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THE IMPACT OF MEDICAL STUDENTS' ATTITUDES TOWARDS GROUP ETHICAL NORMS ON THEIR ACADEMIC ACHIEVEMENT AND CLASSROOM DEVIANT BEHAVIOUR: AN EMPIRICAL STUDY FROM CHINA

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Abstract: In recent years, medical students' absenteeism has been investigated in depth. Classroom deviant behavior is a richer concept than truancy behavior, but there are few researchers on this aspect in China. There are still many issues worth discussing about deviant classroom behavior. In this paper, questionnaires were given to 977 medical students to collect relevant data. After classifying the data, correlation analysis and multilevel linear regression analysis were used to conclude that academic performance and group ethical norms have a negative impact on medical students' deviant behaviors in class. Group ethical norms have a significant positive influence on academic performance, and descriptive ethical norms and imperative ethical norms of group ethical norms have a significant influence on academic performance. The four dimensions of academic performance: academic performance, task performance, interpersonal promotion, and social comparison have a negative influence on medical students' deviant behaviors in class. Descriptive ethical norms have an inverse effect on medical students' deviant behaviors, while imperative ethical norms have no significant effect on deviant behaviors in class. Group ethical norms as a category of ethical norms clearly have significant implications for improving academic performance and reducing their transgressions in class. Reinforcing group ethics in medical students will not only contribute to their professional ethics upon graduation, but also to their academic performance.

Keywords: group ethical norms, academic achievement, classroom deviant behavior, medical education, China

El impacto de las actitudes de los estudiantes de medicina hacia las normas éticas de grupo en su rendimiento académico y el comportamiento desviado en el aula: un estudio empírico de China

Resumen: En los últimos años, se ha investigado en profundidad el absentismo de los estudiantes de medicina. El comportamiento desviado en el aula es un concepto más rico que el comportamiento de absentismo escolar, pero hay pocos investigadores sobre este aspecto en China. Todavía hay muchas cuestiones que vale la pena discutir sobre el comportamiento desviado en el aula. En este trabajo, se entregaron cuestionarios a 977 estudiantes de medicina para recoger los datos pertinentes. Tras clasificar los datos, se utilizó el análisis de correlación y de regresión lineal multinivel para llegar a la conclusión de que el rendimiento académico y las normas éticas de grupo tienen un impacto negativo en los comportamientos desviados de los estudiantes de medicina en clase. Las normas éticas de grupo tienen una influencia positiva significativa en el rendimiento académico, y las normas éticas descriptivas y las normas éticas imperativas de las normas éticas de grupo tienen una influencia significativa en el rendimiento académico. Las cuatro dimensiones del rendimiento académico: rendimiento académico, rendimiento de la tarea, promoción interpersonal y comparación social tienen una influencia negativa en los comportamientos desviados de los estudiantes de medicina en clase. Las normas éticas descriptivas tienen un efecto inverso en las conductas desviadas de los estudiantes de medicina, mientras que las normas éticas imperativas no tienen un efecto significativo en las conductas desviadas en clase. Las normas éticas de grupo como categoría de normas éticas tienen claramente implicaciones significativas para mejorar el rendimiento académico y reducir sus transgresiones en clase. Reforzar la ética de grupo en los estudiantes de medicina no sólo contribuirá a su ética profesional al graduarse, sino también a su rendimiento académico.

Palabras clave: normas éticas de grupo, rendimiento académico, conducta desviada en el aula, educación médica, China

O impacto de atitudes de estudantes de medicine em relação a normas éticas grupais em suas conquistas acadêmicas e comportamentos desviantes em sala de aula: um estudo empírico da China

Resumo: Nos últimos anos, o absenteísmo dos estudantes de medicina tem sido pesquisado em profundidade. O comportamento desviante na sala de aula é um conceito mais rico do que o comportamento de evasão escolar, mas há poucos pesquisadores sobre este aspecto na China. Ainda há muitas questões que vale a pena discutir sobre o comportamento desviante em sala de aula. Neste documento, foram entregues questionários a 977 estudantes de medicina para coletar dados relevantes. Após a classificação dos dados, análise de correlação e análise de regressão linear multinível foram utilizadas para concluir que o desempenho acadêmico e as normas éticas de grupo têm um impacto negativo sobre o comportamento desviante dos estudantes de medicina em sala de aula. Normas éticas de grupo têm uma influência positiva significativa no desempenho acadêmico, e normas éticas descritivas e normas éticas imperativas de normas éticas de grupo têm uma influência significativa no desempenho acadêmico. As quatro dimensões do desempenho acadêmico: desempenho acadêmico, desempenho de tarefas, promoção interpessoal e comparação social têm uma influência negativa sobre os comportamentos desviantes dos estudantes de medicina nas aulas. As normas éticas descritivas têm um efeito inverso sobre os comportamentos desviantes dos estudantes de medicina, enquanto as normas éticas imperativas não têm efeito significativo sobre os comportamentos desviantes nas aulas. Normas éticas de grupo como uma categoria de normas éticas têm claramente implicações significativas para melhorar o desempenho acadêmico e reduzir suas transgressões na classe. O reforço da ética de grupo em estudantes de medicina não só contribuirá para sua ética profissional ao se formarem, mas também para seu desempenho acadêmico.

Palavras chave: normas éticas grupais, conquistas acadêmicas, comportamento desviantes em sala de aula, educação médica, China

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1. Introduction

In recent years, the enrollment scale of Chinese university education is expanding, and the deviant behaviors of medical students are increasing. The deviant behaviors of medical students show the characteristics from individual to collective, from hidden to open, from minority to majority, and from rebellious to agreeable. Classroom transgressions account for a large proportion of medical students' transgressions. Including skipping class and playing with cell phones, many medical students seem to take them for granted. Despite the introduction of several measures by universities to restrain students' behavior, some classroom transgressions still occur frequently.

According to the focus theory of normative conduct, descriptive and imperative ethical norms constitute social ethical norms*(1)*. Descriptive ethical norms are standards of behavior that are formed by the behavior exhibited by the majority of group members within a group. A command norm is a standard of behavior formed by the majority of group members' attitudes in favor of or against a certain behavior. Associated with the definition of ethical norms, transgressions are defined as deviations from or violations of social ethical norms of behavior. Classroom transgressions by college students are among the deviant behaviors, which are a negative behavior with spontaneity and intention to violate the ethical norms or institutions of the classroom*(2)*. More views exist on the definition of academic achievement*(3)*, and it is generally accepted that academic achievement is the effectiveness of learning within a more relatively limited and well-defined scope, but academic achievement is more than just academic grades and rankings*(4)*. Much of the research on academic achievement currently focuses on academic achievement itself and the analysis of its influences*(5)*. Scholars usually divide academic achievement into four dimensions such as academic performance, task performance, and interpersonal facilitation*(6)*, and have developed them into scales with relatively good reliability and validity*(7,8)*. The various influences on academic achievement have also been classified into two categories: individual factors and social support*(9,10)*. While less research has been conducted directly related to classroom transgressions, more studies have explored college transgressions in a larger context or have examined issues such as truancy*(11)*.

Currently, more researchers are exploring college transgressions in a broader context or only discussing truancy among college students*(12)*. Classroom transgressions, on the other hand, fall somewhere between transgressions and truancy, and less research has been conducted in this area. In addition, although there are more current studies on college students' deviant behaviors, although many of them are divided into types such as illegal and vulgar according to their nature, deviant behaviors are still discussed as a whole. In addition, most of the studies have focused on the characteristics of classroom deviance or all the influencing factors, and the studies are not in-depth*(13)*. As for the correlation between academic achievement and classroom deviance, it is generally accepted that college students' grade point average and GPA are significantly correlated with their classroom attendance*(14)*. Differences in academic achievement were found in a comparison of transgressors and regular students*(15,16)*. For studies on the correlation between academic achievement and group ethical norms, a correlation between campus climate and academic achievement is usually considered*(17)*. However, some scholars argue that the environment merely creates the possibility for transgression and that the role and importance of the environment should not be overemphasized at the expense of the subject's propensity as well as ability to transgress*(13,18)*. When discussing group ethical norms and classroom transgressions, researchers have taken different directions, namely family, classroom, school, and social*(19)*.

Against this background, and in conjunction with the empirical investigation, this study will examine the relationship between academic achievement and group ethical norms on medical students' classroom deviant behavior. In addition, this study will also analyze the relationship between group ethical norms and academic achievement, so that the relationship between the three can be more thoroughly identified. These analyses are used to better explore the strategies and their ethical implications of using the ethical group ethical norms of the medical student to improve there academic achievement.

2. Materials and Methods

This study investigated the required relevant information by distributing questionnaires to medical students online. In order to make the whole study more reliable and convincing, the questionnaire designed in this study referred to existing scales and made appropriate modifications to the original scales according to the actual needs, which finally resulted in the current questionnaire.

2.1. Data Sources

The research object of this study is university students, according to the current actual situation, mainly through social networks to find students to fill out the questionnaire. A total of 1000 questionnaires were sent out, and after deleting the invalid questionnaires, 454 questionnaires were finally valid, with a recovery efficiency of 98.7%.

As shown in **Table 1**, among the 977 valid samples, there were 403 male students, accounting for 41.2%, and 574 female students, accounting for 58.8% of the total number of respondents. In terms of grade, there are 255 freshmen students, accounting for 26.1% of the total sample, 269 juniors, accounting for 27.5%, 242 seniors, accounting for 24.8%, and the least number of graduate students and above, 211, accounting for 21.6%. In terms of majors, there are 482 students in humanities and social sciences, and 495 students in science and agriculture and medicine, accounting for 49.3% and 50.7%, the numbers are basically the same. Therefore, the sample is representative and diverse.

2.2. Research Hypotheses and Measurements

According to the theory of social anomie, transgressions mainly arise from the absence of institutions and ethical norms or the failure to seek avenues of social identity, and result from an imbalance between goals and means*(20)*. Although, social deviance theory mainly studies deviance from a macro perspective, it is also an important guide for studying transgressions of specific groups at the micro level. In pursuing mainstream values and goals, medical students may also experience an imbalance between means and goals and transgressions*(21)*. Therefore, the following research hypothesis was formulated.

H1: *Academic performance has a negative effect on medical students' deviant behavior in the classroom. The better the academic performance performance, the lower the likelihood of classroom deviant behaviors among medical students. Conversely, the worse the academic achievement performance, the more likely medical students are to adopt classroom deviant behaviors.*

H1a: *Academic performance has a negative effect on medical students' classroom deviant behavior.*

H1b: *Academic performance has a negative effect on medical students' classroom deviant behavior.*

H1c: *Task performance has a negative effect on medical students' classroom transgressions.*

H1d: *Interpersonal facilitation has a negative effect on medical students' classroom deviance.*

Medical students are in a variety of different groups, and the agreed-upon ethical norms formed by the interactions among group members and the clear rules and regulations jointly esta-

Table 1. Basic information of the sample

Variable	Property	Frequency (persons)	Percentage (%)
Gender	Male	403	41.2
	Female	574	58.8
Grade	Freshman	255	26.1
	Junior	269	27.5
	Senior	242	24.8
	Graduate student and above	211	21.6
Major	Humanities and Social Sciences	482	49.3
	Science, Engineering, Agriculture and Medicine	495	50.7

blished within the group may also have an effect on medical students' behavior. When medical students are in a negative group, even individuals who do not share the culture of the group may act in accordance with the values of the group because they have been interacting with the members of the group for a long time.

H2: *Group ethical norms have a negative effect on medical students' classroom transgressions. The looser and more negative the group ethical norms are, the more likely medical students are to act out of line.*

H2a: *Descriptive ethical norms have a negative influence on medical students' classroom transgressions.*

H2b: *Imperative ethical norms have a negative influence on medical students' classroom transgressions.*

According to the previous studies, there is a correlation between academic achievement and group ethical norms.

H3: *Group ethical norms have a positive effect on the academic achievement of medical students.*

H3a: *Descriptive ethical norms have a positive effect on the academic achievement of medical students.*

H3b: *Imperative ethical norms have a positive effect on the academic achievement of medical students.*

This study drew on the Academic Achievement Scale for College Students from the established literature as a measure of college students' academic achievement*(22-24)*. Based on these college student's academic achievement scales this study classified academic achievement into four dimensions of academic effectiveness, interpersonal facilitation, social comparison, and task performance with a total of 19 items. Considering that students may tend to choose the middle scores when filling out the questionnaire, a six-level scale was used in this study, with six scores for each question on three levels: high, medium, and low, where 1 and 2 are low, 3 and 4 are medium, and 5 and 6 are high, in that order, with each question being assigned the same value and summed up at the end, with higher scores indicating higher academic achievement. In measuring the variable of group ethical norms, this study developed a self-administered questionnaire with 7 questions, including descriptive ethical norms and imperative ethical norms, taking into account the existing literature. By drawing on related research from other scholars*(25)*, this study improved and obtained a scale that is appropriate for the Chinese context, with two dimensions: organizational transgression and interpersonal transgression. To avoid students' tendency to choose the middle option when filling out the questionnaire, a six-level scale was still used, with six options for each question, which were sequentially assigned a score of 1-6, and if the score was higher, it indicated that the student had more deviant behaviors.

3. Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

3.1. Descriptive Analysis

This article presents a descriptive analysis of academic achievement, group ethical norms, classroom transgressions and the four dimensions of academic performance, task performance, interpersonal facilitation, and social comparison involved in academic achievement and the descriptive and imperative ethical norms involved in group ethical norms.

As shown in Table 2, the valid sample size of this study was 977, and the mean values of academic achievement and the four dimensions included in it were above 4.3, with standard deviations maintained between 1.2 and 1.4, indicating that the samples performed well on average in terms of academic achievement, and most of the samples received scores that were not significantly different from the mean. The mean values of group ethical norms and the descriptive and imperative ethical norms they contain are 3.86, 4.03, and 3.80, respectively, with the mean tending to be at the middle value of 3.50 and the standard deviation ranging from 1.50 to 1.63, which is a large difference between samples compared to academic achievement. Classroom transgressions had a mean value of 2.43 and a standard deviation of 1.32, indicating that most of the samples had

Table 2. Descriptive statistics of variables

	N	Minimal value	Maximal value	Mean value	Standard deviation	Variance
Academic Performance	977	1.42	6.00	4.4207	1.21022	1.465
Task Performance	977	1.29	6.00	4.4405	1.23688	1.530
Interpersonal Facilitation	977	1.20	6.00	4.4366	1.24966	1.562
Social Comparison	977	1.00	6.00	4.3700	1.30098	1.693
Academic Achievement	977	1,42	6.00	4.4207	1.21022	1.465
Descriptive ethical norms	977	1.00	6.00	4.0330	1.50203	2.256
Command ethical norms	977	1.00	6.00	3.8000	1.62644	2.645
Group ethical norms	977	1.00	6.00	3.8666	1.53537	2.357
Classroom Transgressions	977	1.00	6.00	2.4370	1.32172	1.747

more frequent classroom transgressions.

3.2. Correlation Analysis

Correlation analysis is a method of analyzing the correlation between variables, reflecting the possibility of interaction between several variables, and is the basis of regression analysis. In order to obtain more information and explore the relationship between the three in a deeper way, this paper examines academic achievement, group ethical norms, and classroom transgression research as a whole, while also examining the subvariables academic performance, task performance, interpersonal facilitation, social comparison, descriptive ethical norms, and imperative ethical norms of the two variables academic achievement and group ethical norms separately.

As shown in Table 3, the total academic achie-

Table 3. Correlation analysis of variables

	Academic performance	Task performance	Interpersonal facilitation	Social comparison	Academic achievement	Descriptive ethical norms	Command ethical norms	Group ethical norms	Classroom transgressions
Academic Performance	1								
Task Performance	0.978**	1							
Interpersonal Facilitation	0.561**	0.544**	1						
Social Comparison	0.926**	0.873**	0.537**	1					
Academic Achievement	0.962**	0.978**	0.561**	0.926**	1				
Descriptive ethical norms	0.613**	0.599**	0.581**	0.573**	0.613**	1			
Command ethical norms	0.561**	0.544**	0.516**	0.537**	0.561**	0.826**	1		
Group ethical norms	0.595**	0.579**	0.988**	0.567**	0.595**	0.904**	0.904**	1	
Classroom Transgressions	-0.820**	-0.827**	-0.433**	-0.783**	-0.849**		-0.433**	-0.463**	1

**. Significantly correlated at the 0.01 level (bilaterally).

vement score was significantly and negatively correlated with classroom deviant behavior, with an r of 0.849. The four dimensions of academic achievement were also significantly and negatively correlated with classroom deviant behavior, and the higher the academic achievement, the less classroom deviant behavior occurred among medical students. The correlation coefficients for the four dimensions of academic performance, task performance, interpersonal facilitation, and social comparison were 0.82, 0.827, 0.433, and 0.783, respectively, and task performance had the strongest correlation with classroom deviant behavior; therefore, hypotheses H1a, H1b, H1c, and H1d passed the test.

Total group ethical norms score and classroom transgressions both also showed a significant negative correlation at the 0.01 level of significance, thus the more consistent medical students' behavior is with group ethical norms, the less classroom transgressions are generated. Command ethical norms had a significant negative relationship with classroom deviance. Descriptive ethical norms showed a significant correlation with classroom deviance, so H2a failed the test, but H2b passed the hypothesis test.

Academic achievement was significantly and positively correlated with group ethical norms. The correlation coefficient was 0.595, the higher the academic achievement, the more students are able to conform to the expectations of group ethical norms, on the contrary, the lower the achievement of medical students, the less they may conform to the expectations of group ethical norms. In addition, academic performance, task performance, interpersonal facilitation, and social comparison also have significant positive correlations with group ethical norms, and their correlation coefficients are 0.595, 0.579, 0.988, and 0.567, respectively, and the correlation between interpersonal facilitation and group ethical norms is stronger than the other three variables. Therefore, H3a, H3b, H3c, and H3d passed the test.

3.3. Multilevel Linear Regression Analysis

In order to explore the relationship between variables in more depth, this paper will test the hypotheses tested by correlation analysis using hierarchical linear regression once again. The control variables for this regression analysis are gender, major and grade, which constitute model one.

3.3.1. Regression analysis of academic achievement and classroom transgressions

As shown in Table 4, Model II incorporates the independent variable academic achievement compared to Model I. R2, an important indicator of multilayer linear regression, reflects the extent to which the independent variable explains the variation in the dependent variable, and the inclusion of the academic achievement variable increases the ability of the independent variable to explain the variation in the dependent variable by 71.9%. As can be seen from the above table, the R2 gradually increased from model one to model two with the increase in the number of independent variables, which were 0.006 and 0.725, respectively; therefore, the predictive power of the model on the dependent variable was increasing. The R2 was 0.719, while P< 0.01, so the ^R2 of model two was statistically significant.

As shown in Table 4, the four dimensions of academic achievement, academic performance, task performance, interpersonal facilitation, and social comparison, all had a significant negative effect on classroom transgressions. Hypotheses H1a, H1b, H1c, and H1d all hold.

Table 4. Regression analysis of academic achievement and classroom transgressions

Variables		Model I	Model II
Dependent Variables	Classroom transgressions		
Control variables	Gender	-.086	-0.071
	Grade		
	Major	-.044	-0.026
Independent variables	Academic performance		-0.234
	Task performance		-0.273
	Interpersonal promotion		-0.288
	Social comparison		-0.131
Fitting degree	R^2	0.006	0.725
	$\hat{}R^2$	0.006	0.719

Sig F change	0.438	0.000

3.3.2. Regression analysis of group ethical norms and classroom transgressions

As shown in Table 5, Model 3 is obtained by adding the independent variable group normative variables to Model 1. The inclusion of the group norm variable increases the explanatory power of the independent variable on the variance of the dependent variable by 18.6%. With the inclusion of imperative ethical norms in the model, the R2 increases gradually from model I to model III, which is 0.006 and 0.192, respectively. therefore, the predictive power of the model on the dependent variable is increasing. The ^R2 is equal to 0.186, while the p is less than 0.01, so the ^R2 of model three is statistically significant.

As seen in Table 5, the negative effect of imperative ethical norms (^ = -0.352, $p < 0.01$) on classroom transgressions was significant. Therefore, hypothesis H2b passed the test and held.

3.3.3. Regression analysis of group ethical norms and academic achievement

See Table 6 for Model IV, which incorporates group ethical norms into the model. The inclusion of the group ethical norms variable increased the explanatory power of the independent variable group ethical norms on the dependent variable academic achievement variance by 38.6%. As can be seen from the above table, the R2 gradually increased from model one to model four with the increase in the number of independent variables, which were -0.006 and 0.380, respectively; therefore, the predictive power of the model on the dependent variable was increasing. The ^R2 is 0.386, while P<0.01, so the ^R2 of model IV is

Table 5. Regression analysis of group ethical norms and classroom transgressions

Variables		Model I	Model III
Dependent Variables	Classroom transgressions		
Control variables	Gender	-.086	-0.072
	Grade		
	Major	-.044	0.048
Independent variables	Descriptive ethical norms		
			-0.352
Fitting degree	R^2	0.006	0.192
	$\hat{}R^2$	0.006	0.186
Sig F change		0.438	0.000

Table 6. Regression analysis of group ethical norms and academic achievement

Variables		Model I	Model IV
Dependent Variables	Group ethical norms		
Control variables	Gender	0.016	-0.013
	Grade		
	Major	0.024	-0.053
Independent variables	Descriptive ethical norms		0.381
	Command ethical norms		0.128
Fitting degree	R^2	-0.006	0.380
	$\hat{}R^2$	-0.006	0.386
Sig F change		0.949	0.000

statistically significant.

As can be seen from the Table 6, descriptive specification (^ = 0.381, p < 0.01) and imperative specification (^ = 0.128, p < 0.01) have a significant positive effect on academic achievement, and hypotheses H3a and H3b are valid.

4. Discussion

4.1. The Basic Situation of medical students' Classroom Transgression

The classroom is supposed to be a place for students to learn and grow up, and this is especially true in the college classroom. For medical students who are about to enter the society, the classroom is especially important for them because they receive not only theoretical knowledge but also skills that can be directly used in the workplace afterwards.

However, according to the survey results, the mean score of classroom transgressions scale is low, and most students' scores are concentrated between 1-2. Medical students participate in classroom transgressions frequently, whether it is organizational or interpersonal transgressions, and students' participation is high. Truancy, desertion, and paid substitution are commonly occurring. Students wander out of the classroom and turn from the main character of the classroom to the audience of the classroom, which seriously affects the teaching management order of the school and the learning efficiency of students.

4.2. Relationship between Academic Achievement, Group Ethical Norms and Medical Students' Classroom Deviant Behavior

This article focuses on the relationship between academic achievement, group ethical norms, and classroom deviance, respectively. In conjunction with the findings of previous studies, and in order to understand the relationship more thoroughly, this paper also explores the relationship between group ethical norms and academic achievement in the specific implementation of the analysis. Drawing on several variables delineated by other researchers' studies on group ethical norms and academic achievement, this paper analyzes in detail the effects of the two on medical students' classroom deviant behavior in different dimensions. A summary of the findings is shown in Table 7.

4.2.1. Academic achievement has a negative effect on classroom deviant behavior

Medical students with higher academic achievement were less likely to engage in classroom deviant behavior, while medical students with lower academic achievement were more likely to engage in classroom deviant behavior and more frequently. In addition, medical students who worked harder in their studies and took initiative to take on challenging tasks were less likely to engage in classroom transgressions than other students. Meanwhile, medical students who are more efficient in their studies, friendly with their classmates, and have better interpersonal relationships are significantly less likely to engage in classroom transgressions than other students who are less efficient in their studies and have poorer interper-

Table 7. Summary of study results

Hypothesis	Results
H1: Academic achievement has a negative effect on medical students' classroom transgressions	Established
H1a: Academic achievement has a negative effect on medical students' classroom transgressions	Established
H1b: Academic performance has a negative effect on medical students' classroom transgressions	Established
H1c: Task performance has a negative effect on medical students' classroom transgressions	Established
H1d: Interpersonal facilitation has a negative effect on medical students' classroom transgressions	Established
H2: Social comparison has a negative effect on medical students' classroom transgressions	Established
H2a: Descriptive ethical norms have a negative effect on medical students' classroom deviant behavior	Not established
H2b: imperative ethical norms have a negative impact on medical students' classroom deviance	Established
H3: Group ethical norms have a positive effect on academic achievement	Established
H3a: Descriptive ethical norms have a positive effect on academic achievement	Established
H3b: imperative ethical norms have a positive effect on academic achievement	Established

sonal relationships.

Therefore, colleges should increase classroom interest, cultivate medical students' interest in learning, and improve their academic achievement through relevant measures, thus effectively avoiding the frequent occurrence of classroom deviant behaviors such as late arrival and early departure, truancy, and paid substitution in college classrooms. When medical students want to reduce their deviant behaviors, they can also improve their achievement by actively participating in learning activities and trying to cooperate with classmates to complete classroom tasks.

4.2.2. Group ethical norms have a negative effect on medical students' classroom deviant behaviors

The higher the level of adherence to the ethical norms of the group to which they belong, the lower the level of involvement in classroom deviance compared to those who are less adherent to the ethical norms. In addition, for classroom deviance, the influence of other members of the group they belong to on their deviant behavior was not significant, and their own involvement in classroom deviance due to the presence of other students around them was not significant. When medical students agree with the ethical norms of the group they belong to, they will voluntarily follow them rather than engage in deviant behavior regardless of the ethical norms. When medical students do not agree with or even oppose the ethical norms of the group they belong to, they will be more inclined to break them, thus producing classroom transgressions.

Therefore, colleges and universities may try to make use of various activities to make medical students understand and accept the ethical norms about classroom, and when they completely agree with the ethical norms, it will help them reduce such deviant behaviors.

4.2.3. Group ethical norms have a positive effect on academic achievement

The results of the analysis showed that the more medical students followed the group ethical norms, the higher their academic achievement. When medical students are surrounded by classmates and friends who follow various ethical norms seriously and insist on not skipping or missing classes, they will also be strongly influenced and tend to become that way. In addition, the medical students' own perception of the ethical norms will also affect his academic achievement, and when they recognizes the ethical norms, they will be less likely to act out of line, take advantage of class time, and improve their academic achievement.

5. Conclusions

In summary, this study concludes that: firstly, academic achievement and group ethical norms have a negative effect on medical students' classroom deviance; secondly, group ethical norms have a significant positive effect on academic achievement; thirdly, two dimensions of group ethical norms, descriptive ethical norms and imperative ethical norms, have a significant effect on academic achievement, and four dimensions of academic achievement, academic performance, task performance, interpersonal facilitation, and social comparison, have a negative effect on medical students' classroom deviance; fourthly, descriptive ethical norms have a negative effect on medical students' deviance, while imperative ethical norms do not have a significant effect on classroom deviance.

Based on the findings of this paper, medical students' transgressions mainly arise from the absence of institutions and ethical norms or the failure to seek avenues of social identity.The group norms of medical students are a special category of ethical norms of their group and will exist in the form of professional ethics of doctors after they graduate and become doctors. The agreed-upon ethical norms formed by the interactions among medical students and the clear rules and regulations jointly established within the group will have an effect on medical students' behavior. When medical students are in a group, even individuals who do not share the culture of the group may act in accordance with the values of the group because they have been interacting with the members of the group for a long time.

Ethical norms have a negative effect on medical students' classroom deviant behaviors. When me-

dical students agree with the ethical norms of the group they belong to, they will voluntarily follow them rather than engage in deviant behavior regardless of the ethical norms. At the same time, ethical norms have a positive effect on academic achievement. The more medical students followed the ethical norms, the higher their academic achievement. Therefore, medical colleges should try to make use of various activities to make medical students understand and accept the ethical norms about medicine, and when they completely agree with the ethical norms, it will help them reduce such deviant behaviors and enhance academic achievement.

The medical profession is a discipline unlike any other. The disciplinary mission of the medical profession is to train qualified medical personnel. Behind its disciplinary education lies the ethical obligation to save lives and to enhance human health and well-being. For medical students, the observance of group ethics is not a mere category of compliance with student codes of conduct as it is for students of other professions. The group ethics of medical students are in line with the professional ethics of medical professionals. By strengthening medical students' acceptance of their group ethics through education and other means, medical schools not only help to reduce their classroom misbehaviour and improve their academic achievement, but also train them to internalise the ethics of the medical profession as part of their own ethics at an early stage, thereby providing better qualified medical personnel for the advancement of human welfare.

Although this paper obtained more satisfactory conclusions, there are still many shortcomings. First, due to the covid-19 pandemic, the distribution of paper questionnaires was not possible during the survey. Although it is easier and more convenient to fill out and organize the process by using online distribution of questionnaires, the reliability of the data may not be as high as field distribution of questionnaires. Second, this study only discussed the influence of academic achievement on medical students' classroom deviance, the influence of group ethical norms on medical students' classroom deviance, and the influence of group ethical norms on academic achievement, but did not investigate the relationship between academic achievement, group ethical norms, and classroom deviance as a whole, such as whether academic achievement plays a mediating role between group ethical norms and medical students' classroom deviance. Third, this study failed to combine quantitative and qualitative research approaches. In this paper, only quantitative research was used to conduct descriptive analysis, correlation analysis, and multilayer linear regression analysis on the data in order to test the hypotheses and obtain research conclusions.

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