DOI: https://doi.org/10.53350/pjmhs2023171883

ORIGINAL ARTICLE

Study on Motivation Factors and their Affectiveness among the Students of Anatomy

MOTASIM BILLAH[1], SULTAN ZEB[2], SARAH YUNUS[3], SHEHLA AMAN[4], HAFEEZ BALOCH[5], ABDUL RASHID BALOCH[6]
[1]*Assistant Professor Anatomy, Gajju Khan Medical College, Swabi*
[2]*Assistant Professor Anatomy, North West School of Medicine, Hayatabad Peshawar*
[3]*Assisstant Professor Anatomy, Gomal Medical College, DI Khan*
[4]*Assistant Professor Anatomy, Gomal Medical College, DI Khan*
[5]*Assistant Professor Anatomy, MIMC Mirpur AJK*
[6]*Assistant Professor Anatomy, Suleman Roshan Medical College, Tando Adam*
Corresponding author: Sultan Zeb, Email: sultanzeb7@yahoo.com

ABSTRACT

Background and Aim: The learning environment influences students' motivation, which is a critical factor of academic achievement. A variety of essential elements, including motivation, can influence student success in anatomy lessons. The present study aimed to assess various motivational factors and their effectiveness among anatomy students.

Materials and Methods: This questionnaire based cross-sectional study was conducted on 140 students of anatomy in Faculty of Medicine, Gajju Khan Medical College Swabi and Gomal Medical College DI Khan. The motivation factors of anatomy students, various types of motivations, degree of motivation assessment, and improving the motivation by various parameters during their studies were assessed. SPSS version 27 was used for data analysis.

Results: Of the total 140 anatomy students, there were 78 (55.7%) male and 62 (44.3%) female. The overall mean age was 22.52±4.68 years with an age range 18 years to 26 years. The overall response rate of the students was 90% (n=126). The distribution of students based on their motivational degree were as follows: 2 (1.4%) <20, 2 (1.4%) 20-40, 18 (12.9%) 40-60, 34 (24.3%) 60-80, and 84 (60%) 80-100. Male students were predominant than females. The motivation degree was 81.67% with no statistical significance between genders.

Conclusion: The present study revealed that teachers may definitely target motivation as the most significant aspect to promote learning. A greater knowledge of the drivers and markers of motivation should help enhance medical student teaching to some extent.

Keywords: Motivations, Anatomy students, improving learning

INTRODUCTION

Motivation factors play significant role in learning process of the student. It has been the subject of several studies aimed at defining its various components, analyzing its genuine impact on the learning process, and devising educational ways to sustain all education levels. Due to the internal and external influences variations, motivation is a challenging attribute to investigate. Furthermore, because of its depth and diversity, motivation has garnered significant investigation in the context of education and learning. It refers to the internal and external forces that drive someone to initiate and maintain a conduct towards a goal[1]. Motivation is regarded to be critical for academic success in medicine area, as learner should absorb and acquire a range of talents besides recall a lot of learning materials[2]. Motivation is related to the higher-level requirements of self-esteem/recognition and full potential success[3]. Students like tactics that are interesting, inspiring, and amusing in order to increase their participation[4].

Extrinsic and intrinsic motivation may be roughly divided into two types. Individual's aspiration to participate in certain accomplishments for their own sake due to intriguing, engaging, or gratifying refer as intrinsic motivation[5]. In contrast, the individual's aspiration in gaining reward, meeting external expectations, and to avoid a punishment is refer to extrinsic motivation[6]. The perseverance, engagement better levels, and accomplishment in education and learning activities are related to the intrinsic motivation[7]. The advantage of intrinsic motivated students are self-control, satisfaction, and joy from learning process[8]. Prior research has shown that motivation has a considerable effect on medical students' academic success[9-11]. The bulk of these studies, however, have focused on general motivation rather than specific motivating aspects. The current study aims to bridge this knowledge gap by investigating the impact of motivation and their factors on academic performance in a sample of anatomy students.

METHODOLOGY

This questionnaire based cross-sectional study was conducted on 140 students of anatomy in Faculty of Medicine, Gajju Khan Medical College Swabi and Gomal Medical College DI Khan. The motivation factors of anatomy students, various types of motivations, degree of motivation assessment, and improving the motivation by various parameters during their studies were assessed. Each participant was counselled about the study objective and provided consent. The previously predicted average response time of 60 minutes was met. The AMS, a 20-item self-report survey, assesses intrinsic, extrinsic, and a motivational elements in the academic realm. Participants rate each item on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). SPSS software was used for statistical analysis. The quantitative variables' placement and dispersion characteristics (means, standard deviations) were calculated as part of the descriptive analysis.

RESULTS

Of the total 140 anatomy students, there were 78 (55.7%) male and 62 (44.3%) female. The overall mean age was 22.52±4.68 years with an age range 18 years to 26 years. The overall response rate of the students was 90% (n=126). The distribution of students based on their motivational degree were as follows: 2 (1.4%) <20, 2 (1.4%) 20-40, 18 (12.9%) 40-60, 34 (24.3%) 60-80, and 84 (60%) 80-100. . Male students were predominant than females. The motivation degree was 81.67% with no statistical significance between genders. In our study, 36 students with motivation levels higher than 82% strongly believe that anatomy lectures are intriguing, and 23 students with motivation levels higher than 82% indicate that they should focus on anatomy. Half of the students are willing to make sacrifices in order to study anatomy diligently. Gender distribution of participants are shown in Figure-1. The distribution of students based on their motivational degree are represented in Table-I. The distribution of motivational levels by gender are shown in Table-II. Table-III represents the results of questionnaire on motivation factors among anatomy students.

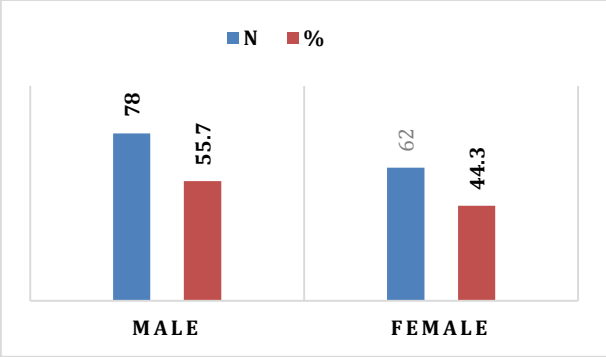

Figure 1: Gender's distribution (n=140)

Table-I: distribution of students based on their motivational degree

Student Motivational Degree	N (%)
>20	2 (1.4)
20-40	2 (1.4)
40-60	18 (12.9)
60-80	34 (24.3)
80-100	84 (60)

Table-II: Distribution of motivational levels by gender

Student Motivational Degree	Male N (%)	Female N (%)
>20	2 (1.4)	0 (0)
20-40	2 (1.4)	0 (0)
40-60	10 (7.1)	8 (5.7)
60-80	17 (12.1)	17 (12.1)
80-100	54 (38.6)	30 (21.4)

Table-III: Results of questionnaire on motivation factors among anatomy students

Student Motivational Degree	Agree	Strongly Agree	Disagree
I enjoyed studying anatomy	59	68	13
Anatomy should be study for drawing own conclusion	70	34	36
Anatomy study could as interesting as good movie	53	42	45
I should focus on studying anatomy	23	82	35
I think anatomy lectures are intriguing	36	78	28
Memorizing anatomy is easy than understanding	22	16	102
Teachers should focus on anatomy chapter that comes in exam	9	12	119
There is no point in going in depth of anatomy learning	4	7	129
I have no difficulty in understanding anatomy	66	47	27
Anatomy is essential feature for future doctors	28	102	10
I am driven by the challenge of learning and finding, whether in anatomy or in other fields	61	63	16
I don't mind if certain anatomy lectures are challenging because it permits me to learn.	67	21	42
Even if I get a terrible exam grade, I attempt to learn from my mistakes.	46	78	16
During anatomy class, it's difficult for me to select which portions are the most significant.	66	31	43
Even though the teacher will present the course information, I take careful notes during anatomy class.	62	49	29
When I study for the anatomy test, I make a concerted effort to inspire myself.	68	48	24
Motivating oneself is more vital than getting encouragement from others.	42	52	46
Motivation isn't important in anatomy for me; you simply need to confirm the teaching unit.	2	4	134
I am more motivated during practical anatomy work and anatomy tutorials than I am during lectures.	42	44	52
Since the beginning of my medical education, the people around me (parents, friends, relatives, etc.) have regularly motivated me.	36	86	8

DISCUSSION

In our analysis, the gender distribution reveals a significant masculine predominance. Given the importance of anatomical knowledge as a basis for excellent practice and the critical role of health professions in health care delivery[12], assessing students' motivations is critical to predicting students' performance in these programs. This is especially true when there is a high incidence of failure or withdrawal, which affects students' development[13]. Understanding how much students have learned depending on their desire may be useful in lowering malpractice patterns associated with a lack of anatomical knowledge[14]. Previous research has found a link between students' total self-reported motivation, the number of hours they reported studying, their grade point average (GPA), and their academic success[15]. This finding contrasts a study that found that 65% of second-year medical students are female, confirming a large increase in female physician ratio[16,17].

Motivation is related with a preference for a certain topic, dedication to self-discipline, and effort to attain one's goals, and tenacity in challenges and failures[18]. A perception regarding inherently driven students of university developed based on their chosen subjects and levels. However, professors occasionally see a specific amount of absence in courses and tutorials, as well as a lack of involvement in completion of training and clinical internships. This lack of engagement might be attributed to a lack of motivation. Low desire to learn, according to Lee et al.[19], suggest that the students' progress are less motivated they feel and the lower their enthusiasm, scientific curiosity, and perseverance[20]. This drop in motivation might have an impact on student performance[21].

Several factors are likely to have an impact on student motivation. There are various aspects connected to the learning environment, besides familial impact (personal life) and society. Among the latter are the institution's running norms, instructional programs, and assessment practices. As a result, Zgheib et al[21] believes that these characteristics have a significant impact in motivation. The possible improvement in student's ability to gain new information might be acquired by this autonomy. The motivation drop should be minimized by implementation of other steps in the training program. The practical and theoretical knowledge could be associated apparently through teaching activities demonstrating the professional demands in course curriculum[22].

Based on gender differences, the outcomes of this study were largely consistent with prior studies. First and foremost, medical field related females are specific and have qualities that might be advantageous for success and academic progression. Female students had higher scores in mindfulness relationship and helpfulness whereas men scored higher in decisiveness and independence[23-25]. Furthermore, the academic success of female students was at a higher proportion than male students [26]. Also, female medical students frequently showcase their talents in a competitive setting. Female and male students approach evaluations differently, with females seeking affirmation about their levels of proficiency in learning activities[27].

Numerous studies reported that academic achievement, self-efficacy, and learning engagement are positively associated with intrinsic motivation[28-31]. Extrinsic motivation was also shown to be connected to learning engagement and self-efficacy. Extrinsic motivation, on the other hand, showed no substantial relationship with students' academic achievement, as Everaert's study[32]

showed. The study's findings influence medical education practice in a variety of ways. Our research demonstrates that students' perceived competences do not represent their actual abilities to achieve goals in medical school. These results can help clarify the significance of self-worth in medicine, devise more effective therapies for enhancing medical students' academic performance, and establish motivation-related counselling tactics for different groups of medical students.

CONCLUSION

The present study revealed that teachers may definitely target motivation as the most significant aspect to promote learning. A greater knowledge of the drivers and markers of motivation should help enhance medical student teaching to some extent. Teachers can help students become more motivated and engaged in their learning, resulting in better academic results.

REFERENCES

1. Manyacka Ma Nyemb P, Niang MM, Yattara H, Ndiaye A, Gaye M. Study on motivation factors and their affectiveness among the students of anatomy. Indian J Clin Anat Physiol 2022;9(4):273-278.
2. Acar D, Colak T, Colak S, Gungor T, Yener DM, Aksu E, Guzelordu D, Sivri I, Colak E, Ors A. 2017. The comparison of self-efficacy belief levels on anatomy education between the undergraduate students from Physical Therapy and Rehabilitation Department and the associate students from Vocational School of Health Services in Western Black Sea Region. J Educ Learn 6:152–156.
3. Abdel Meguid EM, Khalil MK. Measuring medical students' motivation to learning anatomy by cadaveric dissection. Anatomical sciences education. 2017 Jul;10(4):363-71.
4. Norman HH, Hadie SN, Yaacob NM, Kasim F. The Association Between Preclinical Medical Students' Perceptions of the Anatomy Education Environment and Their Learning Approaches. Medical Science Educator. 2022 Apr;32(2):399-409.
5. Shamsuddin SA, Kasim F, Mohammad JA, Yusoff MS, Hadie SN. The outcomes of team-based learning on test performance, cognitive engagement and motivation in preclinical anatomy practical classes. Mal J Med Health Sci. 2021;17(2):18-27.
6. Van Den Bekerom MPJ, Kodde IF, Aster A, Bleys RLAW, Eygendaal D. Clinical relevance of distal biceps insertional and footprint anatomy. Knee Surgery, Sport Traumatol Arthrosc. 2016;24(7):2300–7.
7. Dolezel R, Jarosek J, Hana L, Ryska M. Clinical relevance and surgical anatomy of non-recurrent laryngeal nerve: 7 year experience. Surg Radiol Anat. 2015;37(4):321–5.
8. Singh R, Tubbs RS, Gupta K, Singh M, Jones DG, Kumar R. Is the decline of human anatomy hazardous to medical education/profession?—A review. Surg Radiol Anat. 2015;37(10):1257–65.
9. Mc Garvey A, Hickey A, Conroy R. The anatomy room: A positive learning experience for nursing students. Nurse Educ Today. 2015;35(1):245–50.
10. Rico RDT, Méndez JAJ, Galino AP. New generation of three-dimensional tools to learn anatomy. J Med Syst. 2017;41(5):88.
11. Yammine K, Violato C. The effectiveness of physical models in teaching anatomy: a metaanalysis of comparative studies. Adv Heal Sci Educ. 2016;21(4):883–95.
12. Hadie SNH. The Application of Learning Taxonomy in Anatomy Assessment in Medical School. Educ Med J. 2018;10(1).
13. Estai M, Bunt S. Best teaching practices in anatomy education: A critical review. Ann Anat - Anat Anzeiger. 2016 Nov 1;208:151–7.
14. Faezi ST, Moradi K, Amin AGR, Akhlaghi M, Keshmiri F. The effects of team-based learning on learning outcomes in a course of rheumatology. J Adv Med Educ Prof. 2018;6(1):22.
15. Zeng R, Xiang L, Zeng J, Zuo C. Applying teambased learning of diagnostics for undergraduate students: assessing teaching effectiveness by a randomized controlled trial study. Adv Med Educ Pract. 2017;8:211.
16. Huitt TW, Killins A, Brooks WS. Team-based learning in the gross anatomy laboratory improves academic performance and students' attitudes toward teamwork. Anat Sci Educ. 2015;8(2):95– 103.
17. Hadie SNH, Abdul Manan@Sulong H, Hassan A, Mohd Ismail ZI, Talip S, Abdul Rahim AF. Creating an engaging and stimulating anatomy lecture environment using the Cognitive Load Theorybased Lecture Model: Students' experiences. J Taibah Univ Med Sci. 2018;13(2).
18. Fatima SS, Arain FM, Enam SA. Flipped classroom instructional approach in undergraduate medical education. Pakistan J Med Sci. 2017;33(6):1424–8
19. Hadie SNH, Simok AA, Shamsuddin SA, Mohammad JA. Determining the impact of prelecture educational video on comprehension of a difficult gross anatomy lecture. J Taibah Univ Med Sci. 2019;14(4):395–401.
20. Whittaker AA. Effects of team-based learning on self-regulated online learning. Int J Nurs Educ Scholarsh. 2015;12(1):45–54.
21. Zgheib NK, Dimassi Z, Bou Akl I, Badr KF, Sabra R. The long-term impact of team-based learning on medical students' team performance scores and on their peer evaluation scores. Med Teach. 2016;38(10):1017–24.
22. Jeno LM, Raaheim A, Kristensen SM, Kristensen KD, Hole TN, Haugland MJ, et al. The relative effect of team-based learning on motivation and learning: A self-determination theory perspective. CBE—Life Sci Educ. 2017;16(4):ar59.
23. Zareie F, Qaderian K, Pak MHM, Naseri O. Evaluation of nursing student's perception of using Team-based Learning (TBL) during teaching process. Life Sci J. 2014;11(9 SPEC):482–6.
24. Smith CF, Finn GM, Stewart J, Dyball R. The Anatomical Society core regional anatomy syllabus for undergraduate medicine. J Anat. 2016;228:15–23.
25. Vorstenbosch MATM, Kooloos JGM, Bolhuis SM, Laan RFJM. An investigation of anatomical competence in junior medical doctors. Anat Sci Educ. 2016;9(1):8–17.
26. Ali A, Khan Z, Konczalik W, Coughlin P, El Sayed S. The perception of anatomy teaching among UK medical students. Bull R Coll Surg Engl. 2015;97(9):397–400.
27. Lisk K, Agur AMR, Woods NN. Exploring cognitive integration of basic science and its effect on diagnostic reasoning in novices. Perspect Med Educ. 2016;5(3):147–53.
28. Drake RL. A retrospective and prospective look at medical education in the United States: trends shaping anatomical sciences education. J Anat. 2014;224(3):256–60.
29. Chung BS, Koh KS, Oh CS, Park JS, Lee JH, Chung MS. Effects of reading a free electronic book on regional anatomy with schematics and mnemonics on student learning. J Korean Med Sci. 2020;35(6):1–13.
30. Brunk I, Schauber S, Georg W. Do they know too little? An inter-institutional study on the anatomical knowledge of upper-year medical students based on multiple choice questions of a progress test. Ann Anat. 2017;209:93–100. https://doi.org/10.1016/j.aanat.2016.09.004.
31. Kumar R, Singh R. Model pedagogy of human anatomy in medical education. Surg Radiol Anat. 2020;42(3):355–65. https://doi.org/10.1007/s00276-019-02331-7.
32. Everaert P, Opdecam E, Maussen S. The relationship between motivation, learning approaches, academic performance and time spent. Account Educ. 2017;26(1):78–107.