefore, providing social support to improve health or reduce economic and social problems can

help the older adults living alone adapt effectively to daily life and impact their physical and psychological well-being (Lee & Lee, 2002). Notably, cohabitation with family members significantly influences the depressive symptoms of older adults receiving informal care in Korea (Lee, An, & Jang, 2024), highlighting the need to consider this when providing nursing interventions for hospitalized older adults, especially those living alone, as it significantly affects their health recovery.

Hospitalized older adult patients who were regularly medicated had significantly lower physical health scores and higher depression scores. This aligns with recent international research that found a similar correlation between depression and medication adherence among older adult patients with cardiovascular diseases (Brimavandi et al., 2023). Additionally, patients who responded that their health status was 'poor' at the time of hospitalization had significantly lower depression scores, which might be attributed to the mental relief from receiving medical care and acknowledging their 'poor' health condition at the time of hospitalization.

The average score for social support perceived by the hospitalized older adults was  $1.59 \pm 0.47$  on a 5-point scale. This result differs from previous studies comparing the social support levels of hospitalized older adults and the general older adults, which reported an average score of 2.76 for hospitalized older adults and 2.69 for the general older adults, with no significant difference between the two groups (Seo & Oh, 1996). However, given the complexity of social support and its various elements, it is challenging to make a straightforward comparison. The social support perceived by the hospitalized older adults was significantly higher when they had a spouse. One of the most crucial sources of social support for the older adults is the presence of a spouse, who can provide emotional and practical support, thus improving overall quality of life (Jeon, 2006). The spouse's support plays a vital role in alleviating feelings of isolation and depression during old age, particularly for hospitalized older adult individuals, emphasizing the importance of the spouse's role as a caregiver.

The average score for ego integrity among the hospitalized older adults was  $2.77 \pm 0.58$ . The level of ego integrity among the hospitalized older adults in this study was lower than that of older adults living alone, who are considered vulnerable physically and psychosocially, with an average ego integrity score of 3.19 (Kim et al., 2009). This result also supports the findings of Kim and Park (2014), who reported a significant correlation between physical health levels and ego integrity.

The factors influencing ego integrity among the hospitalized older adults were social support, depression, age, and surgery status. Specifically, higher levels of social support, lower levels of depression, older age, and the absence of surgery were associated with higher levels of ego integrity. The factors influencing ego integrity among the hospitalized older adults are similar to those influencing ego integrity among community-dwelling older adults, with social support being the most significant factor (Kim & Kang, 2018). Furthermore, since ego integrity in old age is positively correlated with the quality of life (Kim, 1999), nursing interventions are necessary to enhance ego integrity by alleviating symptoms and maintaining health among hospitalized older adults. It is particularly important to explore methods to enhance ego integrity in a hospital setting.

The study's findings that social support significantly impacts ego integrity among hospitalized older adults align with research indicating that social support can reduce disease susceptibility and help maintain health (Park & Suh, 1999). Additionally, research on hospitalized older adult

patients categorized by the type of social support they received found that, next to family support, support from medical professionals was a crucial variable (Park & Suh, 1999). Given that the implementation of integrated nursing care services has increased the role of medical professionals in the absence of family caregivers in a hospital setting, social support as a nursing intervention is critical. In situations where emotional and informational support from family, relatives, and friends is limited due to hospitalization, cognitive abilities may decline, or physical and mental issues may arise (Ryan, 1998). Nurses must provide appropriate and diverse nursing interventions to help the older adults achieve ego integrity through social support, maintaining their physical, social, and psychological health.

Recommendations based on the study results are as follows;

1. In nursing practice, it is crucial to recognize that social support is the most significant factor in establishing ego integrity among hospitalized older adult patients. There should be a development of various nursing interventions that can provide social support, thereby aiding in the recovery or maintenance of physical and mental health for older adult patients.
2. There is a need for quantitative research that considers the diverse psychosocial characteristics of older adult patients, and qualitative research that delves deeper into the emotional states of older adult patients.
3. This study identified the factors influencing ego integrity among older adult patients through surveys. Therefore, further research should utilize physiological indicators and various physical and psychological variables to elucidate the relationships between physical health, depression, and ego integrity among older adult patients.
4. The nursing education curriculum should address the concept of social support related to older adults care and its impact on the health changes in the older adults.
5. It is essential to develop integrated nursing interventions in clinical settings that not only address the physical health of the older adults but also enhance the perceived level of social support.

The Limitations of the Study were as follows; first, this study focused on older adult patients who were hospitalized in general hospitals rather than in tertiary hospitals, and who had relatively normal cognitive function and were able to communicate. As a result, the study may have included a higher proportion of older adult patients with relatively mild illnesses rather than those with severe conditions.

Second, the study was conducted with older adult patients in a general hospital located in a small city in a rural area. Therefore, there are limitations in generalizing the findings to older adult patients hospitalized in metropolitan areas.

## **Conflicts Interest**

No author has any other conflict of interest to declare.

## References

- Berk, L. (2018). *Development through the lifespan* (7th Ed.). Pearson Education, Inc.
- Borghain, L., & Gupta, H. (2018). Prevalence of depression and its impact on perceived social support in elderly hospitalized patients: A cross-sectional hospital-based study. *Journal of Medical Science and Clinical Research*, 6(10), 1087-1094.
- Brimavandi, M., Abbasi, P., Khaledi-Paveh, B., & Salari, N. (2023). Examining the relationship between depression and medication adherence among elderlies suffering from cardiovascular disease referring to the clinics affiliated with Kermanshah University of Medical Sciences: A cross-sectional study. *Health Science Report*, 6(8), e1503.
- Bueno-Pacheco, A., Satorres, E., Delhom, I., & Meléndez, J. (2023). Ego-integrity and its relationship with sense of coherence, satisfaction, self-efficacy, and depression. *Current Psychology*, 42, 6439-6446.
- Chang, S. O., Kong, E. S., Kim, K. B., Kim, N. C., Kim, J. H., Kim, C. G., & Choi, K. S. (2007). Development of a scale to measure Korean ego-integrity in older adults. *Journal of Korean Academy of Nursing*, 37(3), 334-342.
- Cho, M. J., Bae, J. N., Seo, K. H., Ham, B. J., Kim, J. G., Lee, D. W., & Kang, M. H. (1999). Validation of Geriatric Depression Scale, Korean Version (GDS) in the assessment of DSM-III-R major depression. *Journal of Korean Neuropsychiatric Association*, 38(1), 48-63.
- Choi, H. I., Chae, H. T., & Song, I. W. (2009). The effect of self-esteem and social support on relationship between elderly's stressful life events and hopelessness. *Korean Journal of Gerontological Social Welfare*, 43, 183-202.
- Choi, Y. H., & Jeung, S. E. (1990). A study on the development of physical health assessment tool and health status of Korean elderly. *The Journal of Korean Academic Society of Adult Nursing*, 3, 70-96.
- Cohen, S., & Hoberman, H. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125.
- Dasgupta, M. (2016). Cognitive impairment in hospitalized seniors. *Geriatrics*, 1(1), 4.
- Erikson, E. (1950). *Childhood and society*. New York, NY: Norton.
- Evensen, S., Sletvold, O., Lydersen, S., & Taraldsen, K. (2017). Physical activity among hospitalized older adults-an observational study. *BMC Geriatrics*, 17(1), 110.
- Ha, M., & Kang, S. (2021). Effects of different types of perceived social support on changes in subjective health among older adults: A focus on gender differences. *Journal of Korean Gerontological Nursing*, 23(4), 323-332.
- Jeon, J. (2006). *A study on the influencing factors of ego integrity in the elderly: Centering on the social support and depression* (Master Thesis). Seoul woman's University.
- Jeong, H. J., & Yoon, S. H. (2015). The influencing factors on the ego integrity of elderly living alone. *Journal of Korean Academic Society of Nursing Education*, 21(4), 499-508.
- Jeong, H. S., & Oh, H. (2015). Mutual reciprocal relationship between ego integrity and depression in elderly: Multidimensional influencing factors. *Korean Journal of Academy of Nursing*, 27(3), 262-272.

- Just, S. A., Seethaler, M., Sarpeah, R., Waßmuth, N., Bempohl, F., & Brandl, E. J. (2022). Loneliness in elderly patients. *Psychiatric Quarterly*, 93 (4), 1017-1030.
- Kang, M. H. (2020). A study on social support and happiness in old age: Focusing on gender differences. *Journal of Social Quality Research*, 4 (2), 47-70.
- Kim, E. J., & Kang, S. J. (2018). Converged factors influencing ego integrity of community dwelling elderly. *Journal of the Korea Academia-Industrial Cooperation Society*, 19 (8), 160-166.
- Kim, H. K., Lee, H. J., Joo, Y. J., & Park, S. M. (2009). Factors influencing the ego integrity of elders living alone. *Journal of Korean Gerontological Nursing*, 11 (2), 204-15.
- Kim, H. Y., & Park, M. H. (2014). Physical function and ego-integrity in frail and non-frail elders in a local community. *Journal of Korean Gerontological Nursing*, 16 (1), 27-37.
- Kim, J. (2014). Predictive relationships between depression and health status, physical function, and social support of elders in rural areas. *Journal of Korean Gerontological Nursing*, 16 (3), 231-241.
- Kim, J. M., Shin, I. S., Kim, L. J., Yoon, J. S., & Lee, H. Y. (2002). Subjective memory impairment, cognitive function, and depression: A cross-sectional study in a community dwelling elderly population. *Journal of Korean Neuropsychiatric Association*, 41 (4), 706-712.
- Kim, J. S. (1999). A study on ego integrity and quality of life on the elderly. *Ulsan College Report*, 26 (1), 259-277.
- Kim, S. Y., & Kim, M. A. (2003). Relationship among pain, depression and ego integrity in day care center elderly peoples with chronic pain. *Journal of Korean Gerontological Nursing*, 5 (1), 50-60.
- Kim, Y. I., & Lee, Y. S. (2017). The effect of social support of elderly people using welfare center on happiness: Mediating effect of self-efficacy. *Korean Journal of Gerontological Social Welfare*, 72 (4), 217-238.
- Ko, H. C., Wang, L. L., & Xu, Y. T. (2013). Understanding the different types of social support offered by audience to a-list diary-like and informative bloggers. *Cyber Psychology, Behavior, and Social Networking*, 16 (3), 194-199.
- Lee, D., Kim, J. H., & Nam, S. I. (2017). The effect of social support on aging anxiety: Double mediation effect of depression and coping on elderly. *Korean Journal of Gerontological Social Welfare*, 72 (2), 323-348.
- Lee, H. Y., An, J. Y., & Jang, S. Y. (2024). Factors influencing depressive symptom based on the type of care for older adults living at home. *Korea Society of Nursing Research*, 8 (2), 1-12.
- Lee, S. S., & Lee, K. J. (2002). The stress, social support and psychological well-being of the elderly. *The Korean Gerontological Society*, 22 (1), 1-20.
- Martin, P., Kelly, N., Kahana, B., Kahana, E., Wilcox, B. J., Wilcox, D. C., & Poon, L. W. (2015). Defining successful aging: A tangible or elusive concept? *The Gerontologist*, 55 (1), 14-25.
- Min, J. H. (2013). Effect of social engagement on self-rated health trajectory among Korean older adults. *Health and Social Welfare Review*, 33 (4), 105-23.
- Park, H. & Suh, S. (1999). The relationship among social support, powerlessness, and quality of life in the hospitalized elderly. *Journal of Korean Academy of community Health Nursing*, 1 (1), 5-15.

- Puvill, T., Lindenberg, J., de Craen, A. J. M., Slaets, J. P. J., & Westendorp, R. G. J. (2016). Impact of physical and mental health on life satisfaction in old age: A population based observational study. *BMC Geriatrics*, *16*, 194.
- Ryan, M. (1998). The relationship between loneliness, social support, and decline in cognitive function in the hospitalized elderly. *Journal of Gerontological Nursing*, *24* (3), 19-27.
- Seo, H. A., & Oh, K. O. (1996). Social support and depression between admitted elder and home elder. *Chungnam Medical Journal*, *23* (2), 179-190.
- Song, M. S. (1991) *Construction of a functional status prediction model for the elderly* (Doctoral dissertation). Seoul National University.
- Song, M. S., & Kim, N. C. (2007). Effects of activities of daily living and depression on the ego-integrity in elders. *Journal of Gerontological Nursing*, *9* (2), 154-162.
- van der Kaap-Deeder, J., Vermote, B., Warerschoot, J., Soenens, B., Morbée, S., & Vansteenkiste, M. (2022). The role of ego identity and despair in older adults' well-being during the COVID-19 crisis: the mediating role of need-based experiences. *European Journal of Ageing*, *19* (1), 117-129.
- Yesavage, J. A., Brink, T. L., Rose, T. L., & Leirer, V. O. (1982). Development and validation of geriatric depression screening scale: A preliminary report. *Journal of Psychiatric Research*, *17*, 37-49.
- Yoon, K. A., Sohn, E., & Kil, T. (2017). An analysis of the moderating effect of hope on the relationship between social support and psychological well-being among older adults living alone with basic care services. *Korean Journal of Gerontological Social Welfare*, *72* (2), 9-33.
- Zanjari, N., Momtaz, Y. A., Kamal, S. H. M., Basakha, M., & Ahmadi, S. (2022). The influence of providing and receiving social support on older adults' well-being. *Clinical Practice & Epidemiology in Mental Health*, *18*, e174501792112241.

