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# Assessing Educational Satisfaction and Career Attitudes Among Health Science Students: A Cross-Sectional Study in Six Iranian Universities

Siavash Sangi<sup>1</sup>  | Zahra karimian<sup>2</sup>  | Leila Hassangholizadeh<sup>3</sup>  | Amir Ali Alizadeh<sup>4</sup>  | Bagher Pahlavanzadeh<sup>5</sup>  | Faranak Rahmani<sup>6</sup> 

<sup>1</sup>Department of Anesthesia and Operating Room, Nursing and Midwifery Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran | <sup>2</sup>Department of Operating Room Technology, School of Nursing, Abadan University of Medical Sciences, Abadan, Iran | <sup>3</sup>MSC of critical care nursing, Student Research Committee, Mashhad University of Medical Sciences, Mashhad, Iran | <sup>4</sup>Student Research Committee, Shiraz University of Medical Sciences, Shiraz, Iran | <sup>5</sup>Department of Biostatistics and Epidemiology, School of Health, Research Center for Environmental Contaminants (RCEC), Abadan University of Medical Sciences, Abadan, Iran | <sup>6</sup>Department of Operating Room and Anesthesia, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

**Correspondence:** Zahra karimian ([Zahra7026@gmail.com](mailto:Zahra7026@gmail.com))

**Received:** 25 February 2025 | **Revised:** 19 July 2025 | **Accepted:** 29 September 2025

**Funding:** This study was supported by Abadan University of Medical Sciences (1690).

**Keywords:** academic satisfaction | career attitudes | career prospects | health science students

## ABSTRACT

**Background and Objectives:** Students' attitudes and satisfaction with their academic field can change over time, directly influencing their learning, professional skill development, and career outlook. Therefore, this study aimed to investigate educational Satisfaction and Career Attitudes Among Health Science Students.

**Methods:** This cross-sectional study, conducted in 2023, included 458 students from diverse Health Science programs (Nursing, Anesthesia Technology, Surgical Technology, Emergency Medical Services, Environmental Health, and Medical Laboratory sciences) at Iranian universities of medical sciences. A convenience sampling method was employed. Data were collected using the Ahmadi Academic Satisfaction Questionnaire, the Minnesota Attitude Questionnaire on academic field and future career, and a demographic questionnaire. Data analysis was performed using SPSS 19. Results are presented as mean  $\pm$  SD. Significance was set at  $p < 0.05$ .

**Results:** The mean age of the participants was  $21.5 \pm 2.2$  years. Mean satisfaction scores were  $125.3 \pm 18.4$  (first-year) and  $112.3 \pm 18.5$  (final-year). Mean academic attitude scores were  $56.2 \pm 7.7$  (first-year) and  $49.9 \pm 9.1$  (final-year). A statistically significant difference was observed between students from different universities in all four components of satisfaction with the field of study ( $p < 0.05$ ). Correlation analysis revealed a strong positive association between "satisfaction with faculty behavior" and "attitude towards the field of study" ( $r = 0.73$ ,  $p < 0.001$ ).

**Conclusion:** This study found that while Iranian health science students generally hold positive career views, a gap exists between their high overall university satisfaction and lower specific satisfaction with their field and faculty behavior. Satisfaction and positive attitudes decline with academic progression and vary by university. Faculty behavior is key to satisfaction. Findings highlight the need for improved faculty-student interactions and effective management of expectations.

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## 1 | Introduction

Health sciences students, as the primary output of universities, play a pivotal role in the healthcare system; therefore, identifying their priorities and needs is essential [1, 2]. Meeting the diverse expectations of students is a challenging task. Yet, it is particularly crucial in health sciences programs, where high academic demands, significant emotional burdens, and the complexity of clinical training can increase students' stress levels and lead to intentions to withdraw. Therefore, fulfilling students' expectations plays a key role in improving retention rates [3, 4]. A high level of academic satisfaction correlates with improved psychological well-being, an impact extending not only to student health but also to the quality of future patient care [5].

“In the academic environment, student satisfaction, as defined by Oliver and DeSarbo, refers to a student's subjective and favorable evaluation of the various experiences and outcomes associated with their education.” [6]. Previous studies have demonstrated associations between academic satisfaction and various outcomes, including mental health [5], academic achievement [7], academic burnout [8], academic and professional performance [9], and dropout [10]. Students' concerns about their future careers and satisfaction with the learning environment are significant factors contributing to academic burnout [8]. Academic burnout is a significant precursor to dropout intention among medical students [11]. A systematic review conducted in 2021 revealed that over half of university students might experience at least one core dimension of academic burnout [12]. Dropout rates among medical students have been reported to vary from 4.1% in the United States to 16% in Pakistan, with a global average of 11.7% [13]. While comprehensive statistics on health science student attrition in Iran are not publicly available, which can be attributed to the lack of a centralized registration system – an alarming nursing shortage in Iran, estimated at 200,000 by a 2017 study [14], indicates that student hesitancy to continue their education could potentially exacerbate this deficit [15].

Multiple studies have demonstrated that students' academic satisfaction is influenced by various factors, including motivation for choosing the field of study, future career outlook [9], quality of the learning environment and educational experience, balance between academic responsibilities and personal life, teaching quality, student-to-faculty ratio [5], positive interactions with faculty members [16], and alignment of the curriculum with clinical and professional needs [2, 17]. The specific field of study and university ranking can also affect academic satisfaction. An Iranian study showed a significant inverse relationship between university ranking and student satisfaction, with medical students (96.7%) exhibiting the highest satisfaction, followed by nursing and midwifery students (73.8%), and then paramedical students (62.4%) [18]. Furthermore, an Iranian study indicated that approximately half of nursing students reported low levels of satisfaction in their field. Specifically, 83.3% of students were dissatisfied with the educational environment, 47.2% with the clinical environment, 41.7% with theoretical teaching methods, and 41.7% with clinical instructors' teaching methods [19].

Beyond immediate academic outcomes, student satisfaction with their educational path profoundly influences their attitudes toward future career prospects [20]. Students who feel more satisfied with their educational experiences tend to have greater confidence in their career decision-making, which facilitates a more successful transition from academia to the professional environment [21]. Research indicates that students' attitudes toward their major and future profession are significantly impacted by concerns about the job market outlook and earning potential. This phenomenon is particularly evident in the increasing trend of negative attitudes among health science students in Iran [22, 23].

Longitudinal studies consistently demonstrate that health science students' attitudes and perceptions towards their discipline and future career are dynamic processes that evolve throughout their educational journey [24, 25]. Such research indicates that while the understanding of professional knowledge and skills improves over time, aspects like empathetic behavior might change or even decrease, attesting to the complex shifts in student attitudes as they progress through their academic and clinical experiences [26].

Despite extensive studies on academic satisfaction and career attitudes in Iran, a comprehensive study simultaneously investigating these factors across different universities is less common. Including multiple academic institutions in this study significantly enhances the generalizability of findings, allowing for the identification of structural, educational, and cultural differences influencing academic satisfaction and career attitudes—an approach less addressed in previous research and considered a key innovation of this study. Furthermore, by comparing these variables between freshman and senior students, this study offers valuable insights into the evolution of these factors throughout health science education. Given the prevalent concerns among students regarding career prospects and the alarming nursing shortage in Iran, conducting such comprehensive research is highly significant.

The aim of this study is to comprehensively investigate academic satisfaction and career attitudes among health science students in various Iranian universities and to analyze their changes between freshman and senior students.

## 2 | Materials and Methods

This cross-sectional study was conducted following the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) Statement guidelines for reporting observational studies. This descriptive cross-sectional study was conducted in 2023 to investigate the satisfaction and attitude of nursing and allied health students towards their field of study and future career prospects at universities of medical sciences across Iran (Abadan, Shiraz, Guilan, Hamadan, Tehran, and Mashhad). These universities were selected due to their geographical distribution and cultural diversity within the country, aiming to represent various regions. The study was approved by the Ethics Committee of Abadan University of Medical Sciences (code: IR.ABADANUMS.REC.1402.073). The statistical population comprised first-year and final-year students in nursing,

anesthesia technology, surgical technology, emergency medicine, environmental health, and laboratory sciences programs. A convenience sampling method was employed. The sample size was determined using Gpower 3.1 software based on previous studies [27], considering a 95% confidence level, 80% power, and a 10% attrition rate, resulting in a minimum of 350 participants. Following questionnaire distribution, 468 individuals participated, with 10 incomplete questionnaires excluded from the analysis. Inclusion criteria were enrollment as a first-year or final-year student in the aforementioned programs and willingness to complete the questionnaires. Exclusion criteria included incomplete questionnaires and transfer to other universities.

The questionnaire was administered electronically. The first section gathered demographic information (age, gender, marital status, place of study, place of residence, academic year, history of studying in other medical science fields, and transfer from another university). The Academic Satisfaction Questionnaire, developed by Ahmadi, was used to assess student satisfaction with their field of study. This 30-item questionnaire utilizes a five-point Likert scale (1 = very low to 5 = very high) and comprises four subscales: satisfaction with university (9 items), satisfaction with the field of study (8 items), attitude towards education (7 items), and satisfaction with faculty behavior (6 items). The reliability of the Academic Satisfaction Questionnaire in Ahmadi's study was established with a Cronbach's alpha coefficient of 0.77 [28]. The Minnesota Satisfaction Questionnaire was employed to assess students' attitudes towards their field of study and future career prospects. This 17-item questionnaire uses a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The minimum score is 17, and the maximum score is 85. Scores between 17 and 35 indicate low levels of attitude towards the field of study and future career prospects; scores between 35 and 70 indicate moderate levels; and scores above 70 indicate high levels. The questionnaire's reliability in previous studies was reported with a Cronbach's alpha coefficient of 0.83 [29].

Data were analyzed using SPSS statistical software version 19. Descriptive statistics, including the mean and standard deviation (SD), along with frequencies, were used to describe the data. Inferential statistics, such as the Chi-square test, Kruskal-Wallis test, Mann-Whitney U test, and Spearman's correlation coefficient ( $r$ ), were employed for analysis. The significance level ( $P$ ) was set at  $p < 0.05$  (probability value less than 0.05). Non-parametric tests were utilized to examine differences between groups due to the non-normal distribution of data. The methodology for these analyses followed standard statistical principles [30]. All analyses, including subgroup comparisons across universities, academic years, and other demographic variables presented in the results, were prespecified in the study protocol. We adhered to the SAMPL guidelines for statistical reporting in medical research.

### 3 | Results

Following the distribution of questionnaires, 468 individuals participated in the study, of which 10 were excluded from analyses due to incomplete responses. Table 1 presents the

**TABLE 1** | Demographic features of BSc Freshman and Junior nursing and allied health students who participated in the study ( $n = 458$ ).

Variables		Number (%)
University	Abadan	88 (19.21)
	Mashhad	120 (26.20)
	Shiraz	78 (17.03)
	Hamedan	44 (9.61)
	Iran	77 (16.81)
	Guilan	51 (11.14)
Field of study	Anesthesia Technology	78 (17.03)
	Nurse	110 (24.02)
	Surgical Technology	135 (29.48)
	Laboratory sciences	65 (14.19)
	Environmental health	38 (8.30)
	Emergency Medical Services	32 (6.99)
Academic year	First year	241 (52.62)
	Fourth year	217 (47.38)
Gender	Female	260 (56.77)
	Male	198 (43.23)
Marital status	Single	425 (92.79)
	Married	33 (7.21)
Residence	Dormitory	242 (52.84)
	With family	204 (44.54)
	With friends	6 (1.31)
	Alone	6 (1.31)
Transfer from other universities	Yes	26 (5.68)
	No	432 (94.32)
Previous educational history	Yes	53 (11.57)
	No	405 (88.43)

demographic characteristics of the participants. The mean age of participants was  $21.5 \pm 2.2$  years (range: 17–31 years). The sample consisted of 52.62% females, 92.79% single individuals, and 52.62% first-year students.

The mean overall satisfaction score with the field of study and its four components is presented in Table 2. As observed, students from Abadan University of Medical Sciences reported the highest mean satisfaction score with their field of study, while students from Iran University of Medical Sciences reported the lowest mean, with a statistically significant difference observed among different universities ( $p = 0.003$ ). Additionally, statistically significant differences were observed among students from different universities across all four satisfaction components (“satisfaction with university” ( $p = 0.02$ ), “satisfaction with

**TABLE 2** | Mean and standard deviation of overall satisfaction score with the field of study and its four components.

	Satisfaction with the field of study														
	University satisfaction			Satisfaction with the field of study			Attitude towards education			Satisfaction with faculty behavior			Satisfaction with the field of study (overall)		
	Median (IQR)	<i>p</i>	Median (IQR)	Median (IQR)	<i>p</i>	Median (IQR)	Median (IQR)	<i>p</i>	Median (IQR)	Median (IQR)	<i>p</i>	Median (IQR)	Median (IQR)	<i>p</i>	
University	Abadan	53 (7.5)	0.02	28.5 (8)	<0.001	27 (6)	0.002	21 (5)	<0.001	130 (21)	0.003				
	Mashhad shiraz	49 (8)		26 (9.5)		24 (6.5)		18 (6)		115 (26)					
	Hamedan	50.5 (9)		27 (11)		25 (9)		20 (7)		120 (32)					
	Iran	50 (7)		28 (9)		25 (6)		18.5 (6.5)		118.5 (25)					
	Guilan	46 (9)		26 (7)		23 (8)		17 (6)		111 (27)					
	Anesthesia Technology	50 (7)		28 (10)		27 (7)		19 (5)		125 (27)					
Field of study		51 (7)	< 0.001	28.5 (8)	0.002	26 (6)	0.001	19 (6)	0.09	122 (21)	0.001				
	Nurse	50 (8)		27.5 (7)		25 (6)		19 (6)		122.5 (27)					
	Surgical Technology	50 (8)		27 (9)		23 (9)		19 (5)		116 (28)					
	laboratory sciences	51 (9)		28 (9)		27 (6)		20 (5)		126 (27)					
	Environmental health	46.5 (7)		21 (12)		21 (8)		16 (8)		103.5 (35)					
	Emergency Medical Services	49 (9)		26 (8.5)		24.5 (4.5)		18.5 (9)		119.5 (31.5)					
Academic year	First year	52 (7)	< 0.001	29 (9)	<0.001	26 (6)	<0.001	20 (5)	<0.001	127 (22)	< 0.001				
	fourth year	48 (9)		25 (10)		23 (8)		18 (7)		112 (30)					
Gender	female	50 (8)	0.43	27 (8)	0.83	25 (7)	0.66	19 (6)	0.36	120 (26)	0.84				
	male	50 (9)		27 (9)		25 (8)		19 (6)		119.5 (32)					
Marital status	single	50 (8)	0.22	27 (9)	0.57	25 (7)	0.33	19 (6)	0.39	120 (27)	0.15				
	married	48 (10)		25 (10)		26 (10)		20 (8)		116 (36)					
Residence	Dormitory*	50 (8)	0.18	27 (8)	0.52	25 (7)	0.99	19 (6)	0.73	121 (26)	0.46				
	with family	50 (9)		27 (8)		25 (6.5)		19 (6)		119 (28)					
Transfer from other universities	yes	50 (8)	0.28	22.5 (15)	0.69	25 (5)	0.49	20 (5)	0.49	115.5 (38)	0.02				
	No	50 (8)		27 (9)		25 (7)		19 (6)		120 (27)					
Previous educational history	yes	48 (9)	0.04	24 (15)	0.03	25 (9)	0.03	18 (7)	0.04	115 (35)	0.01				
	No	50 (8)		27 (9)		25 (6)		19 (6)		121 (27)					

\*Note: Small sample sizes led to combining “alone” and “with friends” categories with “dormitory” for analysis purposes.

field” ( $p = 0.002$ ), “attitude towards education” ( $p < 0.001$ ), and “satisfaction with faculty behavior” ( $p < 0.001$ ).

Students in semesters 7 and 8 had lower mean scores in all 4 components of satisfaction with their field of study and the overall satisfaction score compared to students in semesters 1 and 2 ( $p < 0.001$  for all components and overall score). Furthermore, students with previous academic education had lower mean scores in all 4 components of satisfaction with their field of study and the overall satisfaction score (“satisfaction with university”  $p = 0.03$ ; “satisfaction with field”  $p = 0.03$ ; “attitude towards education”  $p = 0.04$ ; “satisfaction with faculty behavior”  $p = 0.04$ ; “overall satisfaction with field of study”  $p = 0.01$ ). The overall satisfaction score with the field of study for transferred students was also lower than that of other students ( $p = 0.02$ ).

The mean overall attitude score towards the field of study and its two components are shown in Table 3. Students from Abadan University of Medical Sciences had the highest mean attitude score towards their field of study, and students from Mashhad University of Medical Sciences had the lowest mean, with a statistically significant difference observed among universities ( $p < 0.001$ ). Statistically significant differences ( $p < 0.001$ ) were also observed among students from different universities in both attitude components (“attitude towards field of study” and “attitude towards future career”).

Students in semesters 1 and 2 had higher scores than students in semesters 7 and 8 in terms of “attitude towards field of study” ( $p < 0.001$ ), “attitude towards future career” ( $p < 0.001$ ), and “overall attitude towards field of study” ( $p < 0.001$ ).

**TABLE 3** | Mean and standard deviation of the overall score of attitude towards the field of study and its two components.

Variables		Attitude toward the study major					
		Attitude toward the study major		Attitude toward career future		Overall attitude towards the field of study	
		Median (IQR)	<i>p</i>	Median (IQR)	<i>p</i>	Median (IQR)	<i>p</i>
University	Abadan	31 (4.5)	< 0.001	27 (6)	< 0.001	57.5 (8)	< 0.001
	Mashhad	27 (7.5)		24 (6)		52.5 (13)	
	shiraz	29 (5)		25 (8)		54 (12)	
	Hamedan	29 (4)		25 (7)		52.5 (9.5)	
	Iran	29 (7)		23 (7)		53 (13)	
	Guilan	29 (6)		25 (7)		53 (11)	
Field of study	Anesthesia Technology	30.5 (5)	0.001	26 (6)	0.07	56 (10)	0.002
	Nurse	29 (6)		25 (5)		53 (9)	
	surgical technology	29 (6)		24 (6)		53 (12)	
	laboratory sciences	31 (5)		25 (8)		56 (11)	
	Environmental health	26.5 (9)		19 (9)		45.5 (18)	
	Emergency Medical Services	30 (6.5)		26 (7.5)		56 (13)	
Academic year	First year	31 (5)	< 0.001	26 (6)	< 0.001	57 (9)	< 0.001
	fourth year	27 (8)		23 (8)		50 (13)	
Gender	female	29 (6)	0.06	25 (7)	0.2	54 (11)	0.32
	male	30 (6)		25 (7)		54.5 (12)	
Marital status	single	29 (6)	0.72	25 (7)	0.8	54 (11)	0.35
	married	27 (6)		24 (8)		52 (9)	
Residence	Dormitory <sup>a</sup>	30 (5)	0.47	25 (7)	0.51	54 (10)	0.12
	with family	29 (7)		25 (7)		53 (14)	
Transfer from other universities	Yes	27.5 (7)	0.81	24.5 (8)	0.42	53.5 (15)	0.27
	No	29 (6)		25 (7)		54 (11)	
Previous educational history	Yes	28 (9)	0.12	22 (7)	0.39	50 (17)	0.03
	No	29 (6)		25 (7)		54 (11)	

<sup>a</sup>Small sample sizes led to combining “alone” and “with friends” categories with “dormitory” for analysis purposes.

Additionally, the “overall attitude towards field of study” score for students with prior academic education was higher than that of other students ( $p = 0.03$ ).

Table 4 presents the comparison of students with positive and negative attitudes towards the components of “Attitudes towards the field of study.” It was observed that the proportion of students with positive attitudes towards “Attitude towards the field of study” (62.66%) and “Overall Attitude towards the Field of Study” (60.70%) was higher than those with negative attitudes ( $p < 0.001$  for both). In the comparison of percentages of students with high and low satisfaction regarding the components of “Satisfaction with the field of study,” the proportion of students with “high satisfaction with university” (98.69%) was significantly greater than those with “low satisfaction” (1.31%) ( $p < 0.001$ ). Conversely, the proportion of students with low satisfaction with “satisfaction with field” (82.10%), “satisfaction with faculty behavior” (90.17%), and “attitude towards education” (78.17%) was significantly higher than those with high satisfaction ( $p < 0.001$  for all three).

Table 5 presents the correlation between the two components of academic attitude, the components of satisfaction with the field of study, and the correlation between the components of attitude to the field of study and satisfaction with the field of study. A direct and relatively strong significant correlation was observed between the two components of attitude towards the future of work and attitude to the field of study (two components of attitude to the field of study) ( $r = 0.594$ ,  $p < 0.001$ ). When examining the correlation between components of satisfaction with the field of study, the strongest correlation was observed between “satisfaction with the behavior of professors” and “satisfaction with the university” ( $r = 0.79$ ,  $p < 0.001$ ). Furthermore, an examination of the correlation between components of satisfaction with the field of study and attitude toward the field of study revealed that the strongest correlation was related to “satisfaction with the behavior of professors” and “attitude toward the field of study” ( $r = 0.73$ ,  $p < 0.001$ ).

## 4 | Discussion

The results of this study demonstrated that the mean scores of satisfaction with the field of study and attitude towards the field of study and future career were higher in first-year students compared to final-year students.

This finding is consistent with Beik Khourmizi et al. [24], Chehri et al [31] both of which found that students tend to begin their studies with an idealistic perception of their profession which gradually declines due to increased exposure to workplace realities, employment challenges, heavy clinical workloads, and the gap between theoretical education and practical experience. Interestingly, although some studies such as Mirza et al [32] have indicated that first- and second-year medical students often experience higher levels of stress, depression, and anxiety—which could theoretically reduce academic satisfaction—the present results suggest that in this context, students' initial optimistic view of their chosen profession may outweigh early stressors, resulting in greater satisfaction during the initial academic years. Studies suggest that while professional knowledge and skills improve, aspects like empathetic behavior may change, indicating complex shifts in student attitudes throughout their educational and clinical experiences [26]. Considering that specialized internships for Health Science Students in Iran are offered from the second semester onwards, it appears that students' entry into clinical environments leads to changes in their satisfaction and attitude towards their field of study and future career. Therefore, it appears essential to revise educational curricula, provide more realistic information about professional roles at the beginning of studies, and improve the quality of clinical training conditions to help maintain students' motivation, satisfaction, and positive attitudes throughout their academic journey.

In this study, statistically significant differences were observed among students from different universities in all four components of satisfaction with their field of study, with students from Abadan University of Medical Sciences reporting the highest overall satisfaction. As noted by Tajabadi et al [18], institutional

**TABLE 4** | Comparison of students with positive/negative attitudes and high/low satisfaction towards the field of study.

Subcategory		Division based on average scores		p-value*
		Low n (%)	High n (%)	
Attitudes towards the field of study	Attitude towards the field	171 (37.34)	287 (62.66)	< 0.001
	Attitude towards career prospects	211 (46.07)	247 (53.93)	0.09
	Overall academic attitude	180 (39.30)	278 (60.70)	0.001
Satisfaction with the field of study	Satisfaction with the university	6 (1.31)	452 (98.69)	< 0.001
	Satisfaction with the field itself	376 (82.10)	82 (17.90)	< 0.001
	Attitude towards education	358 (78.17)	100 (21.83)	< 0.001
	Satisfaction with faculty behavior	413 (90.17)	45 (9.83)	< 0.001
	Overall satisfaction with the field	233 (50.87)	225 (49.13)	0.71

\*Based on the comparison of students with positive and negative attitudes, as well as high and low satisfaction, using a proportion test.

**TABLE 5** | Satisfaction and attitude towards the field of study Correlation.

	Attitude towards the field of study		Satisfaction with the field of study	
	Attitude towards future career	Attitude towards the field of study	Satisfaction with the university	Attitude towards the field of study
Attitude towards the field of study	0.594	1.000		
Attitude towards career prospects				
Satisfaction with the field of study	0.545	0.637	1.000	
Satisfaction with the university	0.606	0.598	0.501	1.000
Satisfaction with the field	0.525	0.545	0.604	0.568
Attitude towards education	0.570	0.730	0.790	0.497
Satisfaction with faculty behavior				0.614

All *p*-values associated with these correlation coefficients were < 0.0001.

context—including admission competition, class size, and availability of student support—profoundly affects both academic performance and student satisfaction; universities with lower entry barriers and smaller cohorts (such as Type-3 institutions) tend to foster higher satisfaction and lower failure rates. Likewise, differences in each university's curriculum content and evaluation methods [33]— for example, which courses are offered in which semesters and how learning is assessed — may underlie the variation in satisfaction components seen here. Additionally, satisfaction with faculty behavior, a key driver of academic satisfaction [17], reached its highest mean score at Abadan, reinforcing Tajabadi et al.'s finding that positive faculty–student relationships protect against stress and disengagement. Indeed, lack of feedback or respect from faculty has been linked to increased student stress and lower satisfaction with the field of study [34]. The pedagogical approach to specialized courses is also among the most critical determinants of satisfaction [24]. Finally, it can be concluded that differences in the educational environment, social relationships, and curriculum in different universities have led to differences in the satisfaction and attitude of students in various fields of study in this study.

Among other findings, this study showed that although students generally held a positive attitude toward their field of study, they were more satisfied with the university as an institution than with their specific major or faculty interactions. This result is in line with the findings of Mukhalalati et al [1], who also reported that while students appreciated aspects of their learning environment, they often pointed out gaps in faculty–student communication and the need for more supportive and engaging instructor interactions. These findings together highlight the central role of effective instructor–student relationships and feedback in shaping academic satisfaction and the development of students' professional identity.

This study, despite offering valuable insights, has limitations including its cross-sectional design, which precludes causal inference; convenience sampling, which may limit generalizability; and reliance on self-report questionnaires, which are susceptible to bias.

## 5 | Conclusion

This study offers a complex portrayal of educational satisfaction and career attitudes among health science students in Iranian universities. While a predominantly positive attitude towards their chosen field and future career is evident among students, a significant contradiction emerges between high overall satisfaction with the university as an institution and lower specific satisfaction with the field itself, the educational process, and, notably, faculty behavior. This discrepancy becomes even more critical as both satisfaction and positive attitudes decline with progression to higher academic semesters and are also lower among students with prior academic education or those who transferred.

It's important to note that satisfaction and attitude levels vary significantly across different universities; for instance,

institutions like Abadan University of Medical Sciences reported the highest overall satisfaction and positive attitudes, particularly concerning faculty behavior. The findings strongly emphasize the pivotal role of faculty behavior and interactions, demonstrating a robust correlation with both overall university satisfaction and students' attitudes towards their field. Therefore, to foster a more sustainable and positive educational experience, universities with lower satisfaction levels should implement targeted strategies focused on improving the quality of faculty-student interactions and actively managing student expectations throughout their academic journey, addressing the specific needs that emerge as student's advance. Furthermore, it is recommended that future research delve into the specifics of faculty behavior in universities reporting high levels of satisfaction, such as Abadan University of Medical Sciences, to identify effective practices, including innovative teaching methods, that contribute to this heightened satisfaction. Finally, given the observed trends in satisfaction and attitude across academic progression, longitudinal studies are highly recommended to provide a deeper understanding of the evolving student experience over time.

#### Author Contributions

**Siavash Sangi:** investigation; writing – review and editing; writing – original draft. **Zahra karimian:** conceptualization; investigation; writing – original draft; writing – review and editing; data curation; supervision; project administration; software; validation. **Leila Hassangholizadeh:** investigation. **Amir Ali Alizadeh:** investigation; conceptualization. **Bagher Pahlavanzadeh:** formal analysis; validation; methodology; visualization. **Faranak Rahmani:** investigation.

#### Acknowledgments

This study was conducted based on an approved research project at the Abadan University of Medical Sciences (IR.ABADANUMS.REC.1402.073). The authors express their profound gratitude and appreciation to all participants. Additionally, we extend our profound gratitude to the Vice-Chancellor for Research and Technology of Abadan University of Medical Sciences, as well as to all individuals who provided invaluable assistance throughout this study.

#### Disclosure

The lead author Zahra karimian affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

#### Conflicts of Interest

We declare that the Abadan University of Medical Sciences, as the supporter of the study, was not involved in the study design; collection, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication. The remaining authors declare no conflict of interest.

#### Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

#### References

1. B. Mukhalalati, A. Aly, O. Yakti, et al., "Examining the Perception of Undergraduate Health Professional Students of Their Learning Environment, Learning Experience and Professional Identity Development: A Mixed-Methods Study," *BMC Medical Education* 24, no. 1 (2024): 886.
2. R. Cant, S. Gazula, and C. Ryan, "Predictors of Nursing Student Satisfaction as a Key Quality Indicator of Tertiary Students' Education Experience: An Integrative Review," *Nurse Education Today* 126 (2023): 105806.
3. R. Mazzotta, G. Bulfone, B. Verduci, et al., "Nursing Student Satisfaction Scale: Evaluation of Measurement Properties in Nursing Degree Programs," *Nursing Reports* 15, no. 5 (2025): 161.
4. J. Xu, L. Zhang, Q. Ji, et al., "Nursing Students' Emotional Empathy, Emotional Intelligence and Higher Education-Related Stress: A Cross-Sectional Study," *BMC Nursing* 22, no. 1 (2023): 437.
5. J. Franzen, F. Jermann, P. Ghisletta, S. Rudaz, G. Bondolfi, and N. T. Tran, "Psychological Distress and Well-Being Among Students of Health Disciplines: The Importance of Academic Satisfaction," *International Journal of Environmental Research and Public Health* 18, no. 4 (2021): 2151.
6. R. L. Oliver, "Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions," *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior* 2 (1989): 1–16.
7. K. Jamshidi, B. Mohammadi, Z. Mohammadi, M. Karimi Parviz, R. Poursaberi, and M. M. Mohammadi, "Academic Satisfaction Level and Academic Achievement Among Students at Kermanshah University of Medical Sciences: Academic Year 2015-2016," *Research and Development in Medical Education* 6, no. 2 (2017): 72–79.
8. M. Sayadinia, M. Malekshoar, B. B. M. Razavi, T. Zarei, M. Vatankeh, and P. Adibi, "Academic Burnout in Iranian Medical Students: A Review of Studies Done in Iran," *Development Strategies in Medical Education* 10, no. 3 (2023): 208–227.
9. A. M. Santos, M. F. Perazzo, F. F. Mattos, I. A. Pordeus, A. F. Granville-Garcia, and S. M. Paiva, "Dental Students' Satisfaction With Their Course and How It Is Associated to Their Satisfaction With Life and Career Outlook," *Acta Odontológica Latinoamericana* 35, no. 3 (2022): 223–228.
10. H. Sharif-Nia, J. Marôco, P. Rahmatpour, K. A. Allen, O. Kaveh, and E. Hoseinzadeh, "Bullying Behaviors and Intention to Drop-Out Among Nursing Students: The Mediation Roles of Sense of Belonging and Major Satisfaction," *BMC Nursing* 22, no. 1 (2023): 417.
11. S. Calcatin, J. Sinval, L. Lucas Neto, J. Marôco, A. Gonçalves Ferreira, and P. Oliveira, "Burnout and Dropout Intention in Medical Students: The Protective Role of Academic Engagement," *BMC Medical Education* 22, no. 1 (2022): 83.
12. Y. Rosales-Ricardo, F. Rizzo-Chunga, J. Mocha-Bonilla, and J. P. Ferreira, "Prevalence of Burnout Syndrome in University Students: A Systematic Review," *Salud mental* 44, no. 2 (2021): 91–102.
13. O. Enabulele and J. E. Enabulele, "Pre-Service Medical Education Course Completion and Drop-Out Rates," *Human Resources for Health* 20, no. 1 (2022): 88.
14. A. Abbaszadeh and A. Abdi, "Nursing Shortage Challenge: A Serious Threat for the Health System: A Review Study," *Community Health Journal* 9, no. 1 (2017): 37–47.
15. F. Shafiei, M. Amini-Rarani, K. Ponnet, and M. Moeeni, "Hesitancy Among Iranian Nursing Students Regarding Future Career Trajectory: A Qualitative Analysis," *Human Resources for Health* 22, no. 1 (2024): 2.
16. D. B. Hajovsky, S. R. Chesnut, M. K. Sekula, D. Schenkel, and O. M. Kwok, "A Parallel Process Growth Curve Analysis of Teacher-Student Relationships and Academic Achievement," *Journal of Genetic Psychology* 185, no. 2 (2024): 124–145.

17. S. Rossini, G. Bulfone, E. Vellone, and R. Alvaro, "Nursing Students' Satisfaction With the Curriculum: An Integrative Review," *Journal of Professional Nursing* 37, no. 3 (2021): 648–661.
18. Z. Tajabadi, M. S. Miri, S. Ahmadi, et al., "Factors Affecting Academic Failure in Medical Students in Iran," *Research and Development in Medical Education* 10 (2021): 13.
19. A. Hakim, "Nursing Students' Satisfaction About Their Field of Study," *Journal of Advances in Medical Education & Professionalism* 2, no. 2 (2014): 82–87.
20. T. Li, H.-L. S. Tien, and J. Wang, "Academic Satisfaction and Meaning in Life: The Mediating Roles of Personal Growth Initiative and Career Adaptability," *Education Sciences* 14, no. 4 (2024): 436.
21. O. Koçak, N. Ak, S. S. Erdem, M. Sinan, M. Z. Younis, and A. Erdoğan, "The Role of Family Influence and Academic Satisfaction on Career Decision-Making Self-Efficacy and Happiness," *International Journal of Environmental Research and Public Health* 18, no. 11 (2021): 5919.
22. Y. Gu and Z. Zhu, "The Impact of College Students' Salary Expectations on Career Decisions and Countermeasures," *Information technology* 5, no. 26 (2023): 70–74.
23. M. Vahedian-Shahroodi, F. Behzad, M. Ajilian Abbasi, A. Akhlaghi, and M. Alipour-Anbarani, "Health Professions Students' Attitudes Toward Their Field of Study and Future Career: A Systematic Review," *Medical Education Bulletin* 5, no. 1 (2024): 883–905.
24. M. Beik Khourmizi, F. Saidi, F. Khorrami, and M. Hadavi, "Evaluation of Operating Rooms Students' Satisfaction About Their Field of Study and Views on Job Future," *Research in Medical Education* 12, no. 1 (2020): 62–69.
25. F. Mazaheri and M. Tahmasbi, "Evaluating the Attitudes of Radiologic Technology Students and Graduates Toward Their Study Major and Career Prospects: A Cross-Sectional Study," *Health Science Reports* 7, no. 6 (2024): e2144.
26. Y. Ten Hoeve, S. Castelein, W. S. Jansen, G. J. Jansen, and P. F. Roodbol, "Nursing Students' Changing Orientation and Attitudes Towards Nursing During Education: A Two Year Longitudinal Study," *Nurse Education Today* 48 (2017): 19–24.
27. H. A. Jamali and M. Ghalenoeei, "Attitudes of Environmental Health and Occupational Health Students Toward Their Discipline and Future Career in Qazvin University of Medical Sciences in 2012," *Iranian Journal of Medical Education* 13, no. 7 (2013): 541–550.
28. R. ahmadi S s, "Investigating the Relationship Between Emotional Intelligence and Academic Achievement Through the Mediation of Academic Satisfaction," *Journal of Educational Psychology Studies. Journal of Educational Psychology Studie* 8, no. 13 (2011): 1–20.
29. M. Bahrami, A. R. Dehdashti, and M. Karami, "The Perspectives of Public Health Students at Semnan University of Medical Sciences on Their Study Field and Future Career Opportunity in 2017: A Short Report," *Journal of Rafsanjan University of Medical Sciences* 16, no. 2 (2017): 179–188.
30. A. Field. *Discovering Statistics Using IBM SPSS Statistics: Sage Publications Limited* (Sage, 2024).
31. M. Chehri, A. Soori laki, A. Ebadi, H. Mahmoudi, and M. Sepahvand, "A Comparative Study of the Attitudes of Freshman and Senior Nursing Students Towards Nursing Discipline," *Iran Journal of Nursing* 27, no. 89 (2014): 61–68.
32. A. A. Mirza, M. Baig, G. M. Beyari, M. A. Halawani, and A. A. Mirza, "Depression and Anxiety Among Medical Students: A Brief Overview," *Advances in Medical Education and Practice* 12 (2021): 393–398.
33. M. P. Lyndon, M. A. Henning, H. Alyami, S. Krishna, T. C. Yu, and A. G. Hill, "The Impact of a Revised Curriculum on Academic Motivation, Burnout, and Quality of Life Among Medical Students," *Journal of Medical Education and Curricular Development* 4 (2017): 2382120517721901.
34. E.-J. Shim, H. J. Jeon, H. Kim, et al., "Measuring Stress in Medical Education: Validation of the Korean Version of the Higher Education Stress Inventory With Medical Students," *BMC Medical Education* 16, no. 1 (2016): 302.