ANALYSIS

22(89), January - February, 2018

ISSN
2321–7359
EISSN
2321–7367

Medical Science

Evaluation of academic motivation in medical students of basic and clinical stages in Kermanshah University of Medical Sciences during 2015-2016: a review of Iranian studies

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Article History
Received: 18 October 2017
Accepted: 10 December 2017
Published: January-February 2018

Citation
Mazaher Ramezani, Mina Samadi, Afshin Almasi, Masoud Sadeghi. Evaluation of academic motivation in medical students of basic and clinical stages in Kermanshah University of Medical Sciences during 2015-2016: a review of Iranian studies. *Medical Science*, 2018, 22(89), 85-91

General Note

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ABSTRACT

Background: Motivation is one of the most effective on the performance of students at the university. **Aim**: The aim of study was to evaluate academic motivation in medical students of basic and clinical stages in Kermanshah University of Medical Sciences. **Materials and Methods:** In an analytical-descriptive and randomized study on medical students of Kermanshah University of Medical Sciences, 300 students were selected during 2015-2016. Age, sex, residence, marital status, having of doctor in the first and second degree relatives; and grade point were checked in all patients. In this study, the academic motivation scale questionnaire for the measurement of the quality or type of motivation was used. **Results:** The mean age of students was 22.9 years (range, 18-30 years) that 43.7% were men. There was a significant correlation between marital status (P=0.001) and amotivation (P=0.004) in two stages. Also, intrinsic motivation and the overall motivation for students of clinical stage in men significantly less than women. Intrinsic motivation for students of basic stage that had a doctor in the second relatives was less compared with students that didn't have a doctor in the second relatives. Extrinsic motivation for students of clinical stage that had a doctor in the second relatives was more compared with students that didn't have. **Conclusions:** First of all, the academic motivation in this study was similar to other studies in Iran. Second, female students than male students were in a higher motivation level, although, this difference was statistically significant only at the level of amotivation.

Keywords: Academic motivation, Medical students, Basic stage, Clinical stage, Iran

1. INTRODUCTION

Among the many factors affecting on the performance of students at the university, motivation is one of the most effective [1]. Motivation is one of the most important psychological concepts in education and is related to academic outcomes in medical students [2]. In the literature, intellectual ability and achievement motivation were associated positively with academic success [3]. Psychologists have noted the necessity of motivation in education for effective communication with the learning, skills and behaviors [4]. The studies have shown that in medical students with increasing of achievement motivation can increase academic success rate [5] that the academic achievement requires coordination and interaction between the different aspects of motivation [6]. The motivation is divided to intrinsic or extrinsic that intrinsic motivation is typically viewed as the more desirable, representing a desire to engage in a task because it is inherently interesting, enjoyable, and/or meaningful to the individual. In contrast, extrinsic motivation is frequently discussed just as desire to engage in a task only to obtain an external reward such as food or money or to avoid punishment [7]. It has been shown that intrinsic motivation compared with extrinsic motivation have connected with more creativity [8], the lower the surface information, deeper learning [9], better academic performance [10), reinforcing of feel good or compatible [11], and reduce losses [12]. Medical students are very similar in terms of ability, learning and talent, but in their academic progress during the school years, significant differences exist that can be a reflection of differences in their academic motivation [13]. Therefore, students' academic achievement can be under the influence of academic motivation despite their inherent talent. This study evaluated academic motivation in medical students of basic and clinical stages in Kermanshah University of Medical Sciences during 2015-2016 and compared the results with other studies in Iran.

2. MATERIALS AND METHODS

This study was approved by the Ethics Committee of Kermanshah University of Medical Sciences, Kermanshah, Iran (Code: KUMS.REC.1395.235; Link: http://vc-research.kums.ac.ir/fa/researchmattersmanagement/akhlagh/fehrestpajaheshha). During 2015-2016 and in an analytical-descriptive and randomized study on medical students of Kermanshah University of Medical Sciences, 300 students were selected. All of them were volunteers and nobody was obligated to participate in the study. Half of students were in basic stage and another half were in clinical stage. In general medicine, the first two years serve as the foundation of basic medical knowledge (Basic stage) and from three to seven years training is extended with regular clinical practice (Clinical stage). We checked

age, sex, residence, marital status, having of doctor in the first and second degree relatives; and grade point in all students. In this study, the academic motivation scale (AMS) questionnaire was used and included by Vallerand *et al*. [14] for measurement of the quality or type of motivation. The questionnaire information is located in study of Kusurkar *et al*. [15].

Statistical analyses

The data analysis was done with STATA software version 12. The descriptive statistics such as calculation of the numerical index (mean and standard deviation) for quantitative variables and frequency percentages for qualitative variables in the form of one-dimensional and multi-dimensional tables were used. Also, the nonparametric test of Mann-Whitney or parametric test of independent t-test on a significant level of $P<0.05$ was used.

3. RESULTS

The mean age of students was 22.90±2.18 years (range, 18-30 years) that 131(43.7%) students were males (Table 1). Out of 300 students, 37(12.3%) were married, 150(50%) basic stage, 92(30.7%) had a doctor in the first degree relatives and 140(46.7%) in the second degree relatives. Also, the mean grade point was 14.74±1.24 (range, 11.5-18) and residence while studying for 141(47) students, 124(41.3%) and 35(11.7%) was family housing, dormitory and Private housing, respectively.

Table 2 shows the correlation some characteristics between students of basic stage and clinical stage. There was a significant correlation between marital status (P=0.001) and amotivation (P=0.004) in two stages. Therefore, married students and amotivation were more in clinical stage compared with basic stage.

Table 3 compares the correlation between numbers of variables with motivation for basic stage's students and Table 4 for clinical stage's students. Amotivation was more in male students on basic stage compared with females (P=0.039). Intrinsic motivation and the overall motivation for students of clinical stage in males significantly less than females (P=0.003 and P=0.007, respectively). Intrinsic motivation for students of basic stage that had a doctor in the second relatives was less compared with students that didn't have a doctor in the second relatives (P=0.027). Extrinsic motivation for students on clinical stage had a doctor in the second relatives was more compared with students that didn't have a doctor in the second relatives (P=0.015). There was no significant difference for other variables (P>0.05).

Table 1 The baseline characteristics of the students (n=300)

Variables	N (%)
Age, years	
Mean ± SD	22.90±2.18
Range	18-30
Sex	
Male	131(43.7)
Female	169(56.3)
Marital status	
Married	37(12.3)
Single	263(87.7)
Grade point (0-20)	
Mean ± SD	14.74±1.24
Range	11.5-18
Stage	
Basic stage	150(50)
Clinical stage	150(50)
Residence	
Family housing	141(47)
Dormitory	124(41.3)
Private housing	35(11.7)
Having a doctor in the FR	
Yes	92(30.7)

No	208(69.3)
Having a doctor in the SR	
Yes	140(46.7)
No	160(53.3)

Abbreviations: FR: first degree relatives; SR: second degree relatives

Table 2 The comparison of baseline characteristics of students of basic stage and clinical stage

Variables	Basic stage N=150	Clinical stage N=150	P-value
Sex			0.081
Male	58(38.7)	73(48.7)	
Female	92(61.3)	77(51.3)	
Marital status			0.001
Married	7(4.7)	30(20)	
Single	143(95.3)	120(80)	
Academic motivation			
Extrinsic motivation	60.86±10.53	62.16±10.19	0.379
Intrinsic motivation	53.62±12	53.54±13.16	0.969
Amotivation	9.16±5.03	10.68±4. 97	0.004
The overall motivation	137.32±21.97	137.020±23.73	0.863

Table 3 The correlation between a number of variables with motivation in Basic stage's students

Variables	Extrinsic motivation	P	Intrinsic motivation	P	Amotivation	P	The overall motivation	P
Sex		0.569		0.320		0.039		0.095
Male	60.37±10.98		52.05±13.90		10.18±5.31		134.24±24.5	
Female	61.18±10.28		54.60±10.59		8.52±4.76		139±27±20.11	
Residence		0.359		0.921		0.847		0.605
With family	61.56±10.10		54±12.23		9±5.01		138.56±22.15	
Dormitory	59.07±11.10		53±11.56		9.21±4.99		134.86±21.23	
Private house	62.94±10.63		53.64±12.79		9.82±5.46		138.76±23.90	
Having a doctor in the FRs		0.990		0.711		0.362		0.472
Yes	60.37±12.20		54±12.39		8.56±4.82		137.81±23.58	
No	61.03±9.97		53.49±11.92		9.36±5.10		137.16±21.52	
Having a doctor in the SRs		0.570		0.027		0.892		0.167
Yes	59.85±10.69		51.25±11.96		9.28±5.28		133.82±21.65	
No	61.76±10.36		55.68±11.72		9.06±4.82		140.38±21.91	
Marital status		0.501		0.565		0.318		0.354
Married	63.28±12.12		55.57±10.46		8.14±6.33		142.71±25.83	
Single	60.75±10.48		53.52±12.09		9.21±4.98		137.06±21.83	

Age, years		0.599	0.304	0.822		
Mean	0.043	0.084	-0.019	0.055	0.055	
Grade point (0-20)		0.737	0.789	0.482		
Mean	-0.280	0.022	-0.058	0.016	0.848	

Abbreviations: FR: first degree relatives, SR: second degree relatives

Table 4 The correlation between a number of variables with motivation in Clinical stage's students

Variables	Extrinsic motivation	P	Intrinsic motivation	P	Amotivation	P	The overall motivation	P
Sex		0.100		0.003		0.229		0.007
Male	60.61±10.04		49.86±13.19		11.08±4.79		131.39±22.81	
Female	63.62±10.17		57.02±12.23		10.29±5.15		142.36±23.49	
Residence		0.112		0.272		0.624		0.181
With family	61.76±9.18		53.20±11.95		10.38±4.96		136.59±22.05	
Dormitory	63.30±11.32		54.71±14.29		10.69±5.07		139.31±25.67	
Private house	58.83±7.82		49.88±12.08		11.55±4.80		129.16±19.96	
Having a doctor in the FRs		0.795		0.391		0.680		0.695
Yes	61.74±9.13		52.45±12.67		10.36±4.91		135.83±22.29	
No	62.40±10.79		54.16±13.46		10.86±5.03		137.71±24.61	
Having a doctor in the SRs		0.015		0.088		0.361		0.071
Yes	64.28±9.84		55.47±12.61		10.98±4.87		140.77±23.06	
No	60.30±10.18		51.85±13.48		10.41±5.08		133.75±23.97	
Marital status		0.698		0.446		0.214		0.938
Married	62.83±8.31		52.03±11.18		9.60±4.83		137.26±19.54	
Single	61.99±10.63		53.91±13.63		10.65±4.99		136.96±24.74	
Age, years								
Mean	0.016	0.845	0.023	0.502	0.060	0.467	0.0323	0.782
Grade point (0-20)								
Mean	0.174	0.033	0.193	0.018	-0.920	0.264	0.209	0.010

Abbreviations: FR: first degree relatives, SR: second degree relatives

4. DISCUSSION

The study evaluated academic motivation in medical students and the correlation a number of variables with motivation between basic and clinical stages based on AMS questionnaire. The mean of intrinsic motivation in students of basic and clinical stages was 60.87 and 62.16, respectively. Also, the mean of extrinsic motivation in students of basic and clinical stages was 53.62 and 53.54, respectively. The mean of Amotivation in students of basic and clinical stages was 9.16 and 10.68, respectively. Therefore, the mean overall motivation in basic stage was 137.32 (around 70.06% from 196 points) and in clinical stage was 137.02 (69.9% from 196 points). This result was similar to the findings of Ramezani's study [16], that showed the mean academic motivation in medical students of Zabul city was 131.3±17.5 (around 69.3% from 189 points) and also Roohi's [17], Roshan Milani's [13], and Mazloomy's [18] studies in students of Golestan University of Medical Sciences, students of basic stage of Urmia University of Medical Sciences and male students of Yazd University of Medical Sciences that was 151.4±20.6(around 77% from196 points), 108.8±13.9 (around 77.1% from140 points) and 165.5±29.3 (around 67.3% from 245 points), respectively. Therefore, these results showed that academic motivation in medical students of Iran universities is almost similar and even can reported that intrinsic motivation, extrinsic motivation and the overall motivation in basic stage compared clinical stage didn't have significant differences and just Amotivation

was significantly more in clinical stage. In this study, Amotivation in male students of basic stage was more than female students ($P<0.05$) and the overall motivation and intrinsic motivation for male students of clinical stage was significantly less than females. In line with this study, another study [17] showed that the overall motivation and intrinsic motivation was significantly lower in male students compared with females. The lower motivation level of male students than female students may be due to innate differences between the sexes or male gender-related conflicts, such as economic problems or lack of compliance of existing educational practices with male character fields that in this case, family support, economic recovery and compliance of training programs with the characteristics of each sex, especially among male students as a solution of improving the level of motivation is recommended. In contrast to these results, two studies [16,19] reported that there was the correlation between sex and motivation among students. In this study, there was no the significant difference between marital status and motivation that two studies [16,18] confirmed it.

Ramezani *et al*. [16] showed that there was no significant correlation between residency and motivation that our study confirmed it. Therefore, unexpectedly, non-native status on students' motivation has no negative effect. Studies have shown that compared with native students, non-native students generally have a very positive attitude and academic performance with more favorable and greater academic effort. On the other hand, cultural mismatch can have a negative impact adversely on their academic performance [20]. In this study and Roshan Milani's study [13], extrinsic motivation in two stages was more than intrinsic motivation. Frischenslager's [21], Kusurkar's [22], and Sobral's [23] studies reported that medical students with stronger intrinsic motivation, had deep study and further education efforts. Therefore, the intrinsic motivation compared with extrinsic motivation has a more correlation with a higher level of learning and academic achievement. In this study, there was no significant correlation between grade point and motivation in basic stage, but in clinical stage, with increasing of grade point, the mean amotivation was significantly reduced that two studies [6,13] confirmed these results and another study [24] didn't find any the correlation. These differences may be because selection of different questionnaire in studies. Also, there was no significant difference between age and the motivation in this study and Ramezani's study [16], whereas; two studies [17,25] find a significant correlation between age and the motivation that with increasing age, the mean motivation was reducing. In a meta-analysis of Pacheco et al. [26], mental health problems were estimated highly prevalent in medical students and in the study of Babenko et al. [27], physical activity /sport were factors to desired quality of motivating and decrease in some mental health problems, but we did not considered these in the present study.

5. CONCLUSIONS

First of all, the academic motivation in this study was similar to other studies in Iran. Second, female students than male students were in a higher motivation level, although, this difference was statistically significant only in the amotivation level. Third, the results showed that age, marital status, place of residence and having of doctor in the first degree relatives, have no significant impact on students' motivation.

LIMITATIONS

Lack of adequate volunteer students in all grades was the main limitation of the study. We did not considered history of mental health problems and physical activity/sport in the present study.

ACKNOWLEDGMENT

The authors gratefully acknowledge the Research Council of Kermanshah University of Medical Sciences (Grant Number: 95218) for the financial support. This work was performed in partial fulfillment of the requirements for (General Physician) of (Mina Samadi), in Faculty of Medicine, Kermanshah University of Medical Sciences, Kermanshah, Iran. Also, the authors thank Education Development Center (EDC) of Kermanshah University of Medical Sciences for its cooperation.

CONFLICT OF INTEREST

There are no conflicts of interest.

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