Original Article

The Correlation between Academic Satisfaction and Academic Motivation During the Covid-19 Pandemic in Rehabilitation Students

Masoume Hosseini Beidokhti[1], PhD candidate; Maedeh Moghtader[1*], MSc; Payam Amini[2], PhD; Fatemeh Hosseini Beidokhti[1], MSc student; Mostafa Behroozi[1], MSc student; Reza Fatahi[1], BSc

[1]Musculoskeletal Rehabilitation Research Center Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[2]Department of Biostatistics, School of Public Health, IRAN University of Medical Sciences, Tehran, Iran

ABSTRACT

Background: The outbreak of Covid-19 virus has affected many issues, including the students' education. Distancing from face-to-face educational environment, the disruption of leisure and social activities, and the separation from friends are some of the quarantine consequences, which can affect issues such as students' academic satisfaction and motivation. Therefore, this study aimed was to examine the level of academic satisfaction and motivation during Covid-19 quarantine among rehabilitation students of Ahwaz University of Medical Sciences.

Methods: This cross-sectional analytical study was performed on 180 Ahvaz Jundishapur University of Medical Sciences rehabilitation students with a convenient sampling method from 2020 August to July 2021. To evaluate the level of academic motivation, the Persian version of Harter's academic motivation questionnaire was electronically used, and to assess the level of academic satisfaction, the questionnaire by Shakornia et al. (2014) was electronically used. To investigate the association between academic motivation and academic satisfaction, the chi-square independence test (or Fisher's exact test in case of the sparsity of contingency table) was used. Data analysis was performed using SPSS 22 software at a significant level of 0.05.

Results: The results showed that there is a significant correlation between academic satisfaction and intrinsic motivation (P=0.047), but there is no significant correlation between the academic satisfaction and extrinsic motivation (P=0.165) and academic satisfaction score and overall academic motivation (P=0.752). The correlation between academic satisfaction and field of study is significant (P=0.004).

Conclusion: This study showed that despite the prevalence of Covid-19 and changes in educational methods during this period, the rate of academic motivation and academic satisfaction is almost high in most rehabilitation students of Ahvaz Jundishapur University of Medical Sciences. To investigate the strengths and weaknesses of education and the factors affecting the use of online education, students' learning, and their academic motivation and satisfaction, it is recommended to examine the level of students' academic motivation and satisfaction in different universities during the Covid-19 pandemic.

Keywords: Academic satisfaction, Academic motivation, Covid-19, Students

Introduction

The first case of coronavirus was reported in Wuhan, China in December 2019. As the disease spread worldwide, it became a global health problem, with World Health Organization (WHO) announced on March 11, 2020 about the Covid-19 pandemic. Consequently, a home quarantine was proposed and implemented to prevent the spread of disease (1).

Implementation the home quarantine plan affected many issues and lifestyles, and the education was one of the most affected sectors by Covid-19 pandemic (2). Therefore, the presence-oriented nature of traditional education methods caused this system not to meet the students' educational needs (3-5). As a result, using the modern technologies and creating new transformations and adaptations in educational methods became necessary (1, 6-8). In such situations, E-learning was used as an alternative method. E-learning refers to education in which the educator and the learner communicate with each other through electronic means (9). Some e-learning tools include internet, audio-visual tools, multimedia systems, disks and compact discs, videotapes, animation, and video conferencing (10, 11).

The issue of student's academic motivation and contentment, which is a crucial component of their education as the nation's future builders, is one of the most crucial and difficult issues linked to their education and training (12). Considering the effectiveness of using new educational methods and flexible learning spaces on students' education, it is important to evaluate the level of students' academic motivation and satisfaction during covid-19 pandemic.

Distancing from the face-to-face educational environment, the disruption of leisure and social activities, and separation from friends are some of the quarantine consequences, which can affect issues such as students' academic satisfaction and motivation and lead to dissatisfaction and loss of academic motivation. Academic motivation, which is one of the factors that contribute to growth and one of the most significant parts of education, generally refers to actions that support learning and educational advancement. An internal force or desire leads the learner to comprehensively evaluate his/her performance based on the highest standards, strive for success in performance and take pleasure in success (13).

Results of Sean B.Eom et al. (2016) in the United States on the factors affecting student learning outcomes and satisfaction with online education at the university showed that student-instructor dialogue and student-student dialogue significantly affect student satisfaction and learning outcomes. Students' extrinsic and self-regulatory motivation have no significant relationship with their satisfaction and learning. Intrinsic motivation affects learning, but does not affect student satisfaction (13-15).

Regarding covid-19 pandemic in Iran, a quarantine was implemented. Many universities around the world have stopped or postponed their activities in terms of high concerns about Covid-19. Universities teaching methods are rapidly changing from face-to-face to online (14, 16). In this regard, universities around the world faced many challenges in terms of the prevalence of Covid-19, such as the existence of sufficient facilities and equipment for online teaching and student evaluation methods. Besides, issues such as separation from friends and social environment and distance from the educational environment can affect students' academic motivation and satisfaction (13). To implement the necessary support measures and services to improve students' educational status, we decided to examine the level of academic satisfaction and motivation during covid-19 quarantine among rehabilitation students of Ahwaz University of Medical Sciences as a branch of medical sciences.

Methods
Study Design
This search was a cross-sectional analytical study.

Setting

This study was performed at Ahvaz Jundishapur University of Medical Sciences from 2020 August to July 2021.

Participants

Based on the type of study, all students who consented to participate in the study were surveyed. The inclusion criteria were all students' school of rehabilitation affiliated with Ahvaz Jundishapur University of Medical Sciences with a minimum education level of sophomore in undergraduate, willingness to participate, and completion of an informed consent form. All those students who submitted incomplete questionnaires were excluded.

The following ethical issues were considered: After obtaining permission from the college officials, the training program began at the Ahvaz Jundishapur University of Medical Sciences. Before conducting the study, information about the questionnaire and the type of study was given to the participants and all participants were satisfied to participate in the study. The participants were also assured that all information collected would remain confidential.

Data Collection Tools

The subjects first completed an electronic demographic questionnaire, including age, gender, field of study, and academic degree. The questionnaire was online and the link of questionnaire was sent via E-mail or WhatsApp for participants. The average time to complete this questionnaire was 15 minutes. Then, the Persian version of Harter's academic motivation questionnaire was used electronically to evaluate the level of academic motivation. This questionnaire consists of 33 questions in which the subjects' answers to each question are recorded and scored on a 5-point Likert scale (1=never to 5=almost always). If the questionnaire scores are between 33 and 66, the level of academic motivation is poor, if the questionnaire scores are between 66 and 99, the level of academic motivation is moderate, and if the scores are

above 99, the level of academic motivation is high. The reliability of this questionnaire was assessed by the test-retest method and internal stability. Cronbach's alpha and test retest coefficient of intrinsic motivation of this questionnaire are 0.85 and 0.86 and extrinsic motivation is 0.69 and 0.72. Factor analysis by exploratory analysis was used to evaluate the validity. Kaiser- Mayer- Olkin- Sampling-Adequacy is 0.84 (16, 17).

A questionnaire by Shakournia et al. (2015) was electronically used to assess academic satisfaction. This questionnaire has 14 items that measure academic satisfaction with a 5-point Likert scale (strongly disagree to strongly agree). A score between 14 and 23 indicates a lack of academic satisfaction; if the score is between 23 and 46, the level of academic satisfaction is relatively desirable, and if the score is above 46, students' academic satisfaction is desirable. Cronbach's alpha coefficient of this questionnaire is 0.84. Factor analysis was used to evaluate the validity. The factor structure of the questionnaire has been confirmed (18).

Descriptive statistics of data were shown by mean (±standard deviation) and frequency (percentage). To investigate the association between academic motivation and academic satisfaction, the chi-square independence test (or Fisher's exact test in case of the sparsity of contingency table) was used. Data analysis was performed using SPSS 22 software at a significant level of 0.05.

Sample Size and Randomization

The participants were 180 students of the Rehabilitation Faculty of Ahvaz Jundishapur University of Medical Sciences. Because this study was done in convenient sampling, all rehabilitation students participated in this study if they were satisfied. The fields of study of participants was speech therapy, physiotherapy, occupational therapy, and audiology and academic degree of participants were bachelor and master of sciences. Respective to the main aim, investigating the association between satisfaction and motivation using two questionnaires, Chi-

Square independence sample size formula based on effect size has been utilized for sample size calculation in which *w* is the effect size, P_{1i} and P_{0i} are the proportion of cases at each cell based on the Null and alternative hypothesis. Considering a large effect size 0.5 and 4 degree of freedom based on the 3×3 contingency table and based on the table provided by Cohen, the total sample size is 180.

$$w = \sqrt{\sum_{i=1}^{k} \frac{(P_{1i} - P_{0i})^2}{P_{0i}}}$$

Results

This study aimed was to investigate the correlation between the academic satisfaction and academic motivation of rehabilitation students at Ahvaz University of Medical Sciences during the outbreak of Covid-19 disease on 98 female and 82 male students with an average age of 22.2(±2.5). All participants completed the questionnaires (Table 1).

The results of the present study showed a significant association between academic satisfaction and intrinsic motivation (P=0.047) and students' academic field (P=0.004).

However, there is no significant relationship between academic satisfaction with gender, extrinsic and overall motivation (Table 2).

Discussion

This study aimed to investigate the correlation between academic satisfaction and academic motivation in rehabilitation students of Ahvaz Jundishapur University of Medical Sciences during the covid-19 pandemic. The finding of the present study showed that there is a significant correlation between academic satisfaction and intrinsic motivation but there is no relationship between academic satisfaction with overall and extrinsic motivation.

A study by Roohi et al. (2012) showed that individuals with high intrinsic motivation are disciplined from within and do not allow others and external factors to influence their performance. Therefore, a significant obstacle to students' learning might be a lack of intrinsic drive (19), however in the current research, a high degree of intrinsic motivation was found in 77.8% of the individuals. In the research by Hakim et al. (2015), 50.7% of nursing students reported more academic motivation than the national average (20). Similarly, Roohi et al. showed that 53.3% of students in all fields

Table 1: The distribution of variables (N=180)

Variable		Frequency	Percentage
Gender	Male	82	45.6%
	Female	98	54.4%
Intrinsic academic motivation	High	140	77.8%
	Moderate	24	13.3%
	Low	16	8.9%
Extrinsic academic motivation	High	34	18.9%
	Moderate	136	75.6%
	Low	10	5.6%
Total academic motivation	High	130	72.2%
	Moderate	33	18.3%
	Low	17	9.4%
Academic satisfaction	High	98	54.4%
	Moderate	63	35.0%
	Low	19	10.6%
Academic fields	Speech Therapy	52	28.9%
	Occupational Therapy	42	23.3%
	Physiotherapy	59	32.8%
	Audiology	27	15.0%

Table 2: The association between academic satisfaction with motivation and academic field

Variable	Category	Academic satisfaction Frequency (%)			Chi-square test	P value
		High	**Medium**	**Low**		
Intrinsic motivation	High	78(55.7%)	49(35%)	13(9.3%)	9.591	0.047
	Medium	15(62.5%)	8(33.3%)	1(4.2%)		
	Low	5(31.3%)	6(37.5%)	5(31.3%)		
Extrinsic motivation	High	15(44.1%)	12(35.3%)	7(20.6%)	6.398	0.165
	Medium	78(57.4%)	48(35.3%)	10(7.4%)		
	Low	5(50%)	3(30%)	2(20%)		
Overall motivation	High	73(56.2%)	44(33.8%)	13(10%)	1.928	0.752
	Medium	16(48.5%)	14(42.4%)	3(9.1%)		
	Low	9(52.9%)	5(29.4%)	3(17.6%)		
Field	Speech therapy	34(65.4%)	9(17.3%)	9(17.3%)	18.207*	0.004
	Occupational therapy	17(40.5%)	19(45.2%)	6(14.3%)		
	Physiotherapy	34(57.6%)	21(35.6%)	4(6.8%)		
	Audiology	13(48.1%)	14(51.9%)	0(0%)		
Gender	Male	45(54.9%)	30(36.6%)	7(8.5%)	0.695	0.708
	Female	53(54.1%)	33(33.7%)	12(12.2%)		

*Fisher's exact test

of Golestan University of Medical Sciences had higher academic motivation scores than average (19). Interaction and communication among instructor and learner, active learning, student's ability to initiate and manage actions in the learning environment and evaluation of academic achievement are among the factors affecting students' satisfaction with online education (21-25). Therefore, high academic motivation of most rehabilitation students in the present study can be probably attributed to these factors. Since online learning methods are used during covid-19 pandemic and many students may not be ready to learn in this way, it is necessary and suggested to examine students' motivation in different universities to determine learning outcomes (14).

There is a significant correlation between intrinsic academic motivation and academic satisfaction. Studies showed that online education can increase students' satisfaction and motivation. Online trainings are provided according to the community's existing conditions. The study of Hakim et al. (2015) showed the correlation between students' academic satisfaction and academic motivation (20). Studies showed that students with higher intrinsic motivation have more perseverance to learn (26, 27). In the study

by Sean B.Eom et al. (2016) which examined the factors affecting students' learning and their satisfaction during online education, no correlation was found between extrinsic motivation and students' satisfaction (13), which is consistent with the results of the present study, but there was no correlation between intrinsic motivation and students' satisfaction, which is contrary to the results of the present study. In general, a set of factors affect students' motivation, these factors may include learner characteristics, curricula in terms of quantity and quality, conditions and characteristics of the educational environment, activities and learning tasks (28).

This study's results showed that there is no significant correlation between gender and academic satisfaction. In the study of Molavi et al. (2007), there was no correlation between gender and decreased academic motivation of students (29). The results of Hakim et al.'s (2015) study showed a lack of relationship between academic motivation and gender (18). In the study of Ravanipour et al. (2019), students' attitude toward the field of study was mentioned as an effective factor in the academic satisfaction and academic motivation (30), this study's results show the correlation between academic satisfaction

and the field of study. Therefore, with careful educational planning and providing effective counseling, it is possible to strengthen students 'attitudes toward the field of study, especially during covid-19 pandemic period, and thus increase students' academic satisfaction and academic motivation (31, 32).

Limitation and Suggestion

One of the limitations of this study was the not willingness of students to participate in study. We suggest that the factors affecting academic satisfaction and motivation be examined in future studies.

Conclusion

This study showed despite the prevalence of Covid-19 and changes in the educational methods during this period, the academic motivation and satisfaction rate is almost high in most rehabilitation students of Ahvaz Jundishapur University of Medical Sciences. To investigate the strengths and weaknesses of education and the factors affecting the use of online education, students' learning, and their academic motivation and satisfaction, it is recommended to examine the level of students' academic motivation and satisfaction in different universities during the Covid-19 pandemic.

References

1   Agarwal S, Sabadia S, Abou-Fayssal N, Kurzweil A, Balcer LJ, Galetta SL. Training in neurology: flexibility and adaptability of a neurology training program at the epicenter of COVID-19. Neurology. 2020;94(24):e2608-e14. doi :10.1212/WNL.0000000000009675.

2   Telli SG, Altun D. Coronavirüs ve çevrimiçi (online) eğitimin önlenemeyen yükselişi. Üniversite Araştırmaları Dergisi. 2020;3(1):25-34. doi: 10.32329/uad.711110.

3   Munir N, Ahmad N, Hussain S, Ghani U. Relationship of learning styles and academic performance of secondary school students. Rawal Medical Journal.

2018;43(3):421-4.

4 Stricker D, Weibel D, Wissmath B. Efficient learning using a virtual learning environment in a university class. Computers & education. 2011;56(2):495-504. doi: 10.1016/j.compedu.2010.09.012.

5 Pashler H, McDaniel M, Rohrer D, Bjork R. Learning styles: Concepts and evidence. Psychological science in the public interest. 2008;9(3):105-19. doi: 10.1111/j.1539-6053.2009.01038.x. PubMed Central PMCID: PMC26162104.

6 Ross DA. Creating a "quarantine curriculum" to enhance teaching and learning during the COVID-19 pandemic. Academic Medicine. 2020. doi: 10.1097/ACM.0000000000003424. PubMed Central PMCID: PMCPMC7179056.

7 Sam AH, Millar KR, Lupton MG. Digital clinical placement for medical students in response to COVID-19. Academic Medicine. 2020. doi: 10.1097/ACM.0000000000003431. PubMed Central PMCID: PMCPMC7179062.

8 Paliadelis P, Wood P. Learning from clinical placement experience: Analysing nursing students' final reflections in a digital storytelling activity. Nurse Education in Practice. 2016;20:39-44. doi: 10.1016/j.nepr.2016.06.005.

9 Payne A, Stephenson JE, Morris W, Tempest HG, Mileham A, Griffin DK. The use of an e-learning constructivist solution in workplace learning. International Journal of Industrial Ergonomics. 2009;39(3):548-53. doi: 10.1016/j.ergon.2008.10.019.

10 Khan BH. Web-based instruction (wbi): an introduction. Educational media international. 1998;35(2):63-71. doi: 10.1080/0952398980350202.

11 Wallace S, Clark M, White J. 'It's on my iPhone': attitudes to the use of mobile computing devices in medical education, a mixed-methods study. BMJ open. 2012;2(4):e001099. doi: 10.1136/bmjopen-2012-001099.

12 Ali Dehghani, Rasool Baharlou, Soheila Keshavarzi, Sore Khaki, AmirHosein Rezazadeh Mostaghimi, Forogh Farokhabadi, et al. Investigation the academic dissatisfaction causes of nursing and paramedics students from their field in Jahrom University of Medical Sciences in 2013. Education and Ethics in Nursing. 2016;5(2):48-54. doi: 10.52547/ethicnurs.5.2.7.

13 Eom SB, Wen HJ, Ashill N. The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. Decision Sciences Journal of Innovative Education. 2006;4(2):215-35. doi: 10.1111/j.1540-4609.2006.00114.x.

14 Baber H. Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. Journal of Education and E-Learning Research. 2020;7(3):285-92.

15 Eom SB, Ashill N. The determinants of students' perceived learning outcomes and satisfaction in university online education: An update. Decision Sciences Journal of Innovative Education. 2016;14(2):185-215. doi: 10.1111/dsji.12097.

16 Sharadgah TA, Sa'di RA. Priorities for reorienting traditional institutions of higher education toward online teaching and learning: Thinking beyond the COVID-19 experience. E-Learning and Digital Media. 2021:20427530211038834. doi: 10.1177/20427530211038834.

17 Bahrani M. The study of validity and reliability of Harter's Scale of Educational Motivation. Journal of Psychological Studies. 2009;5(1):51-72. doi: 10.22051/PSY.2009.1591.

18 Shakurnia A, Alijani H, Najjar S, Elhampour H. Correlation between educational satisfaction and approaches to study and academic performance; a study of nursing and midwifery students. 2014.

19 Roohi G, Asayesh H. STUDENTS'ACADEMIC MOTIVATION IN GOLESTAN UNIVERSITY OF MEDICAL SCIENCES. 2012.

20 BAKHSHANDEH BM, Hakim A, Azimi

N, Latifi S, Ghalvandi H. Nursing students viewpoints about educational motivation and its related factors in Ahvaz Jundishapur University of Medical Sciences. 2015. doi: 10.18869/acadpub.rme.7.1.35.

21 Alqurashi E. Predicting student satisfaction and perceived learning within online learning environments. Distance Education. 2019;40(1):133-48. doi: 10.1080/01587919.2018.1553562.

22 Ku H-Y, Tseng HW, Akarasriworn C. Collaboration factors, teamwork satisfaction, and student attitudes toward online collaborative learning. Computers in human Behavior. 2013;29(3):922-9. doi: 10.1016/j.chb.2012.12.019.

23 Dziuban C, Moskal P, Thompson J, Kramer L, DeCantis G, Hermsdorfer A. Student Satisfaction with Online Learning: Is It a Psychological Contract? Online Learning. 2015;19(2):n2.

24 Cole MT, Shelley DJ, Swartz LB. Online instruction, e-learning, and student satisfaction: A three year study. The International Review of Research in Open and Distributed Learning. 2014;15(6). doi: 10.19173/irrodl.v15i6.1748.

25 Palmer SR, Holt DM. Examining student satisfaction with wholly online learning. Journal of computer assisted learning. 2009;25(2):101-13. doi: 10.1111/j.1365-2729.2008.00294.x.

26 Kosgeroglu N, Acat MB, Ayranci U, Ozabaci N, Erkal S. An investigation on nursing, midwifery and health care students' learning motivation in Turkey. Nurse education in practice. 2009;9(5):331-9. doi: 10.1016/j.nepr.2008.07.003.

27 Asadzadeh F. A survey of the motivation of nursing students toward their field of study selection. 2012.

28 Bengtsson M, Ohlsson B. The nursing and medical students motivation to attain knowledge. Nurse Education Today. 2010;30(2):150-6. doi: 10.1016/j.nedt.2009.07.005.

29 KH R, AR Fadaee N. Evaluation of the factors responsible for the reduction of educational motive of students in Ardebil university of medical sciences. 2007.

30 Ravanipour M, Ranjbar Vakilabadi D, Ravanipour M. Factors affecting educational motivation from the viewpoint of environmental health engineering students: a content analysis. The Journal of Medical Education and Development. 2019;13(4):316-31. doi: 10.18502/jmed. v13i4.525.

31 Brewer EW, Burgess DN. Professor's role in motivating students to attend class. Journal of STEM Teacher Education. 2005;42(3):3.

32 Abdollahzadeh F, Lotfi M, Mirza Aghazadeh A, Etebari Asl Z. Attitude of Operating Room Students towards their Field of Study. Iran Journal of Nursing. 2014;27(90):65-72. doi: 10.29252/ ijn.27.90.91.65.