

## A Study on the Relationship between Recognition of Health Information Manager and Academic Stress

Min Soo Kim<sup>1,2</sup>, Hyeon Ji Lee<sup>1,3</sup>, Jeong Min Yang<sup>1,4</sup>, Jae Hyun Kim<sup>1,5</sup>

<sup>1</sup>Institute for Digital Life Convergence, Dankook University, Cheonan-si, Chungcheongnam-do, Republic of Korea

<sup>2</sup>Graduate student, Dept. Public Health, General Graduate school of Dankook University, Cheonan, Republic of Korea (soo931108@gmail.com), First Author

<sup>3</sup>Senior researcher, National Cancer Control Institute, National Cancer Center, Goyang, Republic of Korea (hyeonji2ee@gmail.com)

<sup>4</sup>Graduate student, Dept. Public Health, General Graduate school of Dankook University, Cheonan, Republic of Korea (yangjm1206@gmail.com)

<sup>5</sup>Assistant professor, Dept. Health Administration, College of Health Science, Dankook University, Cheonan-si, Chungcheongnam-do, Republic of Korea (jaehyun@dankook.ac.kr), Corresponding Author

### ARTICLE INFO

#### Article history:

Received 26 December 2022

Revised 19 January 2023

Accepted 22 January 2023

#### Keywords:

Health Information Manager,  
Major Recognition,  
Career Recognition,  
College Dropout,  
Academic Stress

### ABSTRACT

The college students majoring in public health administration can experience academic stress due to various causes. The purpose of this study was to examine the effects of college students' major recognition, career recognition, and college dropout on academic stress, and identify the factors for reducing academic stress in consideration of individual characteristics and college characteristics. This study conducted a survey and analysis study through a questionnaire for students enrolled in five colleges with departments related to health and medical administration among college in five regions. The final study subjects were 216 people, and the T-test, ANOVA, and the multiple regression analysis were performed to observe the relationship between major recognition, career recognition, and college dropout and academic stress.

As career recognition increased, academic stress was predicted to be low, and academic stress was predicted to be higher as college dropout increased. As a result of detailed analysis of individual characteristics and college characteristics, academic stress was predicted to be higher as the major recognition increased in the case of male. If the gender is female, if the grade is first years and fourth years, if the school classification is a junior college, and if the English level is low, the academic stress is predicted to be higher as the college dropout increases.

The college students majoring in health and medical administration demonstrated a high correlation between career recognition and college dropout with academic stress. Furthermore, the relationship between major recognition, career recognition, college dropout, and academic stress was different according to gender, grade, school classification, and English level. Hence, it is necessary to prepare an educational policy that considers the development of recognition change programs, education and counseling programs, and the application of new learning methods in consideration of college students' major recognition, career recognition, college dropout, personal characteristics, and college characteristics.

## 1. Introduction

The various external environments which college students face when they first become independent can cause various stresses (Yoo & Shin, 2013). When entering college, all the experiences of college life such as various personal relationships, grades, career and employment concerns may be among the potential causes of stress for the college students (Coffman & Gilligan, 2002). In the 2020 social survey, a total of 47.5% of college students or higher were found to have experienced stress, indicating that most college students experience stress (KOSIS, 2022). As prospective members of society, college students are experiencing a lot of stress due to the characteristics of the period in which they have to search for careers and prepare for employment, and the economic and social environment they face (Yoo & Shin, 2013). If such stress is not effectively handled and prevented through appropriate methods, psychological disorders such as tension, anxiety, and depression may occur (Han et al., 2014). Furthermore, since the stress experienced by college students can have a significant impact on social life after graduation, there is a need to examine the factors related to stress.

The causes of the stress experienced by college students may be largely attributed to their academic work and employment (Lee & Yu, 2008). Among them, academic stress is a concept that collectively refers to psychological burdens that may be experienced due to academic life or psychological experience states such as tension, anxiety, and depression (Bak & Park, 2012). In fact, academic stress can cause psychological disorders such as depression and tension (Arthur, 1998), as well as physiological disorders such as headaches, tension, fatigue, and high blood pressure, as well as interpersonal problems, insomnia, maladaptation and inappropriate behavior, smoking, and impulsive behavior. It causes behavioral disorders such as crime, criminal behavior, etc. (Omizo et al., 1988), and further affects the occurrence of suicidal thoughts and somatic symptoms (Moon, 2006; Shin, 2002). Previous research related to academic stress suggested that the ability to positively interpret negative events or situations and to alleviate negative emotions affects academic stress (Moon & Jwa, 2008). It also claimed that self-esteem, a concept, was an influencing factor of academic stress (Cho, 2007). Furthermore, positive communication between parents and children (Lee et al., 2000) and leisure activities (Kim & Park, 2009) appeared to be very diverse as factors influencing academic stress, and it is necessary to pay attention along with measures to reduce it.

Career recognition is a consciousness system that includes the psychological structure of career, view of higher education, values, self-concept, etc. by understanding the value of a job and the criteria for career selection in the process of individual-level development (Hong, 2012). Furthermore, major recognition may be seen as an emotional state, attitude, value belief, etc. formed and acquired by a college student through the interaction between the environment and personal characteristics related to the major within the major department to which they belong (Lee, 2020). Because major recognition recognizes and thinks about how to realize oneself, selects a career path, and acquires vocational skills (Kim & Kim, 2016), major recognition and career recognition are also factors that are related to each other. they may be seen as the same concept (Hong, 2012). Previous studies related to this have demonstrated that learning satisfaction increases as major recognition

increases (Kim, 2011), and for this reason, it is said that major recognition has a significant effect on career decision-making by giving stability (Bandura, 1993; Borden, 1995). Furthermore, it was confirmed that major recognition has an effect on employment preparation behavior (Lee, 2020) and academic stress (Hwang, 2008). As such, it was confirmed that the concepts of major recognition and career recognition are similar and related to each other, and positive major recognition and career recognition for current college students help them choose a job that suits their abilities and aptitude as members of the future society, and in a rapidly changing society. It can play an important role in actively coping with problems and enjoying self-realization and a happy life.

College students develop their talents and aptitudes through major education at college and connect them with employment, but unlike what they expected from actual college classes, there may be a lot of difference in preparing for the future or realizing aptitude (Oh, 2020). The academic status of college students may be divided into academic continuation and dropout. College dropout is generally defined as the result of not achieving the purpose of education because the learner intentionally did not participate in education at the midpoint, based on the concept of dropout (Garrison, 1985). Based on such definition of suspension of study, this study defined it as the intention to take a leave of absence without achieving the purpose of education for the purpose of dropout of the current school, or not to enroll after the expiration of the leave of absence period. The main causes of college dropout may be the low quality of education, family economic situation, or lack of academic ability (Lim & Kwak, 2011). Previous studies related to college dropout have found that school and major goal consciousness, degree of major aptitude match, relationship with professors, and difficulty in preparing tuition have an effect on college dropout (Roh & Choi, 2008). college satisfaction (Park et al., 2008), college reputation and employability (Oh, 2005) were said to be related to college dropout. Hence, it is necessary to conduct additional research on the factors related to dropout to maintain the college education system for college students and provide better education.

Today, health care administration is applied across various fields due to the development of the health insurance system, the specialization and diversification of medical institutions, and the increase in demand for health care services (Nam & Lee, 2020). The need for the health information managers who systematically collect, classify, identify, and manage vast amounts of medical information generated in such a medical environment is gradually increasing (Nam & Jung, 2020). However, the students majoring in health and medical administration anticipate their preferred career path, hope for professional knowledge and related jobs, and have a higher tendency to enter the school compared to students in other majors (Yun, 2018). If you choose a major only because it is easy, you may experience difficulties in the academic process (Nam & Lee, 2020). This can lead to a loss of interest in learning and maladjustment to college life due to the mismatch between major and aptitude (Yang et al., 2012), leading to increased academic stress. Hence, this study aims to identify the effects of major recognition, career recognition, and dropout on academic stress for college students majoring in health and medical administration, and find ways to reduce academic stress from various aspects and find effective ways to major in health and medical administration by providing basic data for establishing an education system.

## 2. Methods

### 2.1 Study sample & design

In this study, a survey analysis was conducted through a questionnaire to find out major recognition, career recognition, dropout, and academic stress for students majoring in health information managers. As of 2022, the study subjects were students majoring at 5 colleges in Gangwon-do, Gyeonggi-do, Chungcheongnam-do, Jeollabuk-do, and Busan Metropolitan City that have departments of health administration, health and medical administration, and hospital management. The data collection period was from March 18 through March 28, 2022, and the purpose of the study was explained to them, and if they agreed to respond to the questionnaire, they were asked to complete the self-report questionnaire. The subjects of the collected questionnaires were 94 first years, 78 second years, 41 third years, and 16 fourth years, totaling 229 people. Of these, 216 people were used for the final analysis, excluding insincere responses.

### 2.2 Independent variables

#### 2.2.1 Major recognition

For major recognition, the items used in Hong's (Hong, 2012) study were modified and supplemented to fit the purpose of health information managers in this study. It consists of a total of 3 items. Responses were composed on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). The total score ranges from 3 to 15, with a higher total score indicating a higher degree of recognition of the major. The reliability of this scale (Cronbach's  $\alpha$ ) was .66.

#### 2.2.2 Career recognition

For career recognition, the items used in Hong's (Hong, 2012) study were modified and supplemented to fit the purpose of this study regarding health information managers. It consists of a total of 4 items. Responses were composed on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). The total score ranges from 4 to 20, with higher total scores indicating higher career awareness. The reliability of this scale (Cronbach's  $\alpha$ ) was .75.

#### 2.2.3 College dropout

For College dropout, the items used in the studies of Bean (Bean, 1985) and Metzner (Metzner, 1989) were modified and supplemented to suit the purpose of this study, and it consists of a total of four questions. Responses were composed on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). Among them, questions 1, 2, and 4 were calculated as reverse questions, and the total score ranged from 4 to 20, with a higher total score indicating a higher level of dropout. The reliability of this scale (Cronbach's  $\alpha$ ) was .68.

### *2.3 Dependent variables*

As for academic stress, the items used in the study by Shin Dong-woo (Shin, 2012), which adapted the MBI-SS (Maslach burnout inventory-student survey) scale developed by Schaufeli et al. (Schaufeli et al., 2002), and the items of the learning motivation strategy questionnaire (MSLQ) developed by Pintrich et al. (Pintrich et al., 1993), were modified and supplemented to suit the purpose of this study, and it consists of a total of 16 questions. Responses were composed on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). Among them, questions 10, 11, 12, 13, 14, and 15 were calculated as reverse questions, and the total score ranged from 16 to 80, with higher total scores indicating higher academic stress. The reliability of this scale (Cronbach's  $\alpha$ ) was .87.

### *2.4 Control variables*

The control variables in this study consisted of gender, grade, school classification, life subject learning experience, English level, information on health information managers, and intention to obtain licenses. Gender was male and female, grade was first years, second years, third years, fourth years, school classification was junior college and university, life subject learning experience was yes or no, English level was subjective level of English proficiency, low, middle, high, and the information on health information managers was first known after admission, had heard of the name, and know about the job and qualifications, and the intention to obtain a license was surveyed as yes or no.

### *2.5 Analytical approach and statistics*

This study used the T-test, ANOVA, and the multiple linear regression analysis as statistical analytical methods. The analysis was conducted after controlling for the study subject's gender, grade, school classification, life subject learning experience, English level, information on health information managers, and intention to obtain license variables. Furthermore, subgroup analysis was conducted according to gender, grade, school classification, and English level to find out the relationship between major recognition, career recognition, college dropout, and academic stress. Statistical significance was set at  $p < 0.05$ , and all statistical analyzes were performed using the SAS statistical software package version 9.4 (SAS Institute Inc., Cary, NC, USA).

## **3. Results**

### *3.1 Sample characteristics*

Table 1. demonstrates the results of sociodemographic characteristics of all study subjects. Academic stress, a dependent variable, averaged 38.769 points for a total of 216 students, major recognition, an independent variable, averaged 11.324 points, career recognition averaged 16.412 points, and

college dropout averaged 6.954 points. As for academic stress by gender, 170 females (78.7%) scored an average of 39,471 points, which was higher than the average of 46 males (21.3%) 36.174 points (p-value: 0.014). As for academic stress according to English level, 19 students (8.8%) of the group with 'high' level of English scored 35.368 points, and the higher the level of English proficiency, the lower the academic stress (p-value: 0.003). As for major recognition, 15 students (6.9%) of the 'fourth year' group scored 10.867 points, and the higher the grade, the higher the recognition (p-value: 0.013). It appeared high (p-value: 0.048). In the case of intention to obtain a license, the career recognition of 211 people (97.7%) of the 'yes' group was high with an average of 16.464 points (p-value: 0.016).

**Table 1.** General characteristics of participants at baseline

Variables	Total		Academic stress			Major recognition			Career recognition			College dropout		
	N	%	Mean	SD	p-value <sup>a</sup>	Mean	SD	p-value <sup>a</sup>	Mean	SD	p-value <sup>a</sup>	Mean	SD	p-value <sup>a</sup>
Total	216	100.0	38.769	8.062		11.324	1.563		16.412	2.080		6.954	2.405	
Gender					0.014			0.665			0.688			0.365
Male	46	21.3	36.174	8.130		11.413	1.586		16.522	2.401		7.239	2.609	
Female	170	78.7	39.471	7.921		11.300	1.561		16.382	1.991		6.876	2.349	
Grade					0.263			0.013			0.897			0.913
1 <sup>st</sup>	86	39.8	38.186	7.715		11.640	1.422		16.512	1.963		6.977	2.244	
2 <sup>nd</sup>	76	35.2	40.105	8.203		11.368	1.599		16.421	2.174		7.066	2.457	
3 <sup>rd</sup>	39	18.1	38.385	8.038		10.718	1.521		16.205	2.117		6.744	2.663	
4 <sup>th</sup>	15	6.9	36.333	9.069		10.867	1.846		16.333	2.320		6.800	2.541	
School classification					0.328			0.048			0.079			0.087
Junior college	104	48.1	39.327	7.592		11.106	1.441		16.154	1.979		6.663	2.193	
University	112	51.9	38.250	8.475		11.527	1.649		16.652	2.151		7.223	2.567	
Life subject learning experience					0.233			0.708			0.892			0.023
Yes	109	50.5	38.119	8.336		11.284	1.611		16.431	1.978		6.587	2.170	
No	107	49.5	39.430	7.755		11.364	1.520		16.393	2.188		7.327	2.580	
level of English proficiency					0.003			0.099			0.153			0.203
Low	82	38.0	41.024	7.988		11.037	1.636		16.134	2.281		6.854	2.430	
Middle	115	53.2	37.722	7.521		11.478	1.530		16.496	1.948		6.870	2.455	
High	19	8.8	35.368	9.406		11.632	1.300		17.105	1.823		7.895	1.823	
Information on health information manager					0.504			0.586			0.830			0.511
First known after admission	90	41.7	38.544	8.030		11.222	1.527		16.356	2.035		6.967	2.405	
Heard of the name	77	35.6	39.571	7.552		11.325	1.642		16.377	2.300		7.143	2.388	
Know about the job and qualifications	49	22.7	37.918	8.909		11.510	1.516		16.571	1.814		6.633	2.447	
Intention to obtain license					0.570			0.449			0.016			0.831
Yes	211	97.7	38.720	8.085		11.336	1.563		16.464	2.045		6.882	2.371	
No	5	2.3	40.800	7.463		10.800	1.643		14.200	2.588		10.000	2.000	

a: T-test or ANOVA

### 3.2 The Relationship between Cognition of health information managers, college dropout and academic stress

Table 2. is the analytical result intended to identify the relationship between major recognition, career recognition, college dropout and academic stress. As the major recognition increased by one unit, academic stress was predicted to be 0.384 points lower (B: -0.384, 95% CI: -1.145 - 0.377, p-value: 0.321), but it was not statistically significant. As career recognition increased by one unit, academic stress was predicted to be 0.977 points lower (B: -0.977, 95% CI: -1.569 - -0.386, p-value: 0.001), and academic stress increased by 0.867 points as college dropout increased by one unit. (B: 0.867, 95% CI: 0.412 - 1.322, p-value: 0.000) was highly predicted. Furthermore, compared to the ‘male’ group, ‘female’ predicted higher academic stress by 3.107 points (B: 3.107, 95% CI: 0.733 - 5.480, p-value: 0.011), and the English level was ‘high’. Compared to the ‘low’ group, academic stress was predicted to be 4.405 points higher (B: 4.405, 95% CI: 0.684 - 8.126, p-value: 0.021) compared to the ‘low’ group.

**Table 2.** The relationship between recognitions of health information managers, college dropout and academic stress

Variables	Academic stress			
	$\beta$	95% CI		P-value
Major recognition	-0.384	-1.145	0.377	0.321
Career recognition	-0.977	-1.569	-0.386	0.001
College dropout	0.867	0.412	1.322	0.000
Gender				
Male	Ref.			
Female	3.107	0.733	5.480	0.011
Grade				
1 <sup>st</sup>	Ref.			
2 <sup>nd</sup>	2.160	-0.152	4.472	0.067
3 <sup>rd</sup>	0.206	-2.807	3.218	0.893
4 <sup>th</sup>	-1.027	-5.144	3.089	0.623
School classification				
Junior college	Ref.			
University	0.284	-1.912	2.480	0.799
Life subject learning experience				
Yes	Ref.			
No	0.619	-1.361	2.599	0.538
level of English proficiency				
Low	4.405	0.684	8.126	0.021
Middle	1.846	-1.668	5.360	0.302
High	Ref.			
Information on health information manager				
First known after admission	Ref.			
Heard of the name	1.011	-1.236	3.257	0.376
Know about the job and qualifications	0.016	-2.653	2.685	0.991
Intention to obtain license				
Yes	4.974	-1.577	11.524	0.136
No	Ref.			

3.3 Gender, grade, school classification, English level specific relationship between Cognition of health information managers, college dropout and academic stress

Table 3. demonstrates the results of detailed analysis according to gender, grade, school classification, and English level to identify the relationship between major recognition, career recognition, college dropout, and academic stress. In the case of ‘male’ gender, an increase in major recognition by one unit predicted higher academic stress by 2.121 points (B: 2.121, 95% CI: 0.101 - 4.140, p-value: 0.040), and given an increase in career recognition by one unit predicted academic stress, academic stress was predicted lower by 2.207 points (B: -2.207, 95% CI: -3.627 - -0.786, p-value: 0.321). Conversely, in the case of female gender, an increase of one unit in college dropout was predicted to increase academic stress by 0.982 points (B: 0.982, 95% CI: 0.471 - 1.493, p-value: 0.000). If the grade is ‘2nd year’ or ‘3rd year’, as career recognition increases by one unit, academic stress is 1.327 points (B: -1.327, 95% CI: -2.442 - -0.212, p-value: 0.020), 1.879 points (B: -1.879, 95% CI: -3.383 - -0.375, p-value: 0.016) It was predicted low, and when the grade was ‘first years’ or ‘fourth years’, an increase of 1.314 points (B: 1.314, 95% CI: 0.572 - 2.055, p-value: 0.001), 1.628 points (B: 1.628, 95% CI: 0.022 - 3.235, p-value: 0.048) was highly predicted. Furthermore, when the school classification was ‘junior college’, an increase in career recognition by one unit predicted academic stress lower by 1.168 points (B: -1.168, 95% CI: -1.916 - -0.421, p-value: 0.003), and As one unit increased, academic stress was predicted to be 1.157 points higher (B: 1.157, 95% CI: 0.549 - 1.765, p-value: 0.000). Lastly, when the English level was ‘low’, an increase in college dropout by one unit predicted higher academic stress by 1.002 points (B: 1.002, 95% CI: 0.209 - 1.796, p-value: 0.014).

**Table 3.** Gender, grade, school classification, level of English proficiency specific relationship between recognitions of health information managers, college dropout and academic stress

Variables	Academic stress								
	Major recognition			Career recognition			College dropout		
	$\beta$	95% CI	P-value	$\beta$	95% CI	P-value	$\beta$	95% CI	P-value
<b>Gender</b>									
Male	2.121	0.101 - 4.140	0.040	-2.207	-3.627 - -0.786	0.003	0.598	-0.597 - 1.793	0.316
Female	-0.918	-1.739 - -0.097	0.029	-0.798	-1.461 - -0.134	0.019	0.982	0.471 - 1.493	0.000
<b>Grade</b>									
1 <sup>st</sup>	-0.433	-1.648 - 0.781	0.479	-0.362	-1.255 - 0.531	0.422	1.314	0.572 - 2.055	0.001
2 <sup>nd</sup>	-0.252	-1.704 - 1.201	0.731	-1.327	-2.442 - -0.212	0.020	0.803	-0.004 - 1.610	0.051
3 <sup>rd</sup>	0.431	-1.361 - 2.224	0.625	-1.879	-3.383 - -0.375	0.016	0.635	-0.405 - 1.674	0.221
4 <sup>th</sup>	-1.240	-3.621 - 1.141	0.238	-0.459	-2.300 - 1.382	0.550	1.628	0.022 - 3.235	0.048
<b>School classification</b>									
Junior college	-0.364	-1.366 - 0.638	0.472	-1.168	-1.916 - -0.421	0.003	1.157	0.549 - 1.765	0.000
University	-0.361	-1.458 - 0.736	0.515	-1.069	-1.960 - -0.177	0.019	0.679	0.018 - 1.340	0.044
<b>English level</b>									
Low	-0.172	-1.390 - 1.045	0.779	-1.119	-2.033 - -0.205	0.017	1.002	0.209 - 1.796	0.014
Middle	-0.843	-1.854 - 0.167	0.101	-0.836	-1.661 - -0.010	0.047	0.905	0.348 - 1.463	0.002
High	1.982	-3.600 - 7.565	0.418	-1.456	-5.775 - -2.863	0.441	-0.815	-4.586 - 2.956	0.616

Control variables: Gender, Grade, School classification, Life subject learning experience, level of English proficiency, Information on health information manager, Intention to obtain license

#### 4. Discussion

To establish an effective educational system for health and medical administration majors for college students majoring in health and medical administration, the relationship between major recognition and career recognition, college dropout and academic stress was observed. Furthermore, by examining the relationship between major recognition and career recognition, college dropout and academic stress, considering individual characteristics and college characteristics, attempt was made to identify related factors to reduce academic stress. As a result of the study, career recognition and college dropout demonstrated a significant effect on academic stress. Considering individual characteristics such as gender, grade, English level and college characteristic of school classification, the relationship between major recognition, career recognition, college dropout and academic stress The correlation was different. Based on the results of this study, possible discussions are as follows.

Academic performance is the most important criterion used to evaluate students and serves as a key factor in determining career paths (Hwang, 2008). It was also revealed that the burden of schoolwork is the biggest stress factor for students (Park, 1998). As one of the ways to reduce such academic stress, it turned out that the higher the career recognition of college students majoring in health and medical administration and the lower the college dropout, the lower the academic stress. Academic stress may be lowered if college students perceive that they have abundant information about possible careers in the future. A previous study of high school students also demonstrated that the lower the level of career recognition, the higher the level of academic stress. suggested (Hwang, 2008). Furthermore, college dropout was found to be a factor influencing academic stress. In previous studies, it was suggested that academic stress had an effect on college dropout (Lee, 2018), but this study examined the impact of college dropout on academic stress. Since college dropout is closely related to student maladjustment (Kim, 2011), it was determined that a high dropout rate corresponds to a state of maladjustment to the current major, indicating high academic stress. It turned out that women felt more academic stress than men. It is determined to be the result of the characteristics that women are more sensitive to stress than men in physical, mental, and sensory aspects (Sung & Chang, 2007), and a preceding study targeting nursing college students (Cha, 2013) also coincided with the result that women felt higher academic stress. Furthermore, while it was not statistically significant, it turned out that the higher the grade, the lower the academic stress. In general, the upper grades are in a state of being accustomed to academic life such as exams, classes, and careers, but in the case of the lower grades, it is considered a related result because they are not used to school life and are in the early stage of having to adapt (Cha, 2013). While the results of this study and the preceding study (Jang et al., 2006) demonstrated that academic stress is higher in lower grades, there is a need to reconfirm the relationship between grade and academic stress through additional research. To address the problem of students' academic stress, individual characteristics must be considered essential, and there is a need to consider changes in social climate and educational methods at a macro level.

As a result of examining the relationship between major recognition, career recognition, college dropout, and academic stress in consideration of college students' individual characteristics and college characteristics, the effect of major recognition and career recognition on academic stress

turned out to be higher for males than for females. Major recognition is considered more important by men than women (Kim, 2011), and the higher the major recognition, the preference and clear goals for career and occupation are set (Hong, 2012), and more time is invested in studies to achieve this. As a result, academic stress is expected to be higher. Furthermore, it may be seen that when men do not have a clear recognition of their career path, academic stress increases, and women perceive the effect of career recognition much lower than men (Hwang, 2008). In the case of women, the relationship between college dropout and academic stress was higher than that of men, and several previous studies also demonstrated that women had a higher rate of college dropout than men (Cho, 2011; Park & Lee, 2016). Furthermore, it is determined that the relationship between college dropout and academic stress is higher than that of males, because they experience negative awareness related to employment and are more likely to take a leave of absence due to delaying career decisions (Chu & Cha, 2011). As a result of career recognition and academic stress by grade, the higher the career recognition in the 2nd and 3rd years, the lower the academic stress. In the case of a 4-year college, major subject education starts from the 2nd year, so it may be seen as a result of smoothly acquiring information on careers related to health and medical administration from the 2nd and 3rd year, which is the middle of college life. The impact of college dropout on academic stress was high in the first and fourth years. In the case of freshmen, the tendency to discontinue study may be high because the level of adaptation to college life as a freshman is low (Park & Lee, 2016; Park, 2017), and in the case of the fourth year, preparation for the national examination, practice, and employment preparation, etc. While it is the time when investment in studies is most needed due to the high school age, students who have entered the school without considering their aptitude or the value of their jobs are discontinuing their studies due to loss of interest in learning and maladjustment to college life (Yang et al., 2012). This can occur and affect academic stress. The higher the number of colleges according to school classification, the higher the correlation between the career recognition, college dropout, and the academic stress. Since college students in junior colleges acquire professional vocational skills in a relatively short period of time compared to 4-year college students (Nam & Lee, 2020), the correlation between the career recognition and the academic stress may be higher. However, since the curriculum of junior colleges is short at 2-3 years, sufficient education on the basic liberal arts and basic knowledge is not provided, and major subjects are taken immediately (Park & Lee, 2016). Given which, junior college students lack academic motivation and their basic learning skills are lower than those of 4-year college students, so they are more likely to drop out of college (Choi & Lee, 2013), and it may be highly correlated with academic stress. Health and medical administration majors do most of the work of a joint cooperation system in the health care field, and high-quality medical service capabilities and a high level of work ethics are required (Nam & Lee, 2020). Health and medical administration majors are health information managers who systematically collect, classify, check, and manage medical information including vast medical records (Nam & Jung, 2020). Since medical records are mostly composed of medical terminology (Kim, 1996), English level is a necessary competency for health and medical administration majors. However, the effect of career recognition and college dropout according to English level on academic stress demonstrated a high correlation between career recognition and academic stress when the English level was low. Hence, it is necessary

to reexamine the relationship between career recognition and academic stress considering English level through the follow-up studies.

Gathering which, the results of this study suggest that the college students majoring in health and medical administration can increase their interest in their major and career by providing positive information about their major and career recognition that can reduce their academic stress even in a situation where lectures and practice are combined. To reduce college dropout, it is required to develop and adapt programs for changing awareness that consider the individual characteristics of college students and college characteristics. Furthermore, to alleviate the academic stress of students majoring in health and medical administration, individual efforts for mature personality and self-realization are required, and colleges should consider the development of education and counseling programs and the application of new learning methods in order to achieve the character and self-realization of students.

This study confirmed the factors affecting academic stress by examining the relationship between major recognition, career recognition, college dropout, and academic stress for college students related to health and medical administration. Furthermore, a subgroup analysis was conducted considering the individual characteristics and college characteristics of the research subjects, and the relationship between major recognition, career recognition, college dropout and academic stress was examined according to the level of each characteristic. The results of this study may be used as basic data to alleviate academic stress and support the establishment of effective educational policies by exploring the causes of academic stress in college students majoring in health and medical administration.

There are several limitations to keep in mind when interpreting the results of this study. First, since this study focused on the factors assumed by the researcher based on previous studies, there are limitations in examining various factors of college students who experienced academic stress. In the future, it is necessary to take a detailed approach to reduce academic stress by closely identifying related factors through qualitative research targeting college students who have experienced academic stress. Second, it is the limitation of research subjects. Since the analysis was conducted on the students of colleges located in Gangwon-do, Gyeonggi-do, Chungcheongnam-do, Jeollabuk-do, and Busan Metropolitan City, the sample was expanded in consideration of regional characteristics through follow-up research, and the generalization of the verification results for major recognition, career recognition, college dropout, and the relationship between academic stress is expected to be more clearly identified.

## **5. Conclusion**

The college students majoring in health and medical administration demonstrated such a high correlation between the career recognition, college dropout and the academic stress. Furthermore, the relationship between major recognition, career recognition, college dropout and academic stress was found to be different according to gender, grade, school classification, and English level. Hence, it is necessary to prepare an education policy that considers the development of awareness change programs, education and counseling programs, and the application of new learning methods in consideration of the college students' major recognition, career recognition, college dropout, individual characteristics and college characteristics.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## References

- Arthur, N. (1998). The effects of stress, depression, and anxiety on postsecondary students' coping strategies. *Journal of college student development*.
- Bak, B. G., & Park, S. M. (2012). Development and validation of an academic stress scale. *The Korean Journal of Educational Psychology*, 26(2), 563-585.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational psychologist*, 28(2), 117-148.
- Bean, J. P. (1985). Interaction effects based on class level in an explanatory model of college student dropout syndrome. *American educational research journal*, 22(1), 35-64.
- Borden, V. M. (1995). Segmenting student markets with a student satisfaction and priorities survey. *Research in Higher Education*, 36(1), 73-88.
- Cha, N. H. (2013). The relationships between stress and health locus of control in nursing college students. *Journal of East-West Nursing Research*, 19(2), 177-185.
- Cho, J. S. (2011). Determination analysis for students of college dropout. *J Korean data anal Soc*, 13, 1873-1880.
- Cho, S. Y. (2007). Relationship of college students' definition of parenthood, empathy, and self-esteem with their motivation of parenthood. *Korean Journal of Child Studies*, 28(3), 219-233.
- Choi, K. S., & Lee, Y. C. (2013). Measures to reduce Students' Withdrawal Rate: a case study on College D. *The Journal of the Korea Contents Association*, 13(11), 979-987.
- Chu, H. J., & Cha, S. H. (2011). An analysis of factors affecting four-year college students' stop-out. *J Educ Adm*, 29(1), 277-293.
- Coffman, D. L., & Gilligan, T. D. (2002). Social support, stress, and self-efficacy: Effects on students' satisfaction. *Journal of College Student Retention: Research, Theory & Practice*, 4(1), 53-66.
- Garrison, D. (1985). Status and trends of distance education, Lund, Sweden: Lector publishing.
- Han, K., Yang, Y., Bae, M., & Yang, S. (2014). Social support, academic stress, clinical practice stress in college student of nursing. *Korean Journal of Stress Research*, 22(1), 23-34.
- Hong, S. S. (2012). The effect of understanding their major and career self-efficacy on career indecision for college students majoring in fashion-focus on the community college students in gyeongido. *Journal of Fashion Business*, 16(5), 39-56.
- Hwang, Y. J. (2008). The determinants of perceived academic stress as experienced by high school students. *Studies on Korean Youth*, 19(3), 85-114.
- Jang, Y. G., Park, K., & Choi, S. Y. (2006). *Mental health of modern man*. Seoul: Hakjisa.
- Kim, H. J. (2011). The effect of educational environment and a student's major awareness on learning satisfaction at the bakery & confectionery institute. *Journal of the Korean Society of Food Culture*, 26(1), 63-71.

- Kim, H. K. (1996). Native Language for Education in Clinical Medicine. *Korean Journal of Medical Education*, 8(1), 5-11.
- Kim, H. S., & Kim, J. H. (2016). An Analysis on the Educational Needs of the Career Education according to the Career Recognition of the Undergraduates. *The Journal of the Korea Contents Association*, 16(5), 651-659.
- Kim, K. H. (2011). An analysis of the factors affecting local college students' halting their academic studies and satisfaction with their campus life. *The Journal of the Korea Contents Association*, 11(8), 378-387.
- Kim, Y. N., & Park, O. S. (2009). A Comparative analysis on the Effectiveness of Youth Activities-Focusing on self-esteem, Vocational Maturity, academic achievement, Life satisfaction, Stress, Delinquency. *Journal of Adolescent Welfare*, 11(1), 79-99.
- KOSIS. (2022). Stress levels (school life, population aged 13 and over).
- Lee, E. H., Choi, T. S., & Seo, M. J. (2000). Effects of stress related to school, self-esteem, parent-children communication and parents' internal support of adolescent depression. *The Korean Journal of Counseling and Psychotherapy*, 12(2), 69-84.
- Lee, J. (2018). Analysis of Structural Relations among College Students' Stress, School Maladjustment, Academic Achievement, and Latent Dropout Intention. *Social Science Research Review*, 34(3), 1-24.
- Lee, J. H. (2020). Effect of Major Choice Motives and Major Recognition on Job Preparation Behaviors in Case of University Students in the Foodservice Related Departments. *Journal of Tourism and Leisure Research*, 32(4), 191-213.
- Lee, S. J., & Yu, J. H. (2008). The mediation effect of self-efficacy between academic and career stress and adjustment to college. *Korean Educational Psychology Association*, 22(3), 589-607.
- Lim, E., & Kwak, Y. Y. (2011). Female college students' leave of absence types and related factors. *The Journal of Vocational Education Research*, 30(2), 231-248.
- Metzner, B. S. (1989). Perceived quality of academic advising: The effect on freshman attrition. *American educational research journal*, 26(3), 422-442.
- Moon, K. S. (2006). The effect of academic stress on suicidal impulse in adolescence: mediating roles of parent and peer attachment. *Korean Journal of Child Studies*, 27(5), 143-157.
- Moon, Y. J., & Jwa, H. S. (2008). The effect of academic stress on psychological health in adolescents: Moderating effect of emotional regulation. *Korean journal of social welfare studies*, 38(3), 353-379.
- Nam, J. H., & Lee, H. K. (2020). College Life Adjustment Factors Affecting the Work Values of Public Health Major Student. *The Journal of the Korea Contents Association*, 20(11), 581-589.
- Nam, Y. H., & Jung, H. J. (2020). An Analysis of the Research Trends of Health Information Managers in Korea (1999-2018). *Health & Welfare*, 22(2), 205-222.
- Oh, S. T. (2020). A Study on the Influence of Major Perception Type and Job Preparation Types to Satisfaction for Class: Focused on Culinary Major Students. *Culinary Science & Hospitality Research*, 26(7), 176-187.
- Oh, Y. J. (2005). An empirical study on the factors influencing student mobility between colleges.

- The Journal of Educational Administration*, 23(1), 327-356.
- Omizo, M. M., Omizo, S. A., & Suzuki, L. A. (1988). Children and stress: An exploratory study of stressors and symptoms. *The School Counselor*, 35(4), 267-274.
- Park, E. J., & Lee, H. K. (2016). *A study of factors affecting college dropout intention for freshmen in college: focused on K-college*. Paper presented at the Forum for youth culture.
- Park, H. j., Kim, M. y., & Jung, D. Y. (2008). The Effect of Stress, Social Support and Self-Efficacy on the Mental Health of Female Undergraduate Students. *J Korean Acad Fundam Nurs*, 15(4), 513-521.
- Park, H. S. (1998). Effects of Parent - Child Relations and Academic Pressure on Psychosocial Problems of Adolescents. *Journal of the Korean society of child welfare*, 6, 93-118.
- Park, H. S. (2017). An Analysis of the Factors Affecting Local College Freshmen's Intention of Dropout: Focused on C-College. *Journal of Learner-Centered Curriculum and Instruction*, 17(15), 423-442.
- Pintrich, P. R., Smith, D. A., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and psychological measurement*, 53(3), 801-813.
- Roh, H. I., & Choi, M. N. (2008). A study on exploring the dropouts in Korean college. *Korean Journal of Resources Development*, 11(1), 89-107.
- Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in college students: A cross-national study. *Journal of cross-cultural psychology*, 33(5), 464-481.
- Shin, D. W. (2012). Effects of the Perceptions of Parents' Expectations for the Future Careers of Children on Academic and Employment Stress among College Students: Focusing on the Moderating Effects of Self-Differentiation. Unpublished master's thesis, Kyung Hee University (Seoul).
- Shin, H. K. (2002). The relationship of academic stress, negative affectivity, alexithymia, and perceived parenting behavior to somatization in adolescents. *The Korean Journal of Clinical Psychology*, 21(1), 171-187.
- Sung, M. J., & Chang, K. J. (2007). Correlations among Life Stress, Sleep, Anthropometric Measurement and Nutrient Intakes of College Students. *J Korean Soc Food Sci Nutr*, 36(7), 840-848.
- Yang, K. H., Lee, J. R., & Park, B. N. (2012). Factors affecting adaptation to school life of freshmen enrolled in nursing at a community college. *The Journal of Korean academic society of nursing education*, 18(1), 5-13.
- Yoo, G. S., & Shin, D. W. (2013). Effects of stress coping styles on academic burnout and employment stress among undergraduate students. *Korean Journal of Counseling*, 14(6), 3849-3869.
- Yun, D. H. (2018). The effects of job-seeking stress of health college students on their suicidal ideation-mediating effects of depression. *Health Welf*, 20(1), 7-24.