



Research Article

JMR 2019; 5(1): 26-30

January- February

ISSN: 2395-7565

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www.medicinarticle.com

Received: 21-01-2019

Published: 04-03-2019

Classroom Seat Selection from the Perspective of Iranian Medical Sciences` Students and its Relationship with Self-esteem: a Cross Sectional Study

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Abstract

Background: Classroom is an important place for university students. Students do not choose their seat at random and many factors may influence their seat selection. On the other hand, where they choose to seat may have a relationship with their self-esteem. **Aims and objectives:** Determination of classroom seat selection from the perspective of Iranian medical sciences` students and its relationship with self-esteem was the aim of this study. **Study Design:** We conducted a cross-sectional study. **Setting:** Different faculties of Golestan University of Medical Sciences (GoUMS, Gorgan, North of Iran) were our study setting. **Materials and Methods:** 350 students of both sexes and with different fields of study at GoUMS were included in the study by convenience sampling from September to December in 2016. In order to measure university students` perspective, seat selection questionnaire (Cronbach`s alpha =0.82) with 9 multiple choice questions (MCQs) was used which answer to each question has been reported with a frequency and percent. Ten- item Rosenberg Self- Esteem (RSE) scale (Cronbach`s alpha=0.74) consisting 5 negative and 5 positive items with 4- point Likert (score of 0 to 3 from completely agree to completely disagree) were used. Range of score was between 0 to 30. Score lower than 15, between 15-25, and more than 25 indicated low, intermediate, and high self- esteem, respectively. **Statistics:** We analyzed data by SPSS software version 16. Descriptive statistics such as mean, standard deviation (SD), frequency, and partial frequency percentage were used. In order to test the relationship between place and direction of the seat, and self-esteem, the chi-squared test was used with significance level of less than 0.05. **Results:** 300 out of 350 medical sciences` students with a mean age of 21.5 (2.4) year completed the study (participation rate = 85.7%). 50.3 % of participants were male, and with nursing field of study (28.7%). Proximity to instructor or board, or projector (48.7%) and personal factors such as eyeglasses/hearing aids (19.3%) were the most and the least important factors influencing students` seat selection. And "inability to see/hear properly" was the most important factor that made students change their seats. The majority of students mentioned that they choose the middle of the classroom (43.3%). Low, intermediate and high self- steam were seen among 5 (1.7%), 290 (96.6%), and 5 (1.7%) of students, respectively, and there was no relationship between classroom seat selection and self-esteem of students. **Conclusion:** From the perspective of Iranian medical sciences` students, classroom seat selection is affected by many factors. And they usually preferred to sit in the middle of the classroom. However, there was no relationship between students seating preferences and self-esteem. Thus, considering to these factors may help instructors and educational policy makers improving the quality of courses, students` performance, and classroom attractiveness.

Keywords: Students, Medical, University, Self-esteem, Cross-Sectional Studies, Iran.

INTRODUCTION

The classroom is the place where is crucial for students ^[1]. And its physical design is one of the important aspects of classroom management ^[2]. In addition, classroom seating arrangements are important for both students` academics development and their social functioning in the classroom ^[3, 4].

Students` motivation for choosing a certain seat over another have changed over time ^[5]. An exploratory factor analysis indicated that "Performance, Social, Asocial, Noticeability, and Environment" are five influencing factors on students` seat-selection. And students rating the performance and noticeability factors higher were sat in the front. While, those rating asocial and environment factors higher were sat in the back and in the center of the classroom, respectively ^[5]. Thus, structural and symbolic features in the classroom are both required for improving student learning, achievement, and motivation ^[6]. In addition, logistical issues, student confidence, and the instructor him/ herself all have a significant impact on

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student participation in the class [7].

Internal forces motivate students to sit in particular seats. It may be a habit or it may be something of which the student is not consciously aware [8]. Personality differences among students make them choose a seat in different areas. And, the motivated, confident, and oriented students will generally choose the front area to sit [9].

Self-esteem as a personality trait may impact one's desire to participate in class [7]. According to Morrison and Thomas (1975), students with the lower level of school-related self-esteem were less likely to participate and more likely to sit in the back of the classroom [10]. On the other hand, an exploratory analysis indicated that where a student generally sits in the classroom is one of the factors that affect academic performance [11]. Therefore, allowing students to sit where they prefer may improve student engagement [12]. And knowing which factors or the combination of factors have the greatest influence on student performance can help instructors to be better educators [11]. Thus, the aim of this study was to evaluate classroom seat selection from the perspective of Iranian medical sciences' students and its relationship with self-esteem.

MATERIALS AND METHODS

This was a cross-sectional study that was approved by an Institutional Review Board (IRB) and Research Ethics Committee (REC) of Golestan University of Medical Sciences (GoUMS) (Gorgan, North of Iran).

We recruited 350 students of both sexes and with different fields of study during September to December in 2016. Students were selected by convenience sampling from different schools of the university such as nursing and midwifery, medicine, dentistry, and allied medical sciences.

Being student and willingness to participate in the study were such inclusion criteria and student who were at the first semester of their education and incomplete questionnaires were excluded from the study process. Before initiation of the study, students demonstrated their verbal informed consent to participate.

In this study, demographic and educational variables were age, sex, field of study, average (score), and level of education. In order to evaluate students' classroom seating preferences, seat selection questionnaire was used which was attached at the end of a research proposal entitled "Have a Seat: Classroom Dynamics and Seat Selection" from the department of anthropology affiliated to Malaspina University-College available at <https://ba.viu.ca/sites/default/files/seatingprop.pdf>. This questionnaire was in English language. In order to be used in our setting, it was translated to Farsi language by a language specialist through forward-backward translation approach. The content validity of the questionnaire was approved by 10 faculty members at GoUMS. In order to measure the reliability, 30 students completed the questionnaire and Cronbach's alpha was 0.82. The Iranian version of this questionnaire consisted of 9 multiple choice questions (MCQs). Students were asked to answer the questions themselves and there was more than one correct answer for two out of nine questions. This questionnaire had no total score. And answer to each question has been reported with a frequency and percent.

To measure self-esteem of the students, 10-item Rosenberg Self-Esteem (RSE) scale was used. It consisted of 5 negative and 5 positive items. Each question had 4-point Likert with score of 0 to 3 from completely agree to completely disagree. Range of scores was between 0 to 30. Score lower than 15, between 15-25, and more than 25 indicated low, intermediate, and high self-esteem, respectively [13]. The Farsi version of this questionnaire had been used in Shikholeslami et. al in 2013 (Cronbach's alpha=0.74) [14].

Statistical Analysis

We analyzed data by SPSS software version 16. Descriptive statistics such as mean, standard deviation (SD), frequency, and partial frequency percentage were used to describe demographic and educational variables. In order to test the relationship between place and direction of seat and self-esteem, the chi-squared test was used with significance level of less than 0.05.

RESULTS

In this study, 300 out of 350 medical sciences' students completed the study (participation rate: 85.7%). Demographic and educational characteristics of students have been shown in table 1.

Table 1: Demographic and educational characteristics of students

Variables		Frequency (%) n=300
Age (year), [mean (SD)*]		21.5 (2.4)
Sex	Male	151 (50.3)
	Female	149 (49.7)
Field of study	Nursing	86 (28.7)
	Medicine	60 (20.0)
	Technology of surgery	31 (10.3)
	Dentistry	30 (10.0)
	Dental prosthesis	24 (8.0)
	Health	18 (6.0)
	Midwifery	17 (5.7)
	Laboratory sciences	21 (7.0)
	Biotechnology	6 (2.0)
	Biochemistry	4 (1.3)
	Anatomy	3 (1.0)
Average (score), [mean (SD)]		15.9 (2.0)
Level of education	Bachelor	193 (64.3)
	Medical doctorate	90 (30.0)
	Master	15 (5.0)
	Ph. D	2 (0.7)

*SD, standard deviation

According to table 2, proximity to instructor or board, or projector (48.7%) and personal factors such as eyeglasses/hearing aids (19.3%) were such factors that had the most and least effect on selecting a seat from the students' perspective, in order. The majority of students mentioned that they usually sit in the same seat in each class session (44.7%) and in the same general area for each different course (43.0%). 98.3 % of their classes were held in general classrooms and they usually choose the middle of the classroom (43.3%). The most important factor that influenced them change their seat was "inability to see/hear properly". In addition, 68.3% of them felt that where they sit in the classroom influenced their performance in the class, and 21.0 % of them mentioned their achievement about 60-69 %.

The mean of self-esteem was 21.1(2.4) (range: 10-26). The low, intermediate and high self-esteem were found in 5 (1.7%), 290 (96.6%), and 5 (1.7%) of students, respectively. According to table 3, there was no relationship between classroom seat selection and self-esteem of students.

DISCUSSION

In this cross-sectional study, perspective of Iranian medical sciences' students regarding the classroom seat selection and its relationship with self-esteem has been evaluated.

From the perspective of the participants, proximity to instructor/board, or projector, knowing someone in the class, sitting with them, the number of students, size of classroom, familiarity with the

Table 2: Students` responses to each question of seat selection questionnaire

Items		Frequency (%)
Factors influence the choice when permitted to select a seat in a classroom setting	Size of classroom	129 (43.0)
	Configuration or layout of desks	103 (34.3)
	Number of students	144 (48.0)
	Proximity to windows/doors	93 (31.0)
	Proximity to instructor/board/projector, etc.	146 (48.7)
	Expectation to participate from the instructor	88 (29.3)
	Familiarity with the instructor	121 (40.3)
	Personal factors such as eyeglasses/hearing aids	58 (19.3)
	Knowing someone in the class (and sitting with them where they chose to sit)	145 (48.3)
Sitting in the same seat each class session	Yes, always	73 (24.3)
	No	65 (21.7)
	Usually	134 (44.7)
	Sometimes	28 (9.3)
Sitting in the same general area for each different course	Yes, always	71 (23.7)
	No	100 (33.3)
	Usually	129 (43.0)
Classes hold in:	General Classrooms	295 (98.3)
	Seminar Rooms	3 (1.0)
	Labs	2 (0.7)
Place of sitting in the classroom the room	Front	72 (24.0)
	Middle	130 (43.3)
	Back	98 (32.7)
Direction of sitting in the classroom the room	Left Side	95 (31.8)
	Middle	113 (37.6)
	Right Side	92 (30.6)
Factors influence a change in seating arrangements	Can't see/hear properly	142 (47.3)
	People sitting near you talk too much	91 (30.3)
	Don't like the person sitting next to you	137 (45.7)
Feeling that where you sit in the classroom influences your performance in the class	Yes	205 (68.3)
	Unsure	65 (21.7)
	No	30 (10.0)
Percent of their educational achievement	Below 50%	56 (18.7)
	50-59%	61 (20.3)
	60-69%	63 (21.0)
	70-79%	49 (16.3)
	80-89%	26 (8.7)
	90-100%	18 (6.0)
	I would rather not say	27 (9.0)

Table 3: Relationship between classroom seat selection and students` self- esteem

Items		Self-Esteem (n=300)			P-value
		Low	Intermediate	High	
Place of sitting in the classroom the room	Front	0 (0)	69 (95.8)	3 (4.2)	0.201
	Middle	3 (2.3)	125 (96.2)	2 (1.5)	
	Back	2 (2.0)	96 (98)	0 (0)	
Direction of sitting in the classroom the room	Left Side	2 (2.1)	92 (96.8)	1 (1.1)	0.784
	Middle	1 (0.9)	108 (96.4)	3 (2.7)	
	Right Side	2 (2.2)	89 (96.7)	1 (1.1)	

windows/doors, expecting to participate from the instructor, and personal factors such as eyeglasses/hearing aids were the most important factors that influence their choice when permitted to select a seat in a classroom setting, respectively. Along with our study findings, an exploratory factor analysis indicated that social (e.g. sitting next to a familiar face or a known group), noticeability (e.g. tendency to be noticed by instructor or actively participate in the class), and environment (i.e. seat selection because of heat or air conditioning, or next to/ away from a door/ window) were such factors that influence students' seat selection [15]. Thus, these factors should be noticed on deciding for classroom arrangement in order to improve the attractiveness of the course to the students [16].

Front and central seats have been considered as action seats [17]. According to our findings, university students mentioned that they usually prefer to choose the middle place and middle direction of the classroom for sitting. In Losonczy-Marshall and Marshall study (2013), students sitting in the front and middle of the classroom needed to be noticed more than those sitting in the back of the classroom and they chose the middle area of the class because of performance reasons [18]. Furthermore, high teacher interaction may be as a characteristic of both personality function and student seating preferences rather than primarily a function of seat location [17]. And, more adaptive personal and social behaviors, and personal intellectual achievement were found among students who sat in the middle compared with those sat in the front [19]. Thus, students do not choose their seat at random and motivational and personality factors affect their choices [20].

Participants also mentioned that they usually prefer to sit in the same seat in each class session and in the same general area for each different course. In a study, a 15-item questionnaire was used to evaluate students' seating preferences and territorial behaviors and more territorial behaviors were indicated among some participants regarding taking a specific seat in class. In addition, 46.8% of students chose the item of "claiming a particular seat" which was referred to maintaining the same seat in a classroom. And a significant positive correlation was found between the scores of claiming a particular seat and defining one's own territory [21]. Moreover, minimal changes in seating location has been reported as one the effective factors for educational achievement of Iranian medical sciences students [22]. On the other hand, according to Smith et al. study (2018), students usually choose to sit where they feel comfortable from different aspects of physical, mental, or social. And audiovisual requirements may force students move their seats [12] that is considered as a performance factor related to seat selection which help students actually do better [15]. In our study, "inability to see or hear properly" was the most important factor that made students change their seat, too. Thus, students' preferences on seat selection need to be respected [12].

Seating arrangement and class size are such variables which impact students' participation [7]. In this study, most of the classes were held in general classrooms with rows of tablet- arm chairs and less than and equal to 2% of them were held in seminar rooms and labs. In our educational space, holding classes in seminar rooms may not be possible easily. However, seating arrangement can be changed into a style which increase students' engagement and their satisfaction. Although seating is one of the most easily changeable variables in educational environments, it may be much more important than people thinks [23].

Achievement motivation as one of the personality factors that may influence students' choices of seat location [24]. On the other hand, classroom seating zones and preferences may influence students' performance [1, 11, 25]. In the present study, the majority of students also felt that where they sit in the classroom influence their performance, which was consistent with Zomorodian et. al study [22]. While, no effect of seat location on performance in the classroom has been reported [26, 27]. And in another study, students' average performance marginally

improved following palce students in assigned seats [28] which contrast with our findings. These discrepancies may be due to different study approaches.

Personal fears such as feeling inadequate in front of other classmates, has been reported as one of the reasons that students may not participate in the class regardless of classroom environment [7]. Pedersen (1994) indicated that students sat at the front had higher scores on self-control, self- acceptance, and sense of well- being compared with those sat on the back [19]. In addition, students with low level of self-esteem prefer to sit farther from the front in the classroom, which is associated with less classroom participation [10]. And higher self-esteem has been found among students sat in the front of the classroom in comparison to those sat in the back [9]. While, in our study, most of students sat in the front, middle, and back of the classroom had intermediate self-esteem and there was no relationship between classroom seat selection and students' self-esteem which was inconsistent with previous literature. This may be due to different context and different educational space in our setting which necessitates further investigations.

CONCLUSION

From the perspective of Iranian medical sciences' students, classroom seat selection is affected by many factors. And proximity to the instructor/ board, or projector and personal factors such as eyeglasses/hearing aids were the most and least important factors that influenced students' seat selection. They usually preferred to sit in the middle of the classroom. However, there was no relationship between students' seating preferences and self-esteem. Thus, consideration to factors influencing students' seat selection may help instructors and educational policy makers improving the quality of courses, students' performance, and classroom attractiveness.

Acknowledgment

This article was driven from the research project approved by both educational and development center (EDC) and research and technology deputy of GoUMS. The authors would like to thank the EDC for the approval process and the IRB and REC of GoUMS for approving this research project, research and technology deputy of GoUMS for financial support, and medical sciences' students at GoUMS for their participation in the study.

Conflict of interest

The authors declare that there is no conflict of interest.

Authors' Contribution

All the authors fulfilled the authorship criteria.

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