The relationship between emotional intelligence, achievement motivation, mental health, and social achievement of College students in Shanxi, China

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Abstract: ***Background:*** *The social achievement of college students has attracted wide attention due to its novel viewpoints and unique functions. More and more researchers have delved into the concept and functions of social achievement. This paper aims to further clarify the characteristics of college students' social achievement based on existing research and explore its relationship with emotional intelligence, achievement motivation, and mental health.* ***Objectives:*** *This study utilized emotion intelligence scales and achievement motivation scales with high reliability and validity. Suveys and measurements were conducted on 541 college students, and data analysis was carried out using SPSS statistical software.* ***Results & Conclusion:*** *The social achievements of college students will be affected by factors such as major categories, grades, and whether they serve as student leaders. The students who served as student leaders have significantly higher social achievements than ordinary students, and there is no significant difference in the social achievement levels of male and female college students. College students' social achievement is significantly positively correlated with emotional intelligence, significantly positively correlated with achievement motivation, and not correlated with mental health. College students' emotional intelligence has a significant predictive power on social achievement.*

Keywords: Emotional Intelligence, Achievement Motivation, Mental Health, Social Achievement

1. INTRODUCTION

With the continuous research and exploration of the connotation and extension of emotional intelligence by domestic and foreign scholars, the theory of emotions has been further improved and developed. To sum up, emotional intelligence mainly refers to the individual psychological characteristics that facilitate the successful management of emotional responses and the utilization of emotional information to address problems. Although the theory of emotional intelligence has not been around for long, its development and related research are relatively recent. Previous studies have almost unanimously concluded that emotional intelligence greatly contributes to individual development. Daniel Goleman(1995) highlighted in his book *Emotional Intelligence* that emotional intelligence is crucial in determining a person's societal impact. Emotional intelligence significantly impacts the psychological state, cognitive style, and behavioral performance of college students. Additionally, an individual's social achievement results from a combination of various factors, with achievement motivation and intelligence level having a direct impact on it. Hence, conducting practical discussions and research on these issues is imperative. In China, although some scholars have explored the emotional intelligence of college students, there is a lack of empirical research on the relationship between emotional intelligence, mental health, achievement motivation, and social achievement among college students. This study aims to investigate the roles and influences of emotional intelligence, achievement motivation, and mental health on the development and growth (social achievement) of college students. By examining these factors, the study aims to provide new insights for talent cultivation in colleges and universities.

2. LITERATURE REVIEW

2.1 Emotional Intelligence

Emotional Intelligence (EI), as introduced by Barbara Leuner in 1966, is a multifaceted concept with various perspectives. According to Salovey and Mayer (1997), EI encompasses the capacity to perceive, evaluate, and express one's own and others' emotions. It involves understanding and regulating emotions, utilizing emotional knowledge for emotional and intellectual development, and applying emotional information to enhance cognitive abilities. Goleman (1998) defines emotional intelligence as the ability to recognize emotions, manage one's emotions, demonstrate self-motivation, and navigate emotions in interpersonal relationships. Bar-On (1997) describes it as a cumulative set of emotional, personality, and interpersonal abilities influencing an individual's capability to cope with environmental demands and stresses. Xu Yuanli (2004), a Chinese scholar, emphasizes the capacity to process emotional information and address challenges from a psychological perspective. Lu Jiamei (2005) suggests that emotional intelligence is an individual's capability to effectively accomplish a specific emotional task or utilize emotion as the subject of operation.

Empirical studies by researchers such as Petrides & Fumham (2001), Ciarrochi Deane & Anderson (2002) have shown that four factors contribute to the overall analysis of emotional intelligence: A. Emotional Perception: This involves discerning emotions from one's own physiological state, emotional experience, and thinking. B. Emotional Understanding: This factor includes the ability to label emotions, recognize the relationship between emotion and language expression, understand the meaning conveyed by emotions, comprehend complex emotions, and recognize the potential for emotional transformation. C. Emotional Management: Encompassing the ability to accept emotions with an open mind, maturely promoting or eliminating certain emotions based on received information and judgments, and monitoring emotions related to oneself and others. It also involves relating emotions to oneself and others. D. Emotion Utilization: This factor involves the ability of emotions to promote the thinking process, influencing the direction of information attention, promoting judgment and memory processes related to emotions, prompting individuals to think from multiple perspectives, and enhancing problem-solving abilities.

The exploration of critical thinking in China began in the 1980s, with scholars advocating for its gradual integration and active application. Fu Yiyao (2004) identifying four widely recognized elements: perceiving one's own and others' emotions, managing emotions, using emotions for decision-making, and understanding emotions. Liu Yanmei (2008), focusing on Chinese college students, revised the Schutte emotional intelligence scale, defining emotional intelligence as encompassing self-emotion assessment, self-emotion regulation, assessment of others' emotions, regulation of others' emotions, and the utilization of emotions. Li Tao's (2004) survey in Wuhan revealed a significant correlation between emotional intelligence and mental health, as well as life event stress. Zhang Huihua and Wang Hui (2011), using meta-analysis methods, explored the connection between individual emotional intelligence and workplace performance, indicating that emotional intelligence effectively predicts job performance. Huang Shuangquan (2011) focused on college students, finding a correlation between emotional intelligence, coping styles, and subjective well-being. In summary, numerous domestic studies concentrate on the components of emotional intelligence and its correlation with psychological and social behavior. However, limited research exists on the impact of emotional intelligence on college students' learning behavior. Consequently, further investigation is essential to explore the relationship between emotional intelligence and the social achievement of college students.

2.2 Achievement Motivation

Achievement Motivation, a pivotal social force, has garnered global scholarly attention, each contributing unique perspectives. Murray (1938) in "Discussion on Personality" identified achievement as a fundamental human drive for success, positing an inherent instinct in individuals to pursue it. Sun Yuming (1993) defined it as the capacity to excel in challenges, achieve self-transcendence, and fulfill aspirations through competition. McClelland et al. (1961) formalized it as the drive to compete against personal benchmarks, fostering a desire for success. Taiwanese scholars (1994) linked it to Chinese culture, distinguishing self-oriented and other-oriented motivation. Zhu Zhixian (1989) discussed it in educational and management psychology, emphasizing success in study and work. Ye Renmin and Kunt A. Hagtvet (1992) characterized it as positive or negative expectations tied to specific environments. Zhang Chunxing (1994) posited intrinsic drive as achievement motivation, fostering a continuous pursuit of success. It involves an internal driving force, the ability to overcome setbacks, and a perfected psychological tendency, signifying a constant self-surpassing process. Peng Danling (2009) emphasized individuals exhibit it in challenging activities they find personally significant. The complexity is influenced by subjective factors and objective aspects, reflecting the maturation of research in this field.

In the realm of teaching theory, the emphasis on cultivating critical thinking skills has prompted significant interest among researchers in the measurement of achievement motivation. Scholars have explored two primary methods for assessing success motivation: the Thematic Apperception Test (TAT) and the Self-report Scale Method.

I. Thematic Apperceptibility Test (TAT):

The Thematic Apperception Test, introduced by Murray in 1938, serves as a tool to gauge individual achievement motivation and psychological states. Despite its historical use by scholars like McCleland and Atkinson, TAT has drawbacks such as a complex operation process, limited interpretation of results, and challenges in statistical quantification. Consequently, research on this method lacks depth and specificity, rendering it of minimal practical significance.

II. Self-report Scale Method:

1） Academic Achievement Motivation Scale:

Developed by Taiwanese scholars Yu Anbang and Yang Guoshu in 1989, this scale consists of two subscales. The first measures self-oriented achievement motivation, reflecting the pursuit of self-worth realization, with a reliability coefficient of 0.87. The second assesses social orientation achievement motivation, focusing on others and social evaluation, boasting a reliability coefficient of 0.91. While the subscales capture various psychological and behavioral aspects, the total scores indicate overall achievement motivation, where higher scores denote stronger motivation.

2） Achievement Motivation Scale:

Compiled by Norwegian psychologists Gjesme and Nygard in 1970, this scale, revised multiple times, gained widespread use. The Chinese version, translated by Ye Renmin and KuntA. Hagtvet in 1992, was evaluated and confirmed as reliable and valid for domestic use. The scale measures achievement motivation from two dimensions: the pursuit of success and the avoidance of failure. Comprising 30 items, each dimension has 15 questions with internal consistency coefficients of 0.83 and 0.84, respectively. The scale effectively reflects subjects' achievement motivation levels in both dimensions, offering valuable insights to guide individual achievement behavior. This study utilizes this scale based on research requirements.

Mei Yun, Cheng Kexin, Liu Jianping, and Ye Baojuan (2019) found that emotional intelligence and achievement motivation are significantly positively correlated. College students with higher emotional intelligence have higher achievement motivation. play an intermediary role. Studies abroad have also shown that individuals with higher emotional intelligence have higher achievement motivation (Lowe, Ang, & Loke, 2011; Naik & Ahirrao, 2018). In Cai Shu's (2015) study, achievement motivation appeared as a moderating variable, which moderated the relationship between emotional intelligence and college students' academic procrastination. The research on emotional intelligence and achievement motivation needs to be further explored and verified.

2.3 Mental health

The World Health Organization, in 1946, defined mental health as attaining the optimal state of mind, maximizing potential. Maslow (1956) identified ten standards for mental health, emphasizing the satisfaction of basic needs and the cohesion of personality. Domestic scholars such as Lin Chongde and Zhang Houcan have actively contributed to the discourse on mental health, though a unified definition remains elusive. In essence, mental health encompasses an individual's physical and psychological aspects. In a healthy state, one can unlock their full potential, maintain a robust personality, adeptly navigate social interactions, foster reasonable interpersonal relationships, sustain a positive and optimistic mental state, and exhibit stability and coordination. This study synthesizes these perspectives to define mental health as the optimal state of an individual's mind, facilitating effective adaptation to their environment.

Changwon Son (2020) revealed a 71% increase in stress and anxiety among college students due to the outbreak. Soria Krista M and Horgos Bonnie (2021) reported a rise in major depressive disorder and generalized anxiety disorder, with over 90% of university presidents expressing concern about student mental health during the pandemic. Oswalt Sara B (2020) observed an increasing willingness among college students to seek mental health services. Wang Licong (2019) identified friendship, career choice, and emotional distress as primary concerns. Li Shengnan, Gao Dahong et al. (2020)

reported 18.1% of post-00 college students experiencing negative emotions. Liang Lijun, He Wenzhi, et al. (2021) found higher depression scores among female college students due to the epidemic. Various demographic variables, societal, school, and family factors, as well as personal characteristics, influence mental health. Feng Yuanyuan (2020) emphasized the impact of school's focus on mental health, family economic background, and stress tolerance on students' mental well-being. Huang Tao et al. (2020) linked internet addiction to predicting college students' mental health positively. Brenqimuge (2020) pointed out the influence of family economic status, family atmosphere, and parenting on college students' mental health.

SitiAishah Hassan, Ph.D (2010) found that the level of emotional intelligence of individuals will have a certain impact on their own physical symptoms, anxiety symptoms, social dysfunction and depression symptoms. He Anming, Bao Cancan, Hui Qiuping (2020) also found that the level of emotional intelligence has a significant predictive effect on the mental health of college students. Cai Dan (2020) found that emotional intelligence has a moderating effect on the influence of mindfulness on anxiety in college students.

2.4 Social Achievement

Janovics and Christiansen (2001) found a moderate correlation (r = 0.22) between emotional intelligence and job performance in a sample of 176 graduate students (70% women) using the MSCEIT tool. Notably, job performance correlated significantly with only two of the four emotional intelligence factors: 0.14 for emotional perception and 0.30 for emotional understanding. This is surprising as higher-ranking factors in the four-factor model typically involve less cognitive ability. In a regression equation with cognitive ability and big five factors as covariates, adding emotional intelligence only increased job performance explanation by 3%. Dulewicz and Higgs (2000) analyzed a seven-year study with 58 managers in the UK and Israel, measuring emotional intelligence, IO, and management competence. Emotional intelligence explained 30% of job promotion variation. Self-reported cognitive ability and emotional intelligence together explained 52% of the criteria variance, but the study lacked detailed emotional intelligence assessment. Bachman.Stein et al. (2000) hypothesized emotional intelligence's role in bank staff success. In a sample of 36 bank employees, top performers showed higher emotional intelligence than the North American population, excelling in problem-solving. Another study with 34 bank employees revealed high-performing individuals scored lower on EO-I subscales (except empathy and impulse control), suggesting potential IQ and personality effects.

Achievement motivation is the internal psychological drive that propels individuals not only to undertake tasks but also to strive for higher standards in work they deem significant. A study by Liang Liping and Han Xiangming (1998) delved into the connection between achievement motivation and the behavior of college students. The research revealed that these students harbor elevated expectations for success while experiencing fewer concerns about failure, indicating a weak negative achievement motivation. Interestingly, there's no discernible difference between college boys and girls in terms of their inclination to pursue success or avoid failure. Correlating college students' achievement motivation with academic performance unveiled a positive, albeit low, correlation between high achievement motivation and personal excellence in achievements. Conversely, individuals with low achievement motivation displayed a positive yet low correlation with poor personal achievements (considering those with Mf averages one standard deviation higher than the overall average). Notably, there is a gap in Chinese research exploring the relationship between emotional intelligence and social achievement.

3. STUDY DESIGN

Studies conducted a survey with a focus on inference the relationship of emotional intelligence, achievement motivation and mental health on social achievement of students in some universities in Shanxi, China. This study describes the relationship between emotional intelligence, achievement motivation and mental health and social achievement. The study also looked in detail the relationship of other relevant factors of the students' and their social achievement. This study was also conducted to determine the best predictors of social achievement. The descriptive research, T test, Anova,correlation analysis and regression analysis were adopted by the researcher to achieve this purpose of the study.

3.1 Population/ sampling

The subjects involved in this study were an University located in Shanxi province, China which is a comprehensive universitiy with a variety of majors in science, medicine, and arts et al. Afterwards, this study selected three representative majors of science, management, and arts, and then used a cluster sampling technique and obtained 596 students from 2000 students who were willing to participate in this study. After distributing the questionnaires, 541 valid questionnaires were recovered, with an effective rate of 90.8%. The characteristics of the subjects are presented in Table 1.

Table 1 : Respondents' Demographics

Demographic Factors	***Aspect 1: Gender***		***Aspect 2: Student status***		***Aspect 3: Major***		
	Male	***Female***	***Yes***	***No***	***Science***	***Management***	***Arts***
Frequency	257	284	204	337	176	218	147
Percentage(%)	47.5	52.5	37.7	62.3	32.6	40.3	27.1

3.2 Instrumentation

3.2.1 Emotional Intelligence Scale (EIS)

EIS was compiled by Schutte et al. (1998) based on Mayer and Salovey's 1990 theory of emotional intelligence. It used the form of Likert five-point scale and asked participants to self-assess. The scale has 33 items, including four subscales, namely Emotions Perception (EP), Managing Self Emotions (MSE), Managing Others' Emotions (MOS), and Emotions Utilization (Emotions Utilization, EU).) four scales. It can be used to assess people's ability to perceive, understand, express, control and manage the emotions of themselves and others. Scott et al tested this scale on 328 men and women in a community. When investigating the internal consistency reliability of the test, the α coefficient estimation method was used, and the internal consistency coefficient of the community sample was measured to be 0.90. The test-retest reliability obtained after two weeks was 0.78. Wang Caikang (2002) revised the EIS into Chinese, and his research shows that the Chinese version of EIS has good reliability and validity, and the a coefficient is 0.83. In this study, some college students were selected to make predictions before the official test, and the reliability of EIS was tested again, and its a coefficient reached 0.852. The EIS uses a five-point scale. Among them, 5, 28, and 33 are reverse scoring, and the total score is 165 points. The higher the score, the higher the level of emotional intelligence, and vice versa, the lower the levelof emotional intelligence.

3.2.2 The Achievement Motive Scale (AMS)

AMS was compiled by TGesme and R.Nygard, psychologists at OSLO University in Norway in 1970. The Chinese revised version was revised by Ye Renmin, with a total of 30 questions, divided into two parts, each with 15 questions, respectively measuring the motivation to pursue success (MS) and motivation to avoid failure (Maf). The scale uses 4 points to score, 3 points for completely consistent with your own situation, and 0 points for completely inconsistent with your own situation. The achievement motivation score is composed of the motivation to pursue success minus the motivation to avoid failure score. The higher the score, the stronger the achievement motivation, and vice versa, the weaker the achievement motivation. The split-half reliability of the scale is 0.77 ($P<0.01$), the validity is 0.58 ($P<0.01$), and the internal consistency coefficient is 0.68 (Ye Renmin, 1992).

3.2.3 Measures of Social Achievement

Give the definition and connotation of social achievement, unify the standard, adopt the method of combining peer evaluation and self-evaluation, let the classmates rate themselves and other students according to the situation they have mastered, and use a 7-point system to think that a classmate's social achievement 7 points for very high, 5-6 points

for high, 4 points for general, 2-3 points for low, and 1 point for very low (see the table 2 for specific scoring standards). Finally, take the average for the final score. The higher the score, the higher the social achievement, and vice versa, the lower the social achievement.

Table 2 : Social Achievement Scoring Standards for College Students

very low		*Low*	*generally*	*high*		*very high*
1	2	3	4	5	6	7

3.2.4 Mental Health Scale (Symptom Self-Rating Scale: SCL-90)

Symptom Self-Assessment Scale-SCL90 is one of the most famous mental health test scales in the world. Its original version was developed by Derogaitis.L.R. on the basis of Hopkin's Symptom Checklist (HSCL 1973) compiled by him. It was compiled in 1975. On the basis of the version commonly used in China, Grace formulated the latest norms for different age groups, and combined the obscure Difficult explanations are changed to easy-to-understand explanation systems suitable for Chinese people. The nine factors of the test are: somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, and psychosis. It mainly reflects the level of psychological distress of the individual. The scale consists of 90 self-rating items. The minimum score is 90 points, and the lower the score, the lower the level of psychological distress; otherwise, the higher the level of psychological distress.

3.3 Procedure

Data were collected by group administration over multiple testing sessions. Prior to college implementation of the study, approval was obtained from the principal and school personnel (teachers, guidance counsellors, and/or resource teachers). School personnel provided students with a email outlining information about the project, and students consent involved signing a Consent form. At the beginning of the first session， the researchers introduced themselves to thestudents, described the study, and explained any potential risks. Students were asked to provide their consent by filling out a consent form. The questionnaire packages were handed out to all students who volunteered to participate. Researchers provided instructions on how to complete the ELS, AMS and SCL-90 which students completed during the first session. The researchers answered students' questions about the activities and to those pertaining to testing format.

3.4 Data Analysis

All data in this study were analyzed using the SPSS version 27.0 application. The first analysis was performed to find descriptive statistics (mean, standard deviation), then tested the significant difference of the data by using T test and ANOVA. While, the third analysis was using Pearson correlation to assess the relationship between emotional intelligence, achievement motivation, mental health, and social achievement. A multiple regression analysis was used to examine the strongest predictor of emotional intelligence, achievement motivation, and mental health with social achievement. The significance level used was 0.05.

4. RESULTS & DISCUSSION

4.1 Descriptive Analysis of the SA scores of college students in different majors

Let's first look at the scores of the three majors categories on factors such as emotional intelligence, achievement motivation, mental health and social achievement. Table 3 shows that there are differences in the scores of emotional intelligence, achievement motivation, social achievement, academic achievement and mental health among the three professional categories. Arts students have the highest average emotional intelligence score; followed by science students; science students have the highest average achievement motivation score, and arts students have the lowest average score; arts students have the highest average score of mental health, indicating that arts students have a higher level of psychological distress ; The average social achievement score of management class is the highest, followed by science students. Most importantly, this table shows that students in different majors score differently in SA. The Management has the highest SA average score, and the Arts has the lowest.

Table 3 :The mean and standard deviation of the scores of college students in different major categories on each variable（M±SD）

Variable	*Science*	*Management*	*Arts*
Emotional Intelligence	125.8±14.04	125.76±12.51	128.72±10.8
Achievement Motivation	9.21±12.572	8.75±12.392	5.95±10.344
Mental Health	136.79±47.49	138.62±56.64	138.84±51.88
Social Achievement	*5.156±0.337*	*5.21±0.457*	*5.14±0.402*

And then, in order to continue to investigate whether there are significant differences in professional categories in the social achievements of college students, a single factor analysis of variance was performed on the scores of students in the three professional categories in terms of emotional intelligence, achievement motivation, mental health, and social achievement. The results are shown in Table 4.

Table 4 ： One-way ANOVA of emotional intelligence, achievement motivation, mental health and social achievement among college students in different major categories

Variables	*Mean*	*SD*	*F*	*Sig.*
EI	127.51	11.911	1.060	0.386
AM	9.28	11.643	0.942	0.464
MH	135.79	45.409	2.822	0.010
SA	5.14	0.402	7.455	0.000

Notes: EI = Emotional Intelligence; AM = Achievement Motivation; MH = Mental Health; SA = SocialAchievement

The results show that there are no significant differences in emotional intelligence and achievement motivation among the students of the three majors. In terms of emotional intelligence, $F(6,540)=1.06$, $P=0.386>0.05$; in terms of achievement motivation, $F(6,540)=0.942$,$P=0.464>0.05$. The students of the three majors categories are better at social achievement, There were significant differences in psychological distress. In terms of social achievement, $F(6,540)=7.445$, $P=0.000<0.001$; in terms of mental health, $F(6,540)=2.822$, $p=0.010<0.05$. In order to further investigate the sources of differences in social achievement, achievement motivation, and mental health of different majors, the LSD multiple comparison method is used to test each group. It was found that, in terms of social achievements, there were significant differences between Science and Management, and between Science and Art, both $P=0.000<0.01$. In terms of achievement motivation, the Science is significantly higher than the Art. In mental health, Management students scored higher than several other majors. That is to say, the level ofpsychological distress of Management students is significantly higher than that of Science and Art students.

4.2 T-test analysis of SA of college students of different genders and student status

Different genders: In this study, the independent sample T test method was used to compare and analyze the emotional intelligence, achievement motivation, social achievement, and mental health of college students of different genders. In order to investigate the differences in social achievement of college students of different genders, an independent sample T test was used for analysis, and the results are shown in Table 5.

Table 5 : T-test analysis of social achievement of college students of different genders

Group	*N*	*Mean*	*SD*	*t*	*df*	*Sig(2 tailed)*
Male	257	5.16	0.411	-0.864	539	0.388
Female	284	5.13	0.393			

T(539) value: -0.864, (p＝0.388＞0.05）, In terms of scores, the average level of social achievement of male college students is slightly higher than that of female college students. There is no significant difference between mean marks for males and females. H1 is established.

Student status: In order to investigate whether college students serve as student leaders has an impact on college students' social achievements, the T-test was used for analysis and the results are shown in Table 6.

Table 6 : T-test analysis of SA of Student leaders

Group	*N*	*Mean*	*SD*	*t*	*df*	*Sig(2 tailed)*
Student leader	204	5.217	0.385	3.23	539	0.001
Ordinary student	337	5.102	0.402			

P=0.001<0.005, whether you have served as a student leader has a significant impact on the level of SA of college students. The SA of college students who have served as student leaders are significantly higher than those who have not served as student leaders.

More specifically, Firstly, in order to investigate the differences in emotional intelligence, achievement motivation, mental health and social achievement of college students of different genders, an independent sample T test was used for analysis, and the results are shown in Table 7.

Table 7 : T-test Analysis of Emotional Intelligence, Achievement Motivation, Mental Health and Social Achievement of College Students of Different Genders

	Male	*Female*	*T value*	*Sig.*
EI	126.87±13.353	128.22±10.418	-1.303	0.193
AM	10.39±11.697	8.26±11.521	-2.131	0.034
MH	137.24±50.206	134.49±40.628	-0.696	0.487
SA	5.159±0.411	5.129±0.393	-0.864	0.388

The results showed that there was no significant difference in emotional intelligence between male and female college students (P=0.193>0.05). The achievement motivation of male college students was significantly higher than that of female college students (P=0.034<0.05). In terms of scores, the average level of social achievement of male college students is slightly higher than that of female college students. There was no significant difference in social achievement between male and female college students (P=0.388＞0.05). There was no significant difference in psychological distress between male and female college students (P=0.487＞0.05). Secondly, in order to examine whether differences in student status have an impact on their emotional intelligence level, social achievement, achievement motivation, and mental health, an independent T-test was conducted to compare the differences between student leaders and ordinary students.

Table 8 : T-test Analysis of Emotional Intelligence, Achievement Motivation, Mental Health and Social Achievement of College Students of Different Genders

	Student leaders	***Ordinary students***	***T value***	***Sig.***
EI	129.66±11.359	125.37±11.832	4.11	0.000
AM	10.47±11.849	8.07±11.075	2.326	0.020
MH	133.86±44.206	139.83±46.371	-1.464	0.144
SA	**5.217±0.385**	**5.102±0.402**	**3.23**	**0.001**

The results show that whether or not they have served as student leaders has a significant impact on the level of emotional intelligence of college students (P=0.000<0.001). The emotional intelligence level of students who have served as student leaders is significantly higher than that of students who have not served as student leaders; whether they have served as student leaders has a significant impact on college students' achievement motivation (P=0.02<0.05). The achievement motivation of college students who have served as student leaders is significantly higher than that of students who have not served as student leaders; this shows that students who have served as student leaders are more confident in themselves, dare to think and do, and have more pioneering spirit; The level of achievement has a significant effect (P=0.001<0.005). The social achievement of college students who have served as student leaders is significantly higher than that of ordinary students; whether they have served as student leaders has no significant impact on the level of psychological distress of college students (P=0.144>0.05).

4.3 Determine significant differences in SA among college students of 3 majors

In order to examine whether there is a significant difference in the major categories of college students' social achievements, a variance analysis was performed on the scores of students of different major categories in terms of social achievements (see Table 4 for comprehensive analysis):

Table 9: One-way ANOVA on the social achievements of college students in three majors

	Sum of squares	***df***	***Mean squares***	***F***	***Sig.***
Between group	2.248 2	1.124	7.455	0.000	
Within group	334.636	538	0.622		
Total	336.884	540			

F (2, 540) ＝7.455, P＝0.000＜0.001 → significant difference in terms of Social Achievement for different majors. Since in the previous Anova analysis, p<0.05, in order to further investigate the sources of differences in social achievements of different majors, the multiple comparison LSD method is used to test each group.

Table 10: Post-Hoc Test

I	**J**	**I (Means)**	**J (Means)**	**I-J**	**P**
1.	2.	5.200	3.200	2.000	0.000**
1.	3.	5.200	3.333	1.867	0.000*
2.	3.	3.200	3.333	-0.133	0.389

**p<0.01(1:Science; 2:Management; 3:Arts)*

It was found that in terms of social achievement, there was a significant difference between science and management, and between science and art, P=0.000<0.01. More specifically, We also analyzed how the four grades scored on factors such as emotional intelligence, achievement motivation, mental health and social achievement:

Table 11：Anova Analysis on Emotional Intelligence, Achievement Motivation, Mental Health and Social Achievement of College Students in Different Grades

Variables	*Mean*	*SD*	*F*	*Sig.*
EI	127.51	11.911	8.772	0.000
AM	9.28	11.643	2.147	0.093
MH	135.79	45.409	5.583	0.001
SA	5.14	0.402	40.46	0.000

The results show that there is no significant difference in achievement motivation among the students of the four grades. In terms of achievement motivation, F (3, 540)=2.147, P=0.093>0.05. There were significant differences in emotional intelligence, social achievement and mental health among students in the four grades. In emotional intelligence, F(3,540)=8.772, P=0.000<0.001; in social achievement, F(3,540)=40.46, P=0.000<0.001; in mental health, F(3,540)=5.583 P=0.001<0.005. Moreover, in order to further investigate the sources of differences in emotional intelligence, social achievement, and mental health in different grades, the LSD multiple comparison method was used to test each group. It was found that in terms of emotional intelligence, the level of emotional intelligence of fourth grade students was higher than that of other grades. The emotional intelligence level of the first and fourth grades was significantly higher than that of the second and third grades, and there was no significant difference between the second and third grades and between the first and fourth grades; in terms of social achievement, the fourth grade was significantly higher than the other three grades, the difference was small The order from grade to grade is: 0.139 for the first grade, 0.339 for the third grade, and 0.438 for the second grade. The level is significantly higher than that of the first and fourth grades.

4.4 Examine the relationship between EI, AM and MH with SA

In order to further examine the correlation between the four variables, the Pearson correlationtest was performed on social achievement and emotional intelligence, achievement motivation, and mental health, and the correlation coefficients between them are shown in Table 12.

Table 12：Correlation Analysis of College Students' EI, AM, MH and SA

Dependent Variables	*Independent Variables*		
SA	***EI***	***AM***	***MH***
Pearson correlation	0.189**	0.057**	-0.008
Significant	0.000	0.001	0.433

*** Statistically significant at the level of (p ≤0.01)*

EI vs SA : p ＜ 0.01； r＝0.189 → Significant correlation AM vs SA : p ＜ 0.01; r＝0.057 → Significant correlation MH vs SA : p > 0.05； r＝-0.008 → No significant correlation

The results showed that there was a significant correlation between college students' social achievement, emotional intelligence and achievement motivation (P<0.01), but no correlation with mental health (P>0.05).

4.5 Investigate EI, G and SL in influencing SA

Through correlation analysis, we found that college students' social achievement is significantly correlated with emotional intelligence, achievement motivation, and mental health. In order to further understand the predictive power of these related variables on the social achievement of college students, the method of multiple regression is used for analysis. Social achievement is taken as the dependent variable, and factors such as emotional intelligence, grade, and student status are taken as independent variables. The results are shown in Table 12.

Table 13 ： Multiple regression analysis of Social Achievement and related variables

Scale	*R*	*R²*	*△R²*	*B*	*Beta*	*F*	*t*	*Sig.*
EI	0.376	0.631	0.600	0.005	0.154	15.579	3.467	0.001
Grade	0.213	0.151	0.110	0.050	0.132	11.647	3.002	0.002
Student leader or not	0.246	0.161	0.316	0.100	0.126	10.487	2.813	0.005

Table 13 shows that the three variables of emotional intelligence, grade, and whether a student status enter the regression equation on social achievement and have significant significance, and the three variables of emotional intelligence, grade, and whether a student leader have significant predictive significance (P<0.01). Emotional intelligence, grade, student status, and this three variables enter the regression equation in turn, which shows that the predictive effect of emotional intelligence on social achievement is the first and most important.

5. CONCLUSION

Table 14：Research results summary

Hypothesis	*Statement*	*Test*	*Results*
H1	There is no significant difference between mean marks for males and females.	Independent T-test	Accepted
	There is no significant difference between mean marks for student leaders and ordinary students.		Rejected
H2	There is no significant difference in terms of Social Achievement for different majors.	ANOVA	Rejected
H3	There is no significant relationship between emotional intelligence and social achievement	Pearson's correlation	Rejected
H4	There is no significant relationship between achievement motivation and social achievement	Pearson's correlation	Rejected
H5	There is no significant relationship between mental health and social achievement	Pearson's correlation	Accepted
H6	There was no significant difference between Social Achievement and Emotional Intelligence, Grade, student status.	Multiple regression	Rejected

The research results show that the social achievement of college students will be affected by major categories, grades, student status and other factors. The social achievement scores of the senior students are higher than those of the other three grades, and significantly higher than those of the second and third grades, which shows that after four years of practical training in college, the physical and mental qualities of college students have been further developed and matured. In addition, the study found that the social achievement of students who have served as student leaders is significantly higher than that of ordinary students. For social achievements, student leaders have more opportunities to contact and interact with teachers, classmates, and other types of people in society. They also have many opportunities to participate in and organize social activities. Ability in all aspects must also be improved, so it is understandable that social achievements are higher than ordinary students. In addition, in the multiple regression analysis with social achievement as the dependent variable and emotional intelligence, achievement motivation, mental health, major, grade, gender and other factors as independent variables, emotional intelligence emerged as the primary predictor variable. This reflects that the effect of emotional intelligence on college students' social achievement is relatively obvious. Achievement motivation of college students affects social achievement by acting on emotional intelligence and mental health respectively. Finally, mental health, emotional intelligence, and social achievement are interdependent and closely related.

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