

報告

Study on scholastic motivation as seen from occupational aspirations

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Abstract: With the aim of developing factors that influence academic performance for a paramedical course, this study conducted a questionnaire survey among students of the Department of Medical Engineering of Junshin Gakuen University in September 2017. The respondents comprised 157 students. Consistency with a desired plan and an actual course is an important factor for good academic performance for students in a paramedical course. Providing and enhancing occupational aspirations should be an effective strategy to increase motivation for learning.

Keyword: motivation, academic performance, paramedical course

1. Introduction

Universities offering paramedical courses are expected to help students obtain professional qualifications. While demand by students and their guardians for the acquisition of qualifications remains high, motivating students to maintain sustained effort toward improving their academic grades is often recognized as a difficulty for teachers. The student's educational attainment prior to admission is clearly an important factor for an academic grade. However, academic performance can be influenced by many factors such as the learner's environment, motivation for learning, mental stability, and financial difficulties. Previous studies have reported the issue of social origins, and that differences in access to professions are more complex than differences in prior academic attainment alone¹⁻²⁾. Another study reported motivational factors for students entering medical school by measuring the strength of their motivation, and found that there no differences in strength of motivation according to sex, nationality or age³⁾. The ability to achieve success in school is strongly influenced by students' ability to put in the time and effort to dedicate themselves to study and learn⁴⁾. Babenko *et al.* reported that the pursuit of dedicated personal activities such as sports appears to be associated with the desired qualities of motivation for learning in medical students⁵⁾. Kuniyoshi reported

that generally the motivation for learning in university was largely under the influence of practical and profitable aspects⁶⁻⁷⁾. Similar tendencies were reported in a study targeted at a teacher training course⁸⁾. In Japan, many education and research have been studied for elementary and junior high school students. However, there are few educational studies targeted at university students enrolled in paramedical courses. With the aim of developing factors that influence academic performance in a university paramedical course, this study conducted a questionnaire survey. The purpose of this study is to clarify what lead to the paramedical course, and develop the factors that influence academic performance. Consequently, this study aims to contribute to education by improving or maintaining learners' motivation for learning.

2. Methods

2.1 Participants

The questionnaire survey was conducted among students of the Department of Medical Engineering of Junshin Gakuen University in September 2017. Questionnaires were collected after informed consent was obtained from respondents, and excluded when there were excessive deficiency in item description. The final numbers of respondents were 157 students (89 male, 68 female; mean age, 20.1 years; range, 18-25 years). First, the respondents were divided into two

groups based on their answer to the question: “Was your desired plan before enrollment consistent with the actual course you took?” Students who answered “Yes” were assigned to the ‘Consistent’ group, and those who answered “No” were assigned to the ‘Inconsistent’ group.

2.2 Questionnaire

The questionnaire was conducted to assess the factors that influence academic performance. The question items focused in this study were follows: application period, opportunity for course selection, occupational awareness, occupational aspiration, intentions regarding related qualifications, and study time. “Application period” refers to the length from assigned to a course to final examination. The answers ranged from under 1 month to over 3 years. “Opportunity for course selection” referred to what inspired the student to decide to attend the course. The options were as follows: my own intentions, advice from senior high school teacher(s), advice from family or relatives, advice from friends, workplace experience, open campus, and others. Under “occupational awareness” students were asked to what extent they understood the job context of medical engineering. The options were; ‘I know it well’, ‘I know a little’, ‘I do not know it well’, and ‘I do not know’. Under “occupational aspiration” students were asked to what extent they had an interest in medical engineering. The options were; ‘I have enough interest’, ‘I have a little interest’, ‘I’m not interested enough’, and ‘I’m not interested’. For “intention for related qualification” students were asked to confirm their intention to obtain related qualifications that could be acquired while in university. Finally, for “study time” respondents were asked the average number of hours spent studying on weekdays, excluding class hours.

2.3 Statistical Analysis

Statistical significance was assessed by the Student’s *t* test and Chi-squared test. A *p* value of < 0.05 was considered statistically significant. Statistical analyses were performed with SPSS (version 19.0;

Tokyo, Japan).

3. Results

The characteristics of participants are shown in Table 1. Overall, 52.9% (n=83) of the students were assigned to the ‘Consistent’ group, and 47.1% (n=74) of the students were assigned to the ‘Inconsistent’ group. Table 2 shows a comparison of the results for “application period” and “opportunity for course selection” between the ‘Consistent’ and ‘Inconsistent’ groups. Distinctive features were seen in the “application period” for some students; students who decided their course in a short time (under 1 month) were observed more often in the ‘Inconsistent’ group, while students who decided after lengthy consideration (over 3 years) were observed significantly more often in the ‘Consistent’ group ($p < 0.01$, $p < 0.1$, respectively). With regard to the “opportunity for course selection”, ‘own intention’ was the most common answer in both groups, followed by ‘family recommendation’ and then ‘teacher recommendation.’ ‘Teacher recommendation’ and ‘workplace experience’ were significantly more common responses in the ‘Consistent’ group ($p < 0.5$, $p < 0.1$, respectively), while ‘friend’ and ‘open campus’ were dominant in the ‘Inconsistent’ group ($p < 0.5$, $p < 0.5$, respectively).

Table 3 shows the comparison of the results for “occupational awareness”, “occupational aspiration”, “intention for related qualifications”, and “study time” between the ‘Consistent’ and ‘Inconsistent’ groups. With respect to the “occupational awareness”, over 90% of respondents chose a positive answer – “I know it well” or “I know a little”. With reference to the comparison between the two groups, there was a significantly higher number of respondents in the ‘Consistent’ group who chose a positive answer than in the ‘Inconsistent’ group ($p < 0.5$). Similarly, with regard to “occupational aspiration”, in the ‘Consistent’ group, there was a significantly higher number of positive answers – “I have enough interest” and “I have a little interest” – compared with the ‘Inconsistent’ group ($p < 0.5$). With regard to “intention for related qualification”, over 90% of all students indicated this

intention. However, a significant difference was seen between the two with a higher proportion in the 'Consistent' group answering positively than in the 'Inconsistent' group ($p < 0.5$). "Study time" was significantly longer in 'Consistent' group than 'Inconsistent' group ($p < 0.5$).

Additionally, "occupational awareness" and "occupational aspiration" were analyzed for each academic year (Figure). For both items, the proportions giving positive answers were higher in upper years of the 'Consistent' group. On the contrary, the proportions giving negative answers were higher in upper years of the 'Inconsistent' group.

4. Discussion

Learning depends on several factors, such as the educators, the students themselves, the course/curriculum, and the educational environment. Over the years, there has been a gradual shift in medical education from a teacher-centered, passive learning approach to a student-centered, active learning approach⁹⁻¹². However, there will never be one single formula that will work 100% of the time with every student⁴. Motivation can be intrinsic to the student and come from external factors. This study focused on learners' intentions, which can lead to motivation for learners to work harder. This is because focusing on learners' intrinsic motivation is thought to be a more important factor for enabling academic improvement¹³. Individual learners' intrinsic motivation can be affected by previous experiences, by their desire to achieve, and the relevance of the learning to their future¹⁴. With regard to the desire to achieve, this study focused on whether the desired plan before enrollment was consistent with the actual course. In comparison with the 'Consistent' group, the 'Inconsistent' group showed significantly lower occupational awareness and occupational aspiration. One thing especially worth mentioning is that the number of those who answered that they held occupational aspiration had a decreasing tendency for upper grades in the 'Inconsistent' group, unlike the 'Consistent' group in which there was an increasing

tendency. In addition, the 'Inconsistent' group showed a low rate of intention to obtain related qualifications, as well as a short average study time.

These results indicate the possibility of long-lasting decreased motivation for learning when the learner's actual course is inconsistent with the desired course. Wilson JI examined the motivational factors for students entering medical school, and found that the reasons underlying the motivation to enter medical school are interrelated and based on interpersonal and intrapersonal factors such as wanting to help people, wanting to be respected and successful, and fulfilling a sense of achievement³. For students learning in a paramedical course, a feeling of admiration towards medical professionals should be important for intrinsic motivation and a sense of achievement. Therefore this study provides occupational aspiration as a key factor to influence academic performance. Social experience to actual medical field at an early stage after enrollment could cultivate occupational awareness and enhance occupational aspiration.

Another strategy for improving occupational aspiration could be seen in the results for "application period". The distinctive feature was identified in the responses for 'under 1 month' and 'over 3 years.' The proportion responding 'under 1 month' was higher in the 'Inconsistent' group than in the 'Consistent' group, whereas the proportion answering 'over 3 years' was higher in the 'Consistent' group than the 'Inconsistent' group. Consistent with our results, a previous study reported the importance of a long period of application period for good academic performance after enrollment¹⁵. It can be suggested that deliberation of one's course at an early stage is important to long-lasting intrinsic motivation after enrollment. Conducting employment placement for students in middle and high schools would be effective for lengthy consideration.

Several limitations of the current study should be considered. First, this study could not observe changes over time in a specified academic year. Second, more data are needed to confirm the results obtained in this study. Although this study excluded some of

questionnaires when there were excessive deficiency in item description, a little bit of deficiency was accepted because of the numerousness. This led to the difference of number of respondents in each table. Third, to confirm the hypotheses of this study, more data from other facilities are needed for comparison.

In summary, consistency between desired plan and actual course is an important factor for good academic performance by students in a paramedical course. Providing and enhancing occupational aspiration should be an effective strategy to increase motivation for learning.

Table and Figure Legends

Table 1. Characteristics of participants and results of the question for "Desired course".

Characteristics	Average ± SD/ratio (%)
N	157
Male	89 (56.7 %)
Female	68 (43.3 %)
Age (years old)	20.1 ± 1.5
Academic year	
1	44 (28.8 %)
2	37 (23.6 %)
3	38 (24.2 %)
4	38 (24.2 %)
Desired course	
Consistent	83 (52.9 %)
M/F	51/32 (61/39 %)
Inconsistent	74 (47.1 %)
M/F	38/36 (51/49 %)

Data are shown as the mean ± SD or numbers (%).

SD: standard deviation, N: number of responses.

Table 2. Comparison between the two groups for the items of the application period and opportunity for course selection.

	Consistent	Inconsistent	p value
Application period (N=156)			
<1 month	3 (3.6 %)	14 (19.2 %)	< 0.01
1 to <3 months	9 (10.8 %)	10 (13.7 %)	ns
3 to <6 months	15 (18.1 %)	5 (6.8 %)	< 0.1
6 to <12 months	16 (19.3 %)	18 (24.7 %)	< 0.5
1 to <2 years	19 (22.9 %)	13 (17.8 %)	< 0.5
2 to <3 years	8 (9.6 %)	8 (11 %)	ns
≥3 years	13 (15.7 %)	5 (6.8 %)	< 0.1
Opportunity for course selection (N=147)			
own intention	38 (47.5 %)	32 (47.8 %)	ns
teacher recommendation	10 (12.5 %)	5 (7.5 %)	< 0.5
family recommendation	19 (23.8 %)	18 (26.9 %)	ns
advice from friend	1 (1.3 %)	3 (4.5 %)	< 0.5
workplace experience	6 (7.5 %)	1 (1.5 %)	< 0.1
participate in the open campus	3 (3.8 %)	5 (7.5 %)	< 0.5
others	3 (3.8 %)	3 (4.5 %)	ns

Note.- Data in parentheses are percentages.

Data are shown as numbers (%). "ns" = not significant

The number of each respondents was seen as N (number of responses).

Table 3. Comparison between the two groups for the items of occupational awareness, occupational aspiration, intention for related qualifications, and study time.

(N=157)	Consistent	Inconsistent	<i>p</i> value
Occupational awareness			
know well or know a little	79 (95.2 %)	68 (91.9 %)	< 0.5
not know or not know well	4 (4.8 %)	6 (8.1 %)	< 0.5
Occupational aspiration			
feel enough or feel a little	77 (92.8 %)	64 (86.5 %)	< 0.5
not feel or not feel enough	6 (7.2 %)	10 (13.5 %)	< 0.5
Intention for related qualifications*	77 (92.8 %)	66 (89.2 %)	< 0.5
Study time [h/day]	0.86 ±1.2	0.64 ±1.0	< 0.5

Note.- Data are shown as the mean \pm SD or numbers (%).

*: The number of respondents in this item was 143.

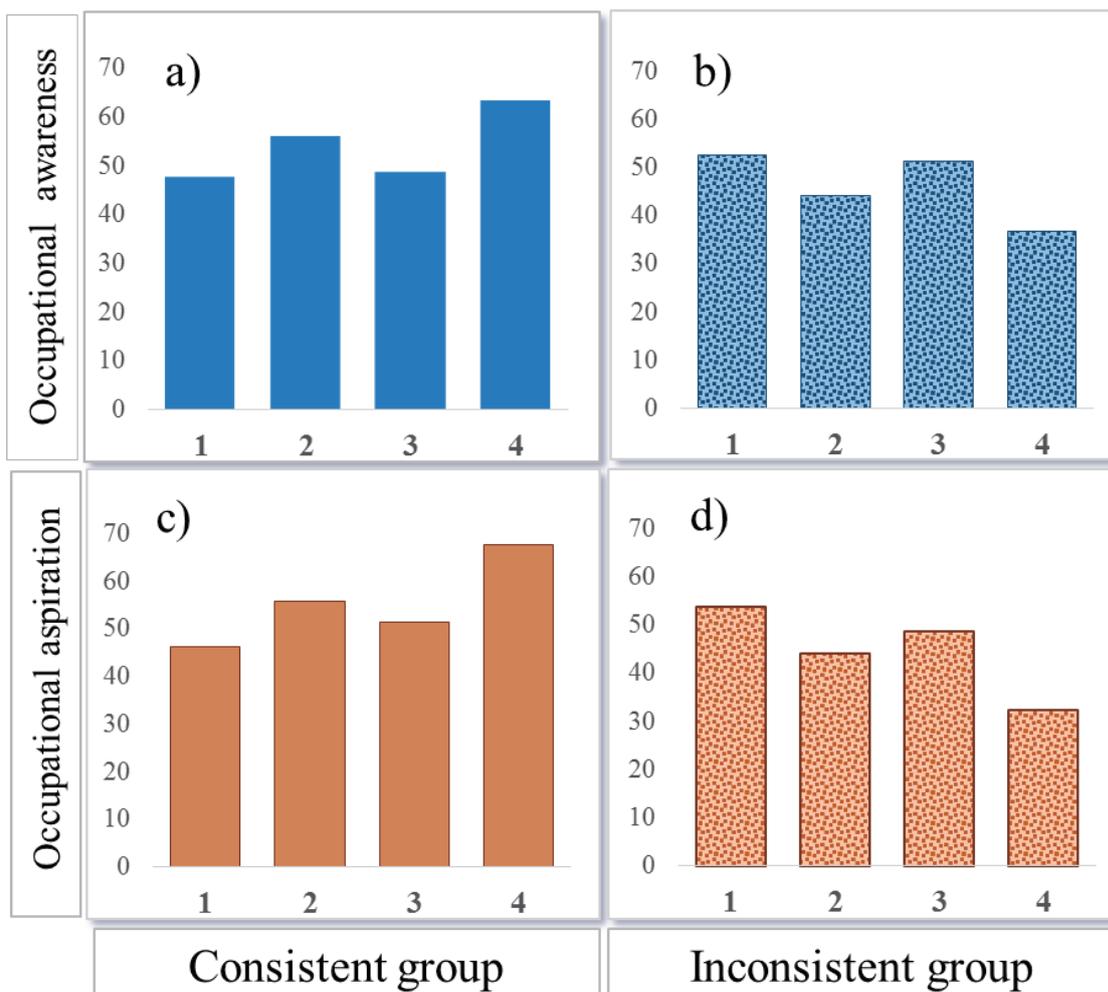


Fig. Results of “occupational awareness” and “occupational aspiration” grouped by each academic year. Values indicate the percentages of respondents who answered a positive answer; “I know it well” or “I know a little” for occupational awareness, and “I have enough interest” and “I have a little interest” for occupational aspiration. a) Occupational awareness in the ‘Consistent group’. b) Occupational awareness in the ‘Inconsistent group’. c) Occupational aspiration in the ‘Consistent group’. d) Occupational aspiration in the ‘Inconsistent group’.

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