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## Changes in satisfaction and perceptions of employment decisions after clinical training among physiotherapy students

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### Abstract

**Purpose:** To investigate the satisfaction of students majoring in physiotherapy and to confirm a change of perception on employment decisions after clinical training. **Methods:** Structured questionnaires were distributed to 500 undergraduate physiotherapy students in 2014. Data from 462 respondents were analyzed using the Mann-Whitney, Kruskal-Wallis, Wilcoxon's signed-rank, stepwise regression, and independent samples t tests.

**Design:** Cross-section study

**Results:** The satisfaction and perceptions of employment decision increased post-clinical training among physiotherapy students who hoped to find employment. After clinical training, the desired employment venues also changed: fewer students desired to work in rehabilitation centers and secondary hospitals, and more desired to work in university hospitals, general hospitals, public welfare centers, and the industrial company health facilities. There were changes in the preferred fields of those who hoped to find employment in the field, as well. There was decreased interest in clinical electrophysiology, sports, and women's health, and increased interest in neurology, orthopedics, and pediatrics. **Conclusion:** The results of this study confirmed that clinical training changes student' employment decisions and affects their desire to enter specific fields.

**Key words:** Clinical training, Employment decision, Perception, Physiotherapy student, Satisfaction.

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## I. Introduction

Physiotherapist was formally described as health care professional who prevent or manage their condition so that they will achieve long-term health benefits(Naylor et al., 2014). The training of professional socialization is a lasting lifetime process and clinical practice monitoring is indispensable for cultivating excellent human resources(Gotlib et al., 2012).

The public seems to have an image of physiotherapy (PT) that is less favorable than the actual role of PT in social functioning in South Korea. Furthermore, PT students are most affected by this minimized image of PT in the clinical environment. Therefore, PT students can increase their self-esteem by enhancing their image of PT (Kim et al., 2013; Kim and Lee, 2015). And increasing the satisfaction with majors were related to social awareness in students(Jang and Lee, 2020).

The difference as to practice of PT is the social stance and professional autonomy available to practice PT in many countries. The professional autonomy of physiotherapists is contingent primarily on their relationships with the medical doctors. There have different regulations regarding these relationships at different countries(Gotlib et al., 2012). Physiotherapists have been dependent on doctors in South Korea(Kim et al., 2013; Kim and Lee, 2015). However, there are not free to determine on the intervention of PT, and do not receive referrals from medical doctors in other countries(Gotlib et al., 2010).

PT programs in South Korea were have 38 college-level schools and 47 university-level schools. According to the latest data, approximately 4,000 students enter PT programs each year in South Korea(Kim et al., 2013; Kim and Lee, 2015). South Korea has so many physiotherapists, facilities, and systems, but no systematic method to provide hands-on guidance for PT students, so it is difficult to make actual practice a reality(Kim et al., 2013; Kim and Lee, 2015; Jang and Lee, 2020; Chung and Whitfield, 1999).

Systematic supervision for clinical training is also challenging because there are many PT students and an insufficient number of facilities(Kim et al., 2013; Kim and Lee, 2015). Thus, PT students often feel that there are conflicts between the learning theory with university and experiencing practice with clinical training. Therefore, clinical training was affecting future employment decision and was mandatory for take a Korean physical therapist licensing examination.

This study was designed to confirm a change in perception of employment decisions and to investigate the satisfaction of students majoring in PT after clinical training in South Korea.

## II. Materials and Methods

### 1. Subjects and procedure

The subjects were 500 students in 15 university-level PT programs, who had completed clinical training in South Korea. The 462 students responded to the survey via post. The survey was perform at the end of the PT program student after consent for participation in 2014. A qualitative research design was used to determine satisfaction and perceptions about employment decisions among the PT students after their clinical training.

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## 2. Measurement

The questionnaire was based on studies by published the survey. The questionnaire was composed of five parts, including general characteristics, environmental characteristics of the clinical practice, satisfaction after clinical practice, image of PT before and after clinical training, and perception of employment decisions before and after clinical training<Table 1>.

Table 1. Category and variable in the questionnaire

Category	Variable
General Characteristics	Gender, age, school of education grade
Environment of clinical practice	Period, venue, field
Image	Traditional (8), social (8), professional (8), occupational (8)
Satisfaction	Environment (3), supervision (4), evaluation (4), satisfaction (5)
Perception	Expectation of venue and field, reasons for changed venue and field

There were 32 items related to the image of PT and 16 items on satisfaction with the clinical practice; the values ranged from very negative (1) to very positive (5). Cronbach's  $\alpha$  for satisfaction after clinical practice was 0.854 and that for the image of physiotherapists was 0.887.

## 3. Data analysis

The Kruskal-Wallis test and Mann-Whitney test were performed to evaluate satisfaction after clinical training according to general characteristic and the environment of the clinical practice. Independent samples t-tests were used to evaluate students' image of physiotherapists pre- and post-clinical training. The Kruskal-Wallis test was performed to compare the employment decision pre- and post-clinical training, and Wilcoxon's signed-rank test was performed to measure the change in employment decisions and preferred venue and field of students who hoped to find employment in PT. A stepwise regression test was used to reveal the influencing factors on employment decisions. The Statistical Package (SPSS 21.0) was used to conduct the statistical analysis ( $p < 0.05$ ).

## III. Results

### 1. General characteristics and satisfaction

Most of the subjects (85.7%) were 20–24 years old and female (76.6%). More than half (61.0%) did their clinical training in two venues, and the duration of almost everyone's (92.2%) clinical practice was 16 weeks <Table 2>.

Table 2. General characteristic and satisfaction (N= 462)

Variable		Frequency (%)	Satisfaction	<i>z</i>	<i>p</i>
Gender	Male	108 (23.4)	3.34 ± 0.47	-1.810	0.070
	Female	354 (76.6)	3.45 ± 0.51		
Age (years)	20–24	396 (85.7)	3.42 ± 0.53	8.032	0.018
	25–29	60 (13.0)	3.41 ± 0.34		
	30–34	6 (1.3)	3.90 ± 0.00		
Number of clinical training institutes	1	36 (7.8)	3.62 ± 0.51	10.709	0.013
	2	282 (61.0)	3.37 ± 0.51		
	3	138 (29.9)	3.45 ± 0.50		
	4	6 (1.3)	3.71 ± 0.00		
Duration of clinical training (weeks)	16	426 (92.2)	3.40 ± 0.51	19.714	0.000
	20	18 (3.9)	3.55 ± 0.34		
	24	12 (2.6)	3.83 ± 0.13		
	36	6 (1.3)	3.90 ± 0.00		

Satisfaction with the field of physiotherapy was highest among those who were 30–34 years old, who practiced in four clinical practice venues over 36 weeks. The most common venue was university hospitals, and the most common field was neurology. Professional sports teams and public health centers were not among the represented venues, and no one conducted clinical practice in the field of women's health <Table 3>.

Table 3. Venues and clinical training fields

	Variable	Frequency (%)	
Venue of clinical training ( <i>n</i> = 800)	University hospital	312 (39.0)	
	General hospital	204 (25.5)	
	Rehabilitation center	126 (15.8)	
	Welfare center	18 (2.3)	
	Long-term care hospital	18 (0.8)	
	School	6 (0.8)	
	Professional sports team	0	
	Public health center	0	
	Health facility of industrial company	12 (1.5)	
	Private center	18 (2.3)	
	Secondary hospital	90 (11.2)	
	Clinic	6 (0.8)	
	Other	0	
	Field of clinical training venue ( <i>n</i> = 1284)	Neurology	414 (32.2)
		Orthopedics	174 (13.6)
Cardiovascular & pulmonary		24 (1.9)	
Clinical electrophysiology		228 (17.8)	
Geriatrics		90 (7.0)	
Pediatrics		258 (20.1)	
Sports		84 (6.5)	
Women's health		0	
Oriental		12 (0.9)	
Other		0	

## 2. Change in the students' image of physiotherapist

A comparison pre- and post-clinical practice of the PT students' image of physiotherapists revealed there was an improvement in the students' overall image, as well as the traditional, social, professional, and occupational images of physiotherapists ( $p < 0.05$ ) <Table 4>.

Table 4. Change in image of physiotherapists between pre- and post-clinical training

Variable	Before Training	After Training	<i>t</i>	<i>p</i>
Total	3.95 ± 0.47	4.10 ± 0.47	-7.979	0.000
Traditional	3.96 ± 0.50	4.13 ± 0.48	-7.775	0.000
Social	3.54 ± 0.59	3.75 ± 0.65	-8.032	0.000
Professional	3.99 ± 0.60	4.11 ± 0.57	-4.474	0.000
Occupational	4.38 ± 0.53	4.45 ± 0.62	-3.039	0.003

### 3. Change in the decision to seek employment

Pre- and post-clinical training, the number of PT students to find employment in physical therapy filed increased from 75.3% to 76.6%. Additionally, the six PT students who did not originally intend to obtain employment as physiotherapists changed their views and did hope to obtain employment in the physiotherapy field after the clinical training <Table 5>.

Table 5. Change in decision to hope for employment between pre- and post-clinical training

Variable	Before Training	After Training	<i>Z</i>	<i>p</i>
			-0.807	0.420
No	24 (5.2)	24 (5.2)		
Yes	348 (75.3)	354 (76.6)		
None	90 (19.5)	84 (18.2)		

The reason students did not hope to find employment pre-clinical practice was most often “suitable for aptitude and talent” (35.1%) and post-clinical practice, it was most often “dissatisfaction with work and employment system” (37.0%)<Table 6>.

Table 6. Reasons for changes in the decision to hope for employment

Variable	Before Training ( <i>n</i> = 114)	After Training ( <i>n</i> =108)
Suitability with aptitude and talent	40 (35.1)	36 (33.4)
Difficulty of studying major	28 (24.6)	16 (14.8)
Little recognition of physiotherapy	28 (24.6)	16 (14.8)
Dissatisfaction with work and employment system	18 (15.7)	40 (37.0)

Factors that influenced post-clinical practice employment decisions are shown in Table 7. Influential factors included (in order of most important to least) prior decisions about employment, satisfaction, image, age, gender, and the number of clinical training institutes.

Table 7. Influential factors on post-clinical employment decisions

Variables	<i>B</i>	Partial R2	Model R2	<i>F</i>	<i>p</i> *
(Constant)	1.373				
Prior decision about employment	0.592	0.450	0.459	391.859	0.000
Satisfaction	0.142	0.022	0.481	214.990	0.000
Image	0.149	0.044	0.525	170.783	0.000
Age	-0.221	0.008	0.533	132.351	0.000
Gender	-0.196	0.017	0.550	113.533	0.000
Number of clinical training institutes	0.057	0.004	0.554	96.394	0.000

#### 4. Changes in desired venues and fields among those who desired employment as physiotherapists

Changes in venue choices between pre- and post-clinical training among students who hoped to find employment in PT included a decrease in those wanting to work in secondary hospitals, rehabilitation centers and an raise in those wanting to work in general hospitals, university hospitals, health facilities of industrial companies and public welfare centers.

Changes in fields between pre- and post-clinical training among those who hoped to find employment in PT included a decreased interest in clinical electrophysiology, sports, and women's health, and an increased interest in neurology, orthopedics, and pediatrics <Table 8>.

Table 8. Changes in the venues and fields desired among those who hoped for employment

Variable	Before	After	<i>z</i>	<i>p</i>
Venue of clinical training			-0.587	0.557
University hospital	131 (28.4)	142 (30.7)		
General hospital	95 (20.6)	112 (24.3)		
Rehabilitation center	54 (11.7)	29 (6.3)		
Public welfare center	31 (6.7)	51 (11.0)		
Long-term care hospital	0	0		
School	0	0		
Professional sports team	19 (4.1)	19 (4.1)		
Public health center	54 (11.7)	54 (11.8)		
Health facility of industrial company	0	6 (1.3)		
Private center	6 (1.3)	6 (1.3)		
Secondary hospital	59 (12.8)	30 (6.5)		
Clinic	13 (2.7)	13 (2.7)		
Field of clinical training			-0.414	0.646
Neurology	132 (28.6)	138 (29.9)		
Orthopedics	140 (30.3)	144 (31.1)		
Cardiovascular & pulmonary	0	0		
Clinical electrophysiology	6 (1.3)	0		
Geriatrics	6 (1.3)	6 (1.3)		
Pediatrics	132 (28.6)	138 (29.9)		
Sports	38 (8.2)	30 (6.5)		
Women's health	8 (1.7)	6 (1.3)		
Oriental	0	0		

The perception of the venues and fields were generally positive among those who hoped to find employment in PT, and those perceptions further improved post-clinical training. There were positive perceptions of the treatment system, recognition of the treatment, and attitude of the treatment. However, there were negative perceptions of the work system and employment system<Table 9>.



Table 9. Perceptions and reasons for changes in desired venues and fields

Variable	Mean $\pm$ SD or Frequency (%)
Perceptions	3.40 $\pm$ 0.86
Very negative	6 (1.3)
Negative	78 (16.9)
Usual	126 (27.3)
Positive	234 (50.6)
Very positive	18 (3.9)
Reason	
Treatment system	3.30 $\pm$ 0.65
Work system	2.91 $\pm$ 0.67
Employment system	2.55 $\pm$ 0.74
Recognition of the treatment	3.42 $\pm$ 0.82
Attitude of the treatment	3.60 $\pm$ 0.80

#### IV. Discussions

In this study, the subjects were predominantly female, 20–24 years old, and had trained in two clinical practice venues for 16 weeks. Higher levels of satisfaction were seen in those who were 30–34 years old and who had trained in four clinical practice venues over 36 weeks. University hospitals were the most common venue, and there were no opportunities with a professional sports team or public welfare center in this study. After clinical training, of subjects who desired employment in PT, fewer wanted to work in rehabilitation centers and secondary hospitals, and more wanted to work in university hospitals, general hospitals, public welfare centers, and the health facilities of industrial companies. There were more students conducting their clinical practice in the field of neurology, but none in women's health. Post-clinical training, among those who hoped to find employment in PT, there was decreased interest in sports, women's health, clinical, electrophysiology and an increased interest in neurology, orthopedics, and pediatrics.

Due to a narrow, exclusive medical environment in South Korea, many PT students travel to other countries, including the US, to get a job (Kim et al., 2013; Kim and Lee, 2015; Kim and Lee, 2020). In developed countries, physiotherapists often prefer to work in private clinics (McMeeken, 2007). However, in South Korea, physiotherapists are dependent on physicians (Kim et al., 2013; Kim and Lee, 2015; Kim and Shon, 2015). Since this makes it slower to develop professional skills and allows only limited independent activity, they may prefer to work in university hospitals, general hospitals, public welfare centers, and health facilities of industrial companies that offer good salaries and benefits (Kim et al., 2013; Kim and Lee, 2015; Jang and Lee, 2020). In addition, after clinical practice, there were fewer PT students with an interest in clinical electrophysiology, sports, women's health, cardiovascular and pulmonary, and

oriental medicine. PT students in developed countries preferred to work in the sports PT field, while PT students in South Korea preferred to work in university and general hospitals. Furthermore, PT students preferred working in the orthopedics and pediatrics fields after clinical training because of the positive reputations of these fields. In general in South Korea, numerous patients must be treated each day (at an average of 30); PT students, therefore, appear to prefer fields with less physical labor(Kim et al., 2013; Kim and Lee, 2015; Kim and Shon, 2015).

In a previous study, groups of PT students who scored higher on knowledge and experience had better satisfaction than did other groups, without any significant differences between males and females(Hammond, 2009; Mirsaleh et al., 2010; Völkening et al., 2010). The results in this study were similar; satisfaction was higher among 30- to 39-year-olds and those who had experienced four clinical practice venues over 36 weeks. For the most part, PT students in South Korea did not feel prepared enough or have enough time to adapt to the clinical training.

Our results showed that when comparing the students' image of PT, pre- and post-clinical training, there were improvements in the overall image of PT, as well as the traditional, social and professional images of the profession. However, the social image was relatively lower compared to the other images. PT is considered a prestigious occupation in Australia, both within the profession and among the public(public (Chung and Whitfield, 1999; McMeeken, 2007, Mulcahy et al., 2010).

This is in contrast to the public's perception of the profession in South Korea. Thus, the image of PT in South Korea is different than it is in developed countries. Physiotherapists in South Korea are not free to decide on the intervention they use and do not receive referrals from medical doctors(Kim et al., 2013; Kim and Lee, 2015; Kim and Shon, 2015). Thus, they are slower to develop professional skills and have limited independent activities.

After clinical training in this study, PT students hoping to find employment in their major field of study increased from 75.3% to 76.6%. There was an increased desire to seek employment in the field of their major among occupational therapy students, and clinical training was even more influential in increasing the number of those hoping to find employment in clinical fields. However, several reasons for not wanting to find employment in the PT profession were revealed in the study and pre-clinical training. There was a higher response to "suitable to aptitude and talent" and "dissatisfaction of work and employment system".

When looking at each item, the results showed that those intending to work in PT had positive perceptions these venues and fields due to the treatment system, recognition of the treatment, and talent of the treatment, but negative perceptions of the work and employment system. The influencing factors on the post-training employment decisions included (from most important to least) prior decisions about employment, satisfaction, image, age, gender, and the number of clinical training institutes(Chung and whitfield, 1999; Hammond, 2009; McMeeken, 2007, Mulcahy et al., 2010).

## V. Conclusions

PT students apply the practice skills and theory they learned from clinical educators at their university PT programs during practice training. They combine those with their attitudes about PT when they practice as experts. As a result, PT students make employment decisions from their clinical training. The image of PT and satisfaction with it among students who already hoped to find employment in the field increased post-clinical training. This study was conducted using only questionnaires administered to PT students at fifteen universities, generalization may be limited.

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