Investigating the Status of Components of Educational Ethical Values Among Students of Southeastern Universities of Iran

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Abstract

Background: Undoubtedly, ethical and ethical values play a significant role in directing any field of behavior and activity in which a person engages. Students are confronted with different situations and demands in the university environment, necessitating different ethical and immorality behaviors.

Objectives: This study aimed to evaluate the components of ethical values among students at Zahedan universities.

Methods: In this descriptive-analytical cross-sectional study, 426 students were selected by stratified random sampling from Islamic Azad University, Sistan and Baluchestan University, and Medical Sciences University. Data were collected through a researcher-made questionnaire after calculating validity and reliability on four components: Academic honesty, academic dishonesty, research honesty, and research dishonesty. Data were analyzed using SPSS23 software with a one-sample t-test and MANOVA.

Results: From the perspective of students of different universities in Zahedan, the mean academic honesty, research honesty, academic dishonesty, and research dishonesty among students were less than the desired level. There was no significant difference between male and female students' views on the mean of ethical value components among students. However, there was a significant difference between students' views in different departments and universities about the average components of ethical value among students.

Conclusions: Considering the low average of scientific and research honesty among students relative to the desired limit and the significance of this difference, we need to increase students' awareness of ethical values, observe justice and practical implementation of examples of ethical values by professors, and encourage individuals to adhere to ethical values.

Keywords: Ethicality; Research Honesty; Academic Honesty; Research Dishonesty; Academic Dishonesty

1. Background

Ethicality refers to a set of deep, common, and relatively enduring societal values (1). It can be considered as the study and evaluation of criteria and rules that could guide the action of individuals and groups in an acceptable manner (2). Besides, ethical values conduct the right and wrong behavior of an individual or a group (3). Indisputably, in any field, ethicality and ethical values play a significant role in directing behavior and activity in which a person engages. Science education is one of the areas in which ethical standards and values play an inalienable role in individuals' final decisions and behaviors. In this area, people are constantly faced with various demands that must be met by making decisions tailored to their circumstances (4). They are one of the most influential groups in society (5) that face different situations

and demands in the university environment, where they show different ethical and immoral behaviors (6).

Student ethicality is a broad category that covers various areas of student life and activity. It ranges from the norms of behavior to teachers, principals, and classmates to the norms governing socio-political activities and ethical requirements, e.g., in the dormitory environment, as well as educational harms such as cheating in exams, plagiarism, and copying the work of others in mandatory projects, unauthorized assistance getting or giving assistance in performing individual assignments, discovering and distributing exam questions or test keys, which are the factors attracting the most attention of authors and researchers of ethicality in education (7).

A study in Ethiopia showed that academic dishonesty

was common among students, and most of the students had committed academic dishonesty at least once (8). According to a study, approximately 10% of Scandinavian Ph.D. students in Scandinavia agreed that research misconduct (such as forgery and plagiarism) was common in their field of study, while slightly more agreed that other forms of misconduct were common (9). Hemmati et al. (10) found that nearly 20% of graduate students stated that they had committed one of the cases of scientific immorality. However, the rate of committing cases of scientific misconduct among the vast majority of the students was significantly lower than the hypothetical average of the study.

The highest frequency is related to mild cases of scientific immorality, such as allowing others to look at the exam paper and other students' exam papers. The lowest frequency is related to severe cases of scientific immorality, i.e., buying an article and presenting it as a project (10). Also, in the study of Khamesan et al., the average cheating among students was lower than the average number in the study, but the general belief about the prevalence of cheating was higher than average (11).

In general, students' non-observance of ethical values can reduce creativity in the scientific community, directly or indirectly, and has adverse effects on study participants, undermining public trust in science and scientists. Furthermore, future research findings will be distorted due to reliance upon the fake results of previous studies (12).

Academic dishonesty includes immorality behavior, academic fraud, copying others' answers, using notes in written exams, involving others in individual work, and reading the summary instead of the full version. Research dishonesty includes fraud, plagiarism, ethnography, facilitation, deception, and forgery. Research integrity includes research competency, trustworthiness, honesty in data collection, targeted and informed participation, consistent research standards, knowledge and compliance with research rules, objectivity, rights, protection of participants, privacy, and fraud. Academic honesty includes intrinsic personal values, intrinsic values, and socio-behavioral values (13).

2. Objectives

Several studies conducted in Iran have focused on recognizing examples of ethical values in students and their underlying factors from different perspectives, and fewer studies have been conducted on the prevalence of examples of ethical values in students. In a few studies, more emphasis has been placed on fraud. Therefore, this study discussed four components of students' ethical values, including academic honesty, research honesty, academic dishonesty, and research dishonesty.

3. Methods

The present descriptive-analytical cross-sectional study included the students at Zahedan universities in the academic year 2020-2021. The sample size was estimated at 426 people. The sample was selected based on a random sampling method according to the number of university students (Islamic Azad Universities (n = 113), Sistan and Baluchestan University (n = 207), and Medical Sciences University (n = 106)). Then, participants from each university were selected through available sampling.

A researcher-made questionnaire collected the data required for the study. The questionnaire consisted of two parts. In the first part, the demographic characteristics of the people were asked, and the second part included 50 five-choice questions on four components of academic honesty, research honesty, academic dishonesty, and research dishonesty. The answers were scored on a five-point Likert scale from very low to very high. Grading was done in reverse for academic and research dishonesty. The study results were compared with a hypothetical number 4 as the optimal limit. Due to the COVID-19 restrictions at the time of the study, after confirming the validity and reliability, the questionnaire was provided to the respondents online via a link, which was active until the sample size was completed.

A questionnaire was used to assess the content validity of the questionnaire. To calculate the content validity of this scale, the correlation coefficient of items with the total score of each subscale was determined, and Cronbach's alpha coefficient was used to determine the reliability. The results are presented in Table 1.

Table 1. Validity and Reliability of the Research Scale

Subscales	Items	Number of Items	Spectrum of Correlation Coefficients	P-Value	Cronbach's AlphaCoefficients	Total Cronbach's Alpha Coefficient
Academic dishonesty	1 - 9	9	0.51 - 0.79	0.0001	0.87	
Research dishonesty	10 - 14	5	0.83 - 0.86	0.0001	0.90	
Research honesty	15 - 39	25	0.33 - 0.85	0.0001	0.96	0.933
Academic honesty	40 - 50	11	0.75 - 0.88	0.0001	0.95	

As illustrated in Table 1, the obtained alpha coefficient for the ethicality dimension is higher than 0.85, indicating the internal correlation between the variables to measure the concepts. Therefore, the Student Ethicality Dimensions Questionnaire had the necessary reliability since the questions in this study could measure all vari-

ables.

Descriptive data were analyzed based on number, mean, and standard deviation. A one-sample t-test and Multivariate Analysis of Variance (MANOVA) were performed to analyze the data using SPSS version 23 software. The normality of the data was evaluated by the Smirnov test, showing that the data were normal. The significance level was considered less than 0.05.

4. Results

Of the respondents, 53% were female, and 47% were male. Among them, 48.6% were from Sistan and Baluchestan University, 26.5% from Azad University, and 24.9% from Medical Sciences University. Also, 47.2% were students in the Humanities group, 12.4% in the Technical and Technical-engineering group, and 40.6% in the Basic Sciences group.

From the perspectives of the students of different universities in Zahedan, the average value of academic honesty among the students (with an average of 3.62) was lower than the desired level (4). Based on the value of t (-8.27) in the degree of freedom 425, there was a significant difference between the average value of academic honesty from the students' points of view and the desired level at the significance level of 0.0001. Hence, students' average value of academic honesty was lower than the desired level (Table 2).

Table 2. Comparison of the Average Components of Ethical Values Among Students with the Desired Level (4)

Components of Ethical Values	Number	Mean ± SD	t	P-Value
Academic honesty		3.62 ± 0.93	-8.27	0.0001
Research honesty	426	3.41 ± 0.80	-15.02	0.0001
Academic dishonesty		2.10 ± 0.77	-50.33	0.0001
Research dishonesty		2.14 ± 1.01	-37.83	0.0001

Furthermore, from the perspectives of students of different universities in Zahedan, the average value of research honesty among students (with an average of 3.41) was lower than the desired level (4). Based on the value of t (-15.02) in the degree of freedom 425, there was a significant difference between the average value of research honesty from the students' points of view and the desired level at the significance level of 0.0001. Thus, the average value of research honesty among students was lower than the desired level (Table 3).

Table 3. Descriptive Table of Students' Views in Terms of the Average Components of Ethical Values Among Students by Gender, Department, and University

Variables	Gender	Number	Mean ± SD	Academic groups	No.	Mean ± SD	University	No.	Mean ± SD
Academic honesty	Male	200	3.63 ± 0.96	Humanities	201	3.77 ± 0.90	Islamic Azad university	113	3.76 ± 0.83
	Female	224	3.61 ± 0.91	Technical-engineering	53	3.37 ± 0.96	University of Sistan and Baluchestan	207	3.67 ± 0.94
				Science	170	3.53 ± 0.94	University of Medical Sciences	106	3.38 ± 0.98
Research honesty	Male	200	3.35 ± 0.85	Humanities	201	3.44 ± 0.73	Islamic Azad university	113	3.43 ± 0.69
	Female	224	2.10 ± 0.73	Technical-engineering	53	3.28 ± 0.87	University of Sistan and Baluchestan	207	3.41 ± 0.79
				Science	170	3.41 ± 0.85	University of Medical Sciences	106	3.39 ± 0.92
Academic dishonesty	Male	200	2.10 ± 0.73	Humanities	201	2.09 ± 0.78	Islamic Azad university	113	2.18 ± 0.72
	Female	224	2.11 ± 0.81	Technical-engineering	53	2.12 ± 0.71	University of Sistan and Baluchestan	207	2.08 ± 0.82
				Science	170	2.11 ± 0.78	University of Medical Sciences	106	2.07 ± 0.72
Research dishonesty	Male	200	2.17 ± 1.01	Humanities	201	2.11 ± 0.97	Islamic Azad university	113	2.22 ± 0.90
	Female	224	2.11 ± 1.01	Technical-engineering	53	2.15 ± 0.90	University of Sistan and Baluchestan	207	2.13 ± 1.06
				Science	170	2.16 ± 1.09	University of Medical Sciences	106	2.05 ± 1.01

In addition, from the perspectives of students of different universities in Zahedan, the mean counter value of academic dishonesty among students (with an average of 2.10) was lower than the desired level (4). Based on the obtained t value (-50.33) in the degree of freedom 425 significant difference, there was a mean negative value of academic dishonesty among students and the desired level at the significance level of 0.0001 (Table 2).

Also, from the perspectives of students of different universities in Zahedan, the average counter value of research dishonesty among students (with an average of 2.14) was lower than the desired level (4). Based on the obtained t value (-37.83) in the degree of freedom 425, there was a significant difference between the average negative value of research dishonesty among students and the average standard at the significance level of 0.0001. Hence, the average research dishonesty among students was lower than desirable.

According to Table 3, the highest average of the components of ethical values was related to the prevalence of academic honesty from the perspectives of male students (3.63), and the lowest average was related to the prevalence of research dishonesty from the perspectives of female students (2.113).

However, the value of Pillai's Trace test (0.024) in Table 4 demonstrates no significant difference between the views of male and female students about the average components of ethical value among students.

Table 4. Multivariate Analysis of Variance Based on the Pillai's Trace Test by Department and University

Group Test statistics	Value	F	Degree of Freedom	Level of significance
Gender	0.024	2.63	4	0.14
Department of Education	0.049	2.63	20	0.008
University	0.082	1.54	20	0.0001

According to Table 3, the highest average of ethical value components was related to academic honesty from the perspective of humanities students (3.77), and the lowest average was related to academic dishonesty from the perspective of humanities students (2.09).

Based on the post hoc test, comparing the mean values of academic honesty revealed that the highest mean was reported by humanities students (3.77) and the lowest was among technical-engineering students (3.37). According to the obtained F (5.35) in degrees 2 and 421, there was a significant difference at the level of 0.005 between the views of different educational groups on the mean of academic honesty. Also, the highest mean was reported by the students of Islamic Azad University (3.76), and the lowest was reported by Medical Sciences University students (3.38). According to the obtained F (5.35) in degrees 2 and 421, there was a significant difference at the level of 0.008. There was an average value of academic honesty between the views of students of different universities.

A comparison of the mean value of research honesty showed that the highest mean was reported by humanities students (3.44) and the lowest by technical-engineering students (3.28). However, according to the obtained F (0.802) in degrees of freedom 2 and 421, there was no significant difference between the views of different departments on the prevalence of research honesty. Also, the highest average was reported by the students of Islamic Azad University (3.43), and the lowest was reported by Medical Sciences University students (3.39). However, according to the obtained F (0.965) in degrees of freedom 2 and 421, there was no significant difference between the views of students of different universities on the average value of research honesty.

A comparison of the mean counter value of academic dishonesty demonstrated that the highest mean was reported by technical-engineering students (2.12) and the lowest by humanities students (2.09). However, according to the obtained F (0.02) in degrees of freedom 2 and 421, there was no significant difference between the views of different departments on the prevalence of research honesty. Besides, the highest average was reported by the students of Islamic Azad University, and the lowest was reported by the students of Medical Sciences University (2.07). However, according to the obtained F (0.844) in the degrees of freedom 2 and 421, there was no significant difference between the views of students of different universities on the average counter value of academic dishonesty.

A comparison of the mean counter value of research dishonesty illustrated that the highest mean was reported by science students (2.16) and the lowest by humanities students (2.11). According to the obtained F (0.80) in degrees of freedom 2 and 421, there was no significant difference between the views of different departments on the prevalence of research honesty. Also, the highest average was reported by the students of Islamic Azad University (2.23), and the lowest was reported by the students of Medical Sciences University (2.55). However, according to the obtained F (0.892) in the degrees of freedom 2 and 421, there was no significant difference between the views of students of different universities concerning the mean counter value of research dishonesty.

According to Table 5, the post hoc test showed a significant difference between the views of students of technical-engineering and humanities (P < 0.05) and sciences and humanities (P < 0.05) in the average academic honesty. Meanwhile, there was no significant difference between the views of students of technical-engineering and sciences in the prevalence of academic honesty.

Table 5. Inter-group Comparison Based on the Components of Academic Dishonesty, Research Dishonesty, Research Honesty, and Academic Honesty by Department and University

Variables	Department of Education			University		
	Degree of Freedom	F	Level of Significance	Degree of Freedom	F	Level of Significance
Academic honesty	2&421	5.35	0.005	2&423	4.852	0.008
Research honesty	2&421	0.80	0.44	2&423	0.036	0.965
Academic dishonesty	2&421	0.02	0.97	2&423	0.844	0.431
Research dishonesty	2&421	0.14	0.86	2&423	0.892	0.411

According to Table 3, the highest mean of ethical value components was related to academic honesty from the perspective of Islamic Azad University students (3.76), and the lowest was related to the value of research dishonesty from the perspective of medical students (2.05). The value of Pillai's Trace test (0.082) in Table 4 shows a significant difference between the mean components of the ethical value of students from different universities at the level of 0.0001.

Scheffe post hoc test in Table 6 showed a significant difference between the views of Islamic Azad University students and students of Medical Sciences University (P < 0.05) and Sistan and Baluchestan University (P < 0.05) on average academic honesty. However, there was no significant difference between the views of students of Medical Sciences University and Sistan and Baluchestan University on the prevalence of the value of academic honesty.

Table 6. Scheffe Post Hoc Test to Compare the Views of Students in Various Departments on the Prevalence of Academic Honesty

Department of Education	Humanities	Technical-Engineering	Science	University	Islamic Azad University	National University	Medical Sciences University
Humanities	NS			Islamic Azad University	NS		
Technical/technical-engineering	0.02	NS		Sistan and Baluchestan University	0.773	NS	
Science	0.04	0.56	NS	University of Medical Sciences	0.015	0.035	NS

5. Discussion

The purpose of this study was to evaluate the average components of ethical values among students of Zahedan universities from the perspective of students on the four components of academic honesty, academic dishonesty, research honesty, and research dishonesty. From the perspective of students in Zahedan, the average value of academic honesty (with an average of 3.62) and research honesty (with an average of 3.41) among students was lower than the desired level (4), which was a significant difference.

Also, from the students' points of view, the mean anti-value of academic dishonesty (with an average of 2.10) and research dishonesty (with an average of 2.14) was lower than the desired level (4), and the difference was significant. There was no significant difference between the views of male and female students in the average components of ethical value among students. Nevertheless, the difference between students' views of different departments and universities in the average components of ethical value was significant.

No study has explicitly dealt with the components evaluated in this study, but according to the items of each component, it can be said that these results are consistent with the findings of the study by Nakhaei et al. In that study, the median "data forgery" and "manipulation of results" were 37% and 40%, respectively, and the students estimated plagiarism between 25% and 50%. While 71% of students rejected the non-observance of ethical principles about patients, "copying some of the dissertation materials from other sources" as one of the cases of research fraud was approved by about 58% of them (14), which was consistent with the results of a study by Hemmati et al., in which approximately 20% of graduate students had committed one of the cases of scientific immorality. However, the rate of committing cases of scientific misconduct among the vast majority of them was significantly lower than the hypothetical average of the study (10).

Since ethical emotions have the main role in decision-making and behavior in an ethical dilemma, and ethical dilemmas in education and scientific relation are the most important aspects of this dilemma, explaining the relationship between these emotions and ethical attitudes and behavior in educational and scientific fields is necessary (15). Research in this field showed the negative relationship of ethical emotions, especially feeling guilty, with immoral behaviors in gaining academic credibility. Academic dishonesty is important because these people later use this meth-

od in higher levels of education and job opportunities (15).

Empirical evidence shows increased research dishonesty and plagiarism in recent years (16). However, universities do not appear to fully understand this issue (17). Research dishonesty undermines the educational quality of scientific organizations, questions the capabilities of graduates, and hinders the major goals of the educational system (including the education of responsible and dignified citizens) (17). Students involved in research dishonesty acquire the skills necessary for their future profession (18). This can place far-reaching limitations on the flourishing of individual and institutional talents, and if it becomes commonplace, it will jeopardize scientific security and destroy all areas of society, so any omission of this action can have devastating consequences (19).

Therefore, considering that one of the most important challenges of these days in modern and advanced societies is the observance of ethical principles and rules and adherence to them, and having specialized and ethical researchers is necessary for any country, so universities and higher education centers, in addition to technical training and work skills, should include research ethics in their training programs (20). The difference in the prevalence of ethical values among students can be expressed due to different attitudes in individuals, especially students, in their future behaviors while studying. In such a way, the graduates use different ways to achieve their academic goals, so to achieve success, they do not consider ethical value as the basis, and thus a difference is observed in the amount of ethical value.

Also, when students' criteria of ethical values are considered, then students will be different from a perspective. Therefore, the tendencies and value priorities of students as the country's future makers can indicate society's perspective in the coming years and programs ahead of society. Also, students in different universities always have differences in thoughts, values, and tendencies. The results can be a summary of the needs of this level of society, the training and education received, and their planning for the future.

5.1. Conclusions

Considering the low average of scientific and research honesty among students relative to the desired level and the significance of this difference, we need to increase students' awareness of ethical values, observe justice and practical implementation of examples of ethical values by professors, encourage individuals to adhere to ethical values, and reprimand students who violate the values and those who are not worthwhile. In general, it can be said that attention to ethical values among students has been neglected so far, and it seems necessary to focus on this issue by higher education policymakers.

5.2. Limitations

Due to the self-reporting of the study data, there is a possibility of error in the results.

5.3. Informed consent

All participants completed an informed consent form before participating in the study.

Footnotes

Conflict of interests

The authors have no conflict of interest.

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Authors' contribution

All the authors were involved in designing, writing, reading, and approving the final manuscript.

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