

# *Research on the Characteristics and Correlation between the Emotional Intelligence and Leadership Practice of Medical College Students*

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**Abstract**—The purpose of this research is to explore the relationship between emotional intelligence and leadership practice of Medical College students, and to provide theoretical basis for cultivating excellent talents in the new era. Using the Emotional Intelligence Scale and the Student Leadership practice Scale, 2 980 medical college students were selected for research through group testing. The result shows that the scores of emotional intelligence ( $M = 438.06$ ,  $SD = 46.51$ ) and leadership practice ( $M = 110.38$ ,  $SD = 15.48$ ) of medical college students were on the middle or high level. There was a significant positive correlation between the total score of emotional intelligence and the total score of leadership practice ( $r = 0.457$ ,  $P < 0.01$ ). There was no significant difference in the scores of emotional intelligence in gender ( $t = -0.059$ ,  $P > 0.05$ ), but there was significant difference in the scores of leadership practice ( $t = 3.125$ ,  $P < 0.01$ ). There was no significant difference in the scores of emotional intelligence in students' origin ( $t = -1.870$ ,  $P > 0.05$ ), but there was significant difference in the scores of leadership practice ( $t = -2.983$ ,  $P < 0.01$ ). There was no significant difference in the scores of emotional intelligence and leadership practice between subject types ( $p > 0.05$ ). Emotional intelligence can positively predict leadership practice ( $t = 26.647$ ,  $P < 0.001$ ). Therefore, emotional intelligence is closely related to leadership practice, which can be increased by improving students' emotional intelligence.

**Keywords**—College Students; Emotional Intelligence; Leadership practice; Correlation

## I. INTRODUCTION

In recent years, the research on emotional intelligence has become more and more popular at home and abroad. Emotional Intelligence, referred to as EQ, was first proposed by Mayer and Salovey. It refers to the ability to accurately perceive, evaluate and express emotions, to erupt and produce emotions that promote thinking, to understand emotions and emotional knowledge, and to regulate emotions to promote

emotional and intellectual development<sup>[1]</sup>.

With the development of higher education, colleges and universities pay more and more attention to the cultivation of students' leadership ability. The Student Leadership Challenge Model is developed by Kouzes and Posner for the evaluation and cultivation of student leadership. It aims to help students develop their leadership potential and lead others to outstanding achievements<sup>[2]</sup>. The student leadership challenge model is based on the relationship to understand leadership. It defines leadership as a relationship between leaders and followers<sup>[3]</sup>. The student leadership practice self-assessment scale is developed on the basis of the student leadership challenge model<sup>[4]</sup>.

George's research shows that there is a close relationship between emotional intelligence and leadership<sup>[5]</sup>. Palmer et al. examined the relationship between emotional intelligence and effective leadership, and found that emotional intelligence can significantly predict the effectiveness of leadership<sup>[6]</sup>. Wu Xiaomei's research also found that leader's emotional intelligence has a significant predictive effect on leader's effectiveness<sup>[7]</sup>. At present, the research on College Students' emotional intelligence mainly focuses on mental health, adaptation to the environment, subjective well-being, coping style and so on. There is a lack of research on the relationship between college students' emotional intelligence and leadership practice. The purpose of this study is to explore the characteristics and relationship between emotional intelligence and leadership practice of Students in medical colleges and universities, so as to improve students' emotional intelligence level, increase their leadership practice, and provide reference basis for colleges and universities to better cultivate high-quality leaders in the new era.

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**II. METHODS**

*A. Participants*

A total of 2980 students of Jiangxi University of Traditional Chinese Medicine in 2017 were selected to conduct a questionnaire survey. 2696 valid questionnaires were collected, with an effective rate of 90.47%. There were 1067 boys (39.6%) and 1629 girls (60.4%); 569 only children (21.1%) and 2127 non-only children (78.9%); 1999 rural students (74.1%) and 697 urban students (25.9%); 285 students were major in literature and history (10.6%) and 2411 students were major in science and engineering (89.4%).

*B. Measures*

*1) Emotional Skills and Competence Questionnaire (ESCQ)*

The Emotional Skills and Competence Questionnaire (ESCQ) was developed by Reuven Bar-On [8] in 1997. There are 133 items in this scale. The content structure is consistent with Baron's emotional intelligence structure model. It can be divided into five dimensions: individual component, interpersonal component, adaptive component, stress management and general mood. The scale was scored at 5 points, ranging from 1 (very inconsistent) to 5 (very consistent). The higher the score, the higher the individual's EQ. EQ-i has good reliability and validity. The Crombach  $\alpha$  coefficient of the scale in this study is 0.938.

*2) Leadership practice Scale*

This research used the scale of students' leadership practice, which was compiled by Kouzes et al. [9] in 2006. There were 30 items in the scale, which included five dimensions: lead by example, inspiring a vision, challenging the status quo, making people act and inspiring people. Each item focuses on the frequency of specific leadership behaviors. The scale was scored at 5 points, ranging from 1 (never) to 5 (always). The higher the score, the higher the frequency of students' leadership practice. SLPI-Self has good reliability and validity. The Crombach  $\alpha$  coefficient of the scale in this study is 0.938.

*3) Statistical Analysis*

SPSS20.0 software is to be selected for statistical analysis of this study, using the methods of descriptive statistics, independent sample T test, analysis of variance, correlation analysis, regression analysis and others.

**III. RESULTS**

*A. Common method deviation test*

Using Harman's single factor test [10], exploratory factor analysis was carried out on all questionnaires. The results showed that there were 27 factors whose eigenvalues were greater than 1. The first common factor explanation rate was 16.02%, which was less than 40% of the critical criteria, indicating that there was no serious common method deviation in this study.

*B. General Characteristics of Emotional Intelligence and Leadership practice of Students in Medical Colleges*

TABLE I shows that the average score of emotional intelligence of Students in medical colleges is 438.06 (SD=46.51), which is higher than 399.00. The average scores of individual, interpersonal, adaptive, stress management and general mood are also slightly higher than their theoretical median values, indicating that the emotional intelligence of Students in medical colleges is better than their theoretical median. The score is on the middle or high level, but it does not show low EQ.

TABLE II shows that the average score of leadership practice of Students in medical colleges is 110.38 (SD = 15.48), which is higher than the midpoint value of 90.00. The average score of five dimensions of example, shared vision, challenge status quo, making people walk and inspiring people are also slightly higher than the theoretical median. It shows that the scores of leadership practice of Students in medical colleges are in the middle to high level.

TABLE I. DESCRIPTIVE STATISTICS OF EMOTIONAL INTELLIGENCE OF STUDENTS IN MEDICAL COLLEGES (N=2696).

Statistics	Emotional Intelligence's Total Score	Individual Components	Interpersonal Component	Adaptive Component	Stress Management	General Mood
$\bar{x} \pm s$	438.06±46.51	131.62±14.63	104.18±11.19	86.12±11.38	59.42±9.61	56.72±7.57
Midpoint	399.00	120.00	87.00	78.00	54.00	48.00
Title Number	133	40	29	26	18	16

TABLE II. DESCRIPTIVE STATISTICS OF LEADERSHIP PRACTICE OF STUDENTS IN MEDICAL COLLEGES (N=2696).

Statistics	Leadership Practice's Total Score	Lead by Example	Inspiring Vision	Challenging the Status Quo	Making People Act	Inspiring People
$\bar{x} \pm s$	110.38±15.48	22.32±3.35	21.75±3.78	21.11±3.84	22.60±3.02	22.60±3.49
Midpoint	90.00	18.00	18.00	18.00	18.00	18.00
Title Number	30	6	6	6	6	6

TABLE III. DIFFERENCES OF EMOTIONAL INTELLIGENCE AND LEADERSHIP PRACTICE IN DEMOGRAPHIC VARIABLES AMONG STUDENTS IN MEDICAL COLLEGES

	Factor	Emotional Intelligence	t	Leadership practice	t
Gender	Male(N=1067)	438±49.68	-0.59	111.53±15.89	3.125***
	Female(N=1629)	438.11±44.33		109.63±15.17	

Cont. to TABLE III						
Student Origin	From rural areas (N=1999)	437.03±45.32	-1.870	109.86±15.27	-2.983***	
	From urban areas (N=697)	441.03±49.70		111.89±16		
Subject types	Literature and History	439.41±47.13	0.516	109.73±14.98	-.751	
	Science and Engineering	437.90±46.45		110.46±15.54		

Note: \*\*P<0.05, \*\*\*P<0.01, \*\*\*\*P<0.001

TABLE IV. ANALYSIS OF CORRELATION BETWEEN EMOTIONAL INTELLIGENCE AND LEADERSHIP PRACTICE OF MEDICAL COLLEGE STUDENTS

Item	Emotional Intelligence's Total Score	Individual Components	Interpersonal Component	Adaptive Component	Stress Management	Individual Components
Leadership Practice's Total Score	.457**	.422**	.477**	.361**	.245**	.432**
Lead by Example	.415**	.374**	.429**	.341**	.239**	.38**
Inspiring Vision	.429**	.412**	.439**	.336**	.211**	.42**
Challenging the Status Quo	.421**	.414**	.411**	.34**	.22**	.389**
Making People Act	.343**	.281**	.372**	.274**	.218**	.329**
Inspiring People	.404**	.373**	.457**	.302**	.198**	.384**

Note: \*\*P<0.05, \*\*\*P<0.01, \*\*\*\*P<0.001

*C. Differences of Emotional Intelligence and Leadership practice in Demographic Variables among Students in Medical Colleges*

TABLE III shows that there are no significant differences in the scores of emotional intelligence among students in medical colleges in terms of gender, origin and subject type ( $p > 0.05$ ). The scores of leadership practice of Students in medical colleges are significantly different in gender ( $t = 3.125, P < 0.01$ ). The scores of leadership practice of boys are significantly higher than those of girls. There are also significant differences in students' origin of leadership practice ( $t = -2.983, P < 0.01$ ). The score of leadership practice of urban students in college is significantly higher than that of rural students. However, there was no significant difference in the scores of leadership practice among subjects ( $t = -.751, P < 0.01$ ).

*D. Analysis of Correlation between Emotional Intelligence and Leadership Practice of Medical College Students*

TABLE IV shows that there is a significant positive correlation between the total score of emotional intelligence and the total score of leadership practice of Students in medical colleges ( $r = 0.457, P < 0.01$ ). Among them, there is a significant positive correlation between the dimensions of emotional intelligence and the dimensions of leadership practice.

*E. Regression Analysis between Emotional Intelligence and Leadership practice*

TABLE V shows that the scores of emotional intelligence are used as predictive variables, and the scores of students' leadership practice are used as dependent variables. The regression analysis shows that emotional intelligence can predict leadership practice positively ( $t = 26.647, p < 0.001$ ). The regression equation is  $\hat{y} = 43.78 + 0.152x$

TABLE V. THE REGRESSION ANALYSIS BETWEEN EMOTIONAL INTELLIGENCE AND LEADERSHIP PRACTICE

Dependent Variable	Predictor Variable	B	$\beta$	t	R <sup>2</sup>
Leadership practice	Emotional Intelligence	.152	.457	26.647***	.209

Note: \*P<0.05, \*\*P<0.01, \*\*\*P<0.001

**IV. DISCUSSION**

This study found that the overall score of emotional intelligence of Students in medical colleges was in the middle to high level, and did not show low EQ, which was consistent with Huang Shuangquan's research results [11]. With the improvement of college students' cognitive level and the stabilization of their personality, they have a better understanding of emotions, so that they can deal with emotional information from themselves and the outside more reasonably and effectively. The results show that there are no

significant differences in emotional intelligence in gender, origin and subject type. At present, male and female college students can receive equal attention from the society, schools and families in their growth process, and the concept of equality between men and women is deeply rooted in the hearts of the people, so they will not show great differences in the level of EQ. There is no significant difference in emotional intelligence between urban college students and rural college students in their learning environment, experience and interaction with their classmates. The reason for the non-significant difference in subject types may be that the subjects of this study are only students. They have not begun

to study professional knowledge in depth. Secondly, colleges and universities attach equal importance to the quality and ability of students of different disciplines.

The study found that the average score of leadership practice of students in medical colleges was only in the middle level, and did not show a high level of leadership practice, which was consistent with Tao Siliang's research results<sup>[12]</sup>. This shows that college students do not show high leadership practice when they first enter the university, which requires colleges and universities to actively carry out leadership education and practice activities. The results show that there are significant differences in students' leadership practice in gender, but as for student origin there are no significant differences in subject types. The score of male students' leadership practice is significantly higher than that of female students, which may be related to the traditional social concepts and the recognition of social roles in male-dominated outside and female-dominated inside. Male students should be extroverted and brave, while female students are relatively introverted and passive. Compared with rural students, urban students can contact and participate in more social affairs. Rich family conditions and excellent human resources can make urban students more flexible in cooperating, communicating and coordinating with others. No matter the students of literature and history or science and technology, colleges and universities attach equal importance to the cultivation of their leadership and other qualities, and do not differentiate between them. Therefore, there is no significant difference in students' leadership practice among the subject types.

Emotional intelligence of students in medical colleges has a significant positive correlation with their leadership practice. Emotional intelligence can predict their leadership practice positively. This is similar to the results of Herbst<sup>[13]</sup>, Kerr and Garvin<sup>[14]</sup> et al., emotional intelligence helps to improve leadership behavior and effectiveness. Individuals with high EQ can recognize their own and other people's emotional states, and can effectively control their bad emotions and maintain positive emotions, which helps individuals to conduct interpersonal communication, self-management and maintain mental health<sup>[15]</sup>. Leadership practice includes such dimensions as setting an example and challenging the status quo, so students with high EQ will have more leadership practice. This can further remind us that by improving students' EQ level, they can effectively increase their leadership practice. This study found that there are still some students with lower emotional intelligence level and leadership practice. It is necessary for these students to carry out timely education and learning on EQ and leadership. It also reflects that this study is very necessary. At present, the cultivation of students' emotional intelligence and leadership quality should be paid attention to by colleges and universities. Finally, there are still some shortcomings in the process of this

study. The single type of school and lack of comprehensiveness in this study may lead to deviations in the research results. In future studies, we should diversify the source of samples, increase the number of subjects, and avoid the limitations of the results.

## V. CONCLUSION

In conclusion, the scores of emotional intelligence and leadership practice of medical college students are in the middle to high level. Emotional intelligence has a significant correlation with college students' leadership practice. Emotional intelligence can significantly predict college students' leadership practice. Therefore, we can increase students' leadership practice by improving their emotional intelligence.

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