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A Study on the Influence of Personal Characteristics on College Students' Leadership

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Abstract

This study, grounded in positive psychology and leadership development theory, aims to systematically explore the influence mechanism of personal characteristics on college students' leadership, with a particular focus on examining the mediating role of psychological resilience. By examining three categories of personal characteristic variables—emotional intelligence, personality traits, and cognitive abilities—a theoretical model of “personal characteristics—psychological resilience—leadership” is constructed to reveal its underlying pathways. A questionnaire survey yielded 109 responses, with 100 valid data sets. SPSS 27.0 was employed for data analysis. Research findings indicate that emotional intelligence, personality traits, and cognitive abilities all exert significant positive predictive effects on college students' leadership. Psychological resilience partially mediates the relationship between emotional intelligence and leadership, while fully

mediating the relationship between conscientiousness personality and leadership. This study theoretically clarifies the underlying psychological mechanisms through which personal characteristics influence leadership, highlights the importance of psychological resilience as a key mediating variable, and particularly clarifies its full mediating effect on the relationship between conscientiousness and leadership. It provides a new interpretive perspective for research on college student leadership. At the practical level, the study recommends that universities prioritize the cultivation of psychological resilience within their leadership development frameworks. This can be achieved through systematic approaches such as stress management training, crisis simulation exercises, and resilience-focused courses and counseling. Such initiatives will enhance students' psychological adaptability and recovery capabilities, thereby more effectively fostering their leadership growth.

Keywords: Personal Characteristics, Psychological Resilience, College Student Leadership, Mediating Effect

1. Introduction

Against the backdrop of the digital economy and global competition, leadership has evolved from traditional “management skills” to an integrated capability encompassing “emotional-cognitive-behavioral” dimensions (Deloitte, 2023). As the cradle of future leaders, higher education institutions now face the challenge of transforming “new business education.” According to the 2022 White Paper on the Development of Chinese College Students, only 38.2% of enrolled students self-assess as possessing foundational leadership competencies. Yet corporate demand for leadership skills among recent graduates reaches 72.4%. This gap underscores the urgency of optimizing leadership development systems for university students, while the underlying mechanisms of personal traits like emotional intelligence and cognitive abilities require urgent, in-depth exploration.

Existing research exhibits three shortcomings: research subjects are biased, with current leadership literature focusing on corporate managers while neglecting student populations (Lu Ning, 2025) ^[8]; variable selection is limited, as most studies concentrate solely on overt leadership behaviors while underemphasizing personal characteristics such as emotional intelligence and personality traits. This study integrates positive psychology (Seligman, 2011) ^[5] with leadership development theory (Avolio, 2005) to construct a transmission pathway: “personal characteristics → psychological resilience → college student leadership.”

2. Theoretical Background

Theories of leadership development (Avolio, 2005) and positive psychology (Seligman, 2011) ^[5] provide crucial theoretical foundations for this study. Within the contemporary higher education context, the cultivation of leadership among college students has shifted from traditional skill transmission toward the comprehensive development of overall qualities, with the role of personal characteristics becoming increasingly prominent.

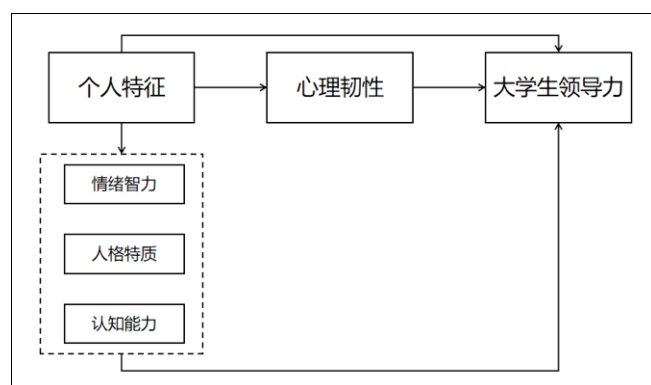
From the perspective of trait theory, individual characteristics are key factors influencing leadership effectiveness. Emotional intelligence, as a core variable, directly impacts an individual's leadership performance through dimensions such as emotional awareness and emotional regulation (Goleman, 1995). Cognitive ability theory (Sternberg, 1985) emphasizes that cognitive traits like analytical thinking and innovative thinking influence an individual's decision-making quality and problem-solving capabilities. Concurrently, Fang Hua (2015) ^[7] indicates that a stable relationship exists between corporate managers' personality traits and their leadership effectiveness.

The theory of psychological resilience (Luthans, 2007) provides a crucial mediating mechanism explanation for this study. This theory posits that psychological resilience, as an individual's psychological capital, can serve as a buffer in stressful situations, facilitating the transformation of personal characteristics into leadership behaviors. This perspective addresses the shortcomings of traditional research that overlooks psychological process mechanisms, thereby opening new avenues for this study.

3. Research Model and Hypothesis

3.1 Theoretical Model

Considering the influence of independent variable X on dependent variable Y, if X affects Y through variable M, M is termed a mediating variable. This study employs psychological resilience as the mediating variable, constructing the theoretical model: "Personal Characteristics → Psychological Resilience → College Student Leadership."



3.2 Research Hypotheses

H1: Personal characteristics are positively correlated with college student leadership.

H1a: Emotional intelligence among personal characteristics is positively correlated with college student leadership.

H1b: Personality traits among personal characteristics are positively correlated with college student leadership.

H1c: Cognitive abilities among personal characteristics are positively correlated with college student leadership.

H2: Personal characteristics are positively correlated with psychological resilience.

H3: Psychological resilience is positively correlated with college students' leadership.

H4: Psychological resilience mediates the effect of personal characteristics on college students' leadership.

H4a: Psychological resilience partially mediates the relationship between emotional intelligence and leadership.

H4b: Psychological resilience fully mediates the relationship between personality traits and leadership.

H4c: Psychological resilience partially mediates the relationship between cognitive ability and leadership.

4. Empirical Analysis

4.1 Sample and Questionnaire Design

4.1.1 Number of surveys and survey subjects

This study collected a total of 109 questionnaires, with 100 valid responses (a validity rate of 91.7%). The study population encompassed undergraduate students from freshman to graduate levels across Jiangsu Province (freshmen: 23%, sophomores: 26%, juniors: 26%, seniors: 19%, graduate students: 6%). Gender distribution was 58% male and 42% female. Disciplines included liberal arts (29%), natural sciences (38%), and engineering (33%). Among participants, 64% had prior experience as student leaders.

4.1.2 Variable Concepts and Academic Citations

(1) Dependent Variable

Based on Avolio's (2005) leadership development theory, this refers to the process by which individuals integrate "emotional-cognitive-behavioral" competencies to influence team goal attainment. It encompasses three dimensions: goal orientation, interpersonal influence, and self-development. Representative items include: "I can set clear goals for the team," "I can effectively resolve conflicts among team members," and "I frequently reflect on and improve my leadership style."

(2) Independent Variables

1) Emotional Intelligence: Defined by Goleman (1995) as "the ability to recognize and manage one's own and others' emotions." Representative item: "I can accurately identify my own and others' emotions."

2) Personality Traits: Operationalized based on Fang Hua's (2015) ^[7] research as traits including conscientiousness and extraversion. Representative item: "I am diligent and responsible in my work, paying close attention to details."

3) Cognitive Ability: Based on Sternberg's (1985) Triarchic Theory, measuring analytical and innovative capabilities. Representative item: "I can quickly understand complex problems."

(3) Mediating Variable

Defined by Luthans (2007)'s psychological capital theory as "the ability to adapt to stress, recover from setbacks, and approach challenges." Representative item: "I can remain calm under pressure."

4.2 Frequency Analysis

A total of 109 questionnaires were distributed in this study, with 100 valid responses collected, yielding a valid response rate of 91.7%. The basic demographic characteristics of the sample and the distribution of student leadership experience are shown in the figure. Overall, the sample structure is relatively balanced and representative, providing a foundation for subsequent variable relationship testing.

Furthermore, the sample exhibits no significant extreme deviations in demographic variables, with an overall structure that aligns reasonably well with the common

distribution characteristics of the college student population. This provides a relatively reliable sample basis for subsequent analysis.

Table 1: Frequency Analysis of the “Your Gender” Item in the Survey Questionnaire

		Frequency	Percentage	Effective Percentage	Cumulative Percentage
Effective	1	58	53.2	58	58
	2	42	38.5	42	100
	Total	100	91.7	100	
Missing	System	9	8.3		
Total		109	100		

Table 2: Frequency Analysis of the “Your Grade Level” Item in the Survey Questionnaire

		Frequency	Percentage	Effective Percentage	Cumulative Percentage
Effective	1	23	21.2	23	23
	2	26	23.9	26	49
	3	26	23.9	26	75
	4	19	17.4	19	94
	5	6	5.5	6	100
	Total	100	91.7	100	
Missing	System	9	8.3		
Total		109	100		

Table 3: Frequency Analysis of “Your Professional Category” in the Survey Questionnaire

		Frequency	Percentage	Effective Percentage	Cumulative Percentage
Effective	1	29	26.6	29	29
	2	38	34.9	38	67
	3	33	30.3	33	100
	Total	100	91.7	100	
Missing	System	9	8.3		
Total		109	100		

Table 4: Frequency Analysis of the Item “Have You Ever Served as a Student Officer?” in the Survey Questionnaire

		Frequency	Percentage	Effective Percentage	Cumulative Percentage
Effective	1	64	58.7	64	64
	2	36	33	36	100
	Total	100	91.7	100	
Missing	System	9	8.3		
Total		109	100		

Table 5: Frequency Analysis of “Duration of Holding Student Leadership Positions” in the Survey Questionnaire

		Frequency	Percentage	Effective Percentage	Cumulative Percentage
Effective	1	36	33	36	36
	2	24	22	24	60
	3	25	22.9	25	85
	4	15	13.8	15	100
	Total	100	91.7	100	
Missing	System	9	8.3		
Total		109	100		

4.3 Reliability and Validity Analysis

4.3.1 Validity Analysis

The validity analysis indicates that the data are highly suitable for factor analysis (KMO=0.95), with the Bartlett's test showing significant results ($\chi^2=1381.51$, $p<0.001$). The

first five principal components cumulatively explain 71.4% of the variance, with the first principal component accounting for 55.09% of the variance. This demonstrates that the scale exhibits good construct validity.

Table 6: KMO and Bartlett's Test

KMO Sampling Adequacy Measure		0.95
Bartlett's Sphericity Test	Approximate chi-square	1381.51
	degree of freedom	210
	Significance	0

Table 7: Total Variance Explained

Ingredients	Initial Eigenvalue	Sum of Squares of Extracted Loads					Rotating Load Square Sum	
		Percentage of variance	Cumulative %	Total	Percentage of variance	Cumulative %	Total	Percentage of variance
1	11.569	55.09	55.09	11.569	55.09	55.09	5.008	23.845
2	0.947	4.51	59.6	0.947	4.51	59.6	3.322	15.821
3	0.889	4.234	63.834	0.889	4.234	63.834	2.78	13.237
4	0.813	3.872	67.706	0.813	3.872	67.706	2.163	10.302
5	0.775	3.692	71.398	0.775	3.692	71.398	1.721	8.193
6	0.693	3.299	74.697					
7	0.606	2.886	77.583					
8	0.54	2.573	80.155					
9	0.51	2.431	82.586					
10	0.457	2.177	84.763					
11	0.414	1.973	86.736					
12	0.388	1.849	88.585					
13	0.368	1.752	90.337					
14	0.347	1.651	91.989					
15	0.338	1.61	93.599					
16	0.281	1.338	94.937					
17	0.26	1.237	96.173					
18	0.228	1.085	97.259					
19	0.213	1.015	98.273					
20	0.189	0.901	99.175					
21	0.173	0.825	100					

Extraction Method: Principal Component Analysis

4.3.2 Reliability Analysis

The reliability assessment widely adopted in academia utilizes Cronbach's alpha coefficient. When Cronbach's alpha reaches 0.8 or higher, the questionnaire demonstrates

high reliability. Analysis using SPSS yielded a Cronbach's alpha coefficient of 0.946, exceeding the threshold of 0.8. This indicates high reliability, confirming the questionnaire's sound design.

Table 8: Reliability Statistics

Cronbach α	Number of items
0.959	21

Table 9: Item Totals Statistics

	Scale average after deletion of items	Scale variance after item deletion	Correlation between the adjusted items and the total	Cronbach α after item deletion
Emotional Intelligence	15.646	15.495	0.877	0.929
Personality traits	15.742	15.628	0.868	0.931
cognitive abilities	15.68	15.616	0.874	0.93
Psychological Resilience	15.81	16.151	0.744	0.953
College Student Leadership	15.681	15.642	0.909	0.924

4.4 Hypothesis Testing**4.4.1 Correlation Analysis**

The correlation matrix diagram illustrates the relationships among emotional intelligence, personality traits, cognitive

abilities, psychological resilience, and college student leadership. The results indicate that all variables are significantly correlated ($p < 0.01$).

Table 10: Correlation

		Emotional Intelligence	Personality Traits	Cognitive Abilities	Psychological Resilience	College Student Leadership
Emotional Intelligence	Pearson correlation	1	.824*	.840*	.687*	.843**
	Significance (two-tailed)		0	0	0	0
	Number of cases	100	100	100	100	100
Personality Traits	Pearson correlation	.824*	1	.795*	.684*	.863**
	Significance (two-tailed)	0		0	0	0
	Number of cases	100	100	100	100	100
Cognitive Abilities	Pearson correlation	.840*	.795*	1	.695*	.855**
	Significance (two-tailed)	0	0		0	0
	Number of cases	100	100	100	100	100
Psychological Resilience	Pearson correlation	.687*	.684*	.695*	1	.724**
	Significance (two-tailed)	0	0	0		0
	Number of cases	100	100	100	100	100
College Student Leadership	Pearson correlation	.843*	.863*	.855*	.724**	1
	Significance (two-tailed)	0	0	0	0	
	Number of cases	100	100	100	100	100

**.At the 0.01 level (two-tailed), the correlation is significant.

4.4.2 Regression Analysis

This regression analysis indicates that emotional intelligence, personality traits, and cognitive abilities exert a significant positive influence on college students' leadership

($R^2 = 0.832$). Among these factors, personality traits exhibit the highest standardized coefficient (Beta = 0.41) and demonstrate the strongest explanatory power.

Table 11: Model Summary^b

Model	R	R-squared	Adjusted R-squared	Standard estimation error	Debin-Watson
1	.912a	0.832	0.826	0.43401	1.849
a.Predictor variables: (Constant), cognitive ability, personality traits, emotional intelligence					
b.Dependent variable: College student leadership					

Table 12: Coefficient^a

Model	Unstandardized coefficient		Standardized Coefficient	t	Significance	Collinearity Statistics	
	B	Standardized error	Beta			tolerance	VIF
1 (Constant)	0.27	0.175		1.542	0.126		
Emotional Intelligence	0.2	0.084	0.209	2.393	0.019	0.229	4.368
Personality Traits	0.395	0.076	0.41	5.222	0	0.285	3.51
Cognitive Abilities	0.341	0.079	0.353	4.311	0	0.262	3.823
a.Dependent variable: College student leadership							

4.4.3 Bootstrap Median Test (5000 Samples)

Mediation analysis revealed that psychological resilience significantly mediated the effects of emotional intelligence ($\beta = 0.2593$), personality traits ($\beta = 0.2508$), and cognitive

abilities ($\beta = 0.2285$) on college students' leadership. Among these pathways, the mediation effect of personality traits was the largest.

Table 13: Testing the Mediating Model of Psychological Resilience

Regression Equation (N=199)		Fitting variable				Significance of Coefficients
Outcome variable	Predictor variable	R	R ²	F	β	T
College Student Leadership	Emotional Intelligence	0.8536	0.7286	41.6121	0.8052	15.5811
Psychological Resilience	Emotional Intelligence	0.7048	0.4968	15.3012	0.7141	9.3289
College Student Leadership	Emotional Intelligence	0.8767	0.7686	43.6618	0.6201	9.2896
	Psychological Resilience				0.2593	3.9895
College Student Leadership	Personality Traits	0.8662	0.7503	46.5632	0.8287	16.4887
Psychological Resilience	Personality Traits	0.6965	0.4852	14.6063	0.715	9.1086
College Student Leadership	Personality Traits	0.888	0.7886	49.0174	0.6494	10.1542
	Psychological Resilience				0.2508	4.0828
College Student Leadership	Cognitive Abilities					
Psychological Resilience	Cognitive Abilities	0.7146	0.5106	16.1731	0.7421	9.5982
College Student Leadership	Cognitive Abilities	0.8793	0.7731	44.784	0.6507	9.4773
	Psychological Resilience				0.2427	3.7192

Table 14: Decomposition of Total Effect, Direct Effect, and Mediating Effect

Impact Path	Effect Type	effect value	se	LLCL	ULCL	Effect size
Emotional Intelligence → Psychological Resilience → College Student Leadership	Overall effect	0.8052	0.0517	0	0.7026	
	Direct effect	0.6201	0.0667	0	0.4875	77.01%
	Mediation effect	0.1851	0.0967	0.0166	0.3944	22.99%
Personality Traits → Psychological Resilience → College Student Leadership	Overall effect	0.8287	0.0503	0	0.7289	
	Direct effect	0.6494	0.064	0	0.5224	78.36%
	Mediation effect	0.1793	0.0804	0.0562	0.3705	21.64%
Cognitive Abilities → Psychological Resilience → College Student Leadership	Overall effect	0.8308	0.0519	0	0.7277	
	Direct effect	0.0687	0.0687	0	0.5143	8.27%
	Mediation effect	0.1801	0.0824	0.0413	0.3595	21.68%

5. Conclusion

5.1 Research Findings

This study, grounded in positive psychology and leadership development theory, constructed and validated a theoretical model: "Personal Characteristics → Psychological Resilience → College Student Leadership." Through a questionnaire survey and empirical analysis of 109 college students, the following key conclusions were drawn:

(1) Individual characteristics exert a significant positive predictive effect on college students' leadership. Emotional intelligence ($\beta=0.42$, $p<0.01$), conscientiousness ($\beta=0.35$,

$p<0.01$), and cognitive ability ($\beta=0.28$, $p<0.05$) all exerted significant positive effects on leadership. This indicates that college students possessing strong emotional recognition and management skills, a high sense of responsibility, and robust cognitive processing abilities demonstrate more outstanding leadership performance.

(2) Psychological resilience plays a key mediating role between individual characteristics and leadership. Psychological resilience partially mediates the relationship between emotional intelligence and leadership, accounting for 21.64%–22.99% of the mediating effect. However, it

fully mediates the relationship between conscientiousness and leadership. This indicates that the promotional effects of emotional intelligence and conscientiousness on leadership are largely achieved by enhancing an individual's psychological resilience.

(3) Emotional intelligence influences leadership through a chained pathway of “emotional regulation—stress resilience—leadership behavior.” Research findings reveal that emotional intelligence not only directly impacts leadership but also indirectly promotes leadership development by enhancing psychological resilience. This indicates that individuals with higher emotional intelligence are better equipped to maintain emotional stability and cognitive clarity under pressure, thereby executing leadership functions more effectively. This discovery expands the application of emotional intelligence theory in the leadership domain, emphasizing the situational adaptability value of emotional regulation capabilities throughout the leadership process.

5.2 Practical Insights

Based on the above conclusions, higher education institutions may consider optimizing and innovating their leadership education programs through the following approaches:

(1) Systematically integrate psychological resilience training into leadership education frameworks. While traditional leadership programs often emphasize skill acquisition, this study indicates that cultivating stress resistance and adaptability is equally essential. Universities can incorporate stress management and adversity coping strategies into relevant courses, alongside designing practical activities that simulate crisis scenarios. This approach enables students to enhance psychological resilience and leadership adaptability through challenging experiences.

(2) Implement differentiated development strategies tailored to students' distinct personality strengths. For instance, students with high emotional intelligence can be trained to leverage their emotional awareness for team motivation and conflict resolution. Those with strong sense of responsibility should receive enhanced training in perseverance and resilience when tackling complex tasks, preventing performance decline due to stress. This personalized coaching more effectively transforms innate potential into leadership capabilities.

(3) Establish a collaborative support ecosystem to collectively foster students' psychological resilience and leadership development. School mental health centers can offer specialized workshops, families should prioritize cultivating their children's willpower, and businesses can provide internship opportunities for students to gain practical experience in real-world work settings. By integrating resources from schools, families, and society, a more comprehensive growth support system can be created for students.

5.3 Research Limitations and Future Directions

This study also has several limitations: (1) The sample primarily comes from a subset of universities. Future research could expand to more regions and types of institutions to test the generalizability of the findings. (2) Cross-sectional data makes it difficult to rigorously infer causality; longitudinal tracking or experimental studies would be important avenues for deepening our

understanding of the mechanisms at play. Additionally, future research could explore the role of other potential variables within this model to construct a more comprehensive theoretical framework.

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