Investigation of the Psychological Health Status and Influencing Factors of Vocational College Students in Beijing

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Abstract. This study investigates the psychological health status and influencing factors of self-esteem among 960 vocational college students in Beijing (average age 18.78). Results indicate varying degrees of psychological pressure, with overall moderate self-esteem levels. Participants' scores for depression, anxiety, self-esteem, subjective well-being, simplified coping style, and psychological resilience fall within the normal range. Specifically, 72.9% of students reported no depression, 8.5% displayed anxiety symptoms, and 38.4% had a relatively good level of self-esteem. Positive coping strategies were commonly employed (average score 1.78), while negative coping was less utilized (average score 1.59). Demographic factors, such as gender and being an only child, showed limited impact on psychological health and self-esteem, but specific coping styles were affected. The study emphasizes the importance of creating supportive environments to foster positive self-esteem development and overall well-being in vocational college students.

Keywords: Vocational college students, psychological health, self-esteem, academic achievements, family support, social recognition.

INTRODUCTION

Vocational education is a vital component of China's education system, and in recent years, there has been a steady increase in the enrollment of students in vocational colleges. As of 2023, the nationwide enrollment of vocational college students has reached 16.709 million (Ministry of Education of China, 2022). Compared to undergraduate students, vocational college students, as a distinct group among contemporary university students, face greater psychological pressure in areas such as employment, interpersonal relationships, and further education. As attention and investment in vocational education grows, it becomes crucial not only to focus on developing students' technical skills but also to prioritize

their mental well-being.

Mental well-being encompasses various aspects, including self-esteem, depression, anxiety, subjective well-being, and psychological resilience, with self-esteem serving as a critical foundation for mental health. Self-esteem, the conscious (explicit) or unconscious (implicit) evaluations of one's own worth, plays several psychological functions (Schmeichel, 2009). It acts as a predictor, indicating differences in cognition, emotions, and behavior among individuals with varying self-esteem levels. Additionally, it serves as a mediator, regulating individuals' psychosomatic responses to success and failure, and as an outcome variable, examining how

different experiences influence self-perceptions (Lindwall, 2013).

Subjective well-being refers to individuals' overall assessment of life quality based on self-defined criteria. It is a vital indicator of personal and social life quality and plays a significant role in identifying individual psychological health (Diener & Suh, 1997). Moreover, research on "stress-resistant individuals" or those with "hardiness" traits has led to a focus on psychological resilience, which is essential for an individual's mental health status under stressful conditions and is a critical component of psychological well-being (Masten, 2007; Ungar, 2021).

Coping strategies involve the methods or strategies individuals use when facing stress or challenging situations, significantly impacting their psychological well-being. These strategies can be categorized as positive coping, involving seeking support, changing value systems, and adopting positive perspectives, or negative coping, which entails avoiding problems and venting emotions. Studies have demonstrated that individuals who frequently employ positive coping strategies tend to experience higher levels of subjective well-being, while negative coping strategies have a detrimental effect on psychological health (Prati *et al.*, 2011).

Literature Review

Research on the Self-Esteem Level of Vocational College Students

In some countries, especially within the European education system, adolescents face the choice of entering academic or vocational tracks after graduating from junior high school. Students with less satisfactory academic performance often choose the vocational track (Salmela-Aro & Tuominen-Soini, 2010). In some regions of Europe, secondary schools may have academic and vocational tracks for students, while in other areas, general high schools and vocational schools separately educate students. Some research focuses on the impact of different academic ability stratifications on students' self-esteem. Houtte and colleagues Stevens (2009) found that within schools, within-school stratification has a greater impact on the self-esteem development of students choosing academic or vocational tracks compared to between-school stratification. This is because self-esteem is influenced by three main sources: social comparison, others' evaluations, and self-attributions (Rosenberg *et al.*, 1989). Students in vocational tracks often compare themselves with students in academic tracks within the same school, leading to feelings of frustration and inferiority, thus reducing their academic engagement. However, between schools, students in vocational schools all follow the vocational track, and their comparisons do not threaten their self-esteem or diminish their pursuit of

academic goals. In Belgium, Houtte *et al.* (2012) specifically studied the self-esteem levels of vocational track students and academic track students, and investigated the influence of within-school and between-school stratification on students' self-esteem. They distributed questionnaires to 5910 students from 85 schools in Belgium, including regular high schools (which educate both academic and vocational track students) and vocational high schools (which only educate vocational track students). The study classified students into two categories: academic track students and vocational track students. The Rosenberg Self-Esteem Scale was used to assess students' self-esteem levels. The research found that academic track students had significantly higher self-esteem levels than vocational track students. Even after controlling for factors such as gender, age, economic status, and parental support, students' self-esteem remained significantly associated with their academic track. The type of school was not significantly correlated with students' self-esteem levels, but the impact of the academic track on self-esteem was moderated by the type of school. In regular high schools, there was a significant difference in self-esteem levels between academic track and vocational track students, while in vocational high schools, the difference in self-esteem levels between academic track and vocational track students was relatively small. In China, there is still inadequate recognition of vocational education in society, leading many students to be reluctant to enroll in vocational colleges. Most of the students who do enroll in vocational colleges do so because their test scores do not meet the admission requirements of regular colleges, making it a reluctant choice. Due to the special educational environment of vocational college students, their feelings of inferiority are much more severe than those of regular college students. Research conducted by Xiao (2011) showed that the average self-esteem score for university students was 35.55, and 9.7% of the respondents had low self-esteem. Zhao and colleagues' Yao (2013) research on Jiangsu vocational schools revealed that the overall self-esteem level of vocational college students was (29.63±4.08), with 13.3% of students having low self-esteem. This indicates that vocational college students, as a relatively special group among university students, have lower self-esteem than regular university students. Yin (2007) conducted a survey on the self-esteem levels of 399 students from a vocational college and a regular high school in Yangzhou City. The results showed that the self-esteem level of vocational college students was significantly lower than that of high school students. However, Wang and colleagues' （2003）Wang et al. (2003) survey on the self-esteem levels of vocational school students found that most vocational school students could affirm their own worth and qualities, denying that they were failures. They showed confidence in their actions, and their self-esteem development was not significantly lower. Their study further pointed out that

although these students entered vocational schools due to less satisfactory exam scores, they did not adopt a "give up" attitude, and most of them reached a satisfactory level of self-satisfaction. Overall, research results on the self-esteem status of vocational college students in both domestic and foreign studies are not consistent. The inconsistency of these research results can be attributed to the differences in research subjects. Due to different cultural, institutional, regional, and professional settings, vocational college students face different evaluations from others and social comparisons, which can be reflected in their self-evaluations, resulting in different levels of self-esteem.

Factors Influencing Self-Esteem Levels in Vocational College Students

Self-esteem is a fundamental component of personality structure. Similar to other personality factors, the development of self-esteem in vocational college students is influenced by various factors including; personal, family and social factors.

Firstly, vocational college students are in their adolescence, during which their self-awareness may not be clear, leading to an ambiguous self-concept and inappropriate self-evaluations, even errors. During adolescence, factors influencing overall self-esteem extend beyond academic achievements to include body image self-esteem. Particularly for vocational college students, if they do not hold high self-evaluations regarding their academic achievements, they may place more emphasis on body image self-esteem to enhance their overall self-esteem. However, misperceptions of their physical appearance can negatively impact their self-esteem. A review of studies on the relationship between body image and self-esteem in vocational college students showed that 58.6% of girls misjudge their own body image (Hu, 2008). Moreover, there were significant differences between students' perceived and actual body images, indicating that rapid physical maturity leads to increased attention and concern about body image, resulting in confusion in self-evaluation and a decline in self-esteem.

Secondly, the family is the closest educational environment to individuals, and parents play a crucial role in children's socialization. The attitudes and parenting styles of parents can significantly influence their children's self-awareness and attitudes, thus affecting their self-esteem levels. A study by Zhao and Yao (2013) on 393 students from two vocational schools in Jiangsu province found that high self-esteem group students perceived more parental emotional warmth and experienced less severe punishment and rejection denial. On the other hand, low self-esteem group students felt less emotional warmth from their parents and faced more severe punishment and rejection denial. This highlights the positive impact of parental emotional warmth on vocational college students' self-esteem, while severe punishment and rejection denial hinder the formation of positive self-evaluation. Notably, paternal affirmation, communication, and interaction are more beneficial for fostering children's self-esteem compared to maternal interactions.

Furthermore, societal recognition and expectations influence vocational college students' self-esteem. A study conducted on students from a vocational technical college in Liaoning by Tang (2003) found that non-only children scored higher in social support than only children, and non-only child students utilized social support more than their only child counterparts. High self-esteem is significantly correlated with subjective support, objective support, and support utilization. These findings suggest that vocational college students' self-esteem is closely tied to social support, and expressions of approval, respect, and encouragement play a pivotal role in the development of self-esteem. Thus, providing more social support to students is an essential pathway to enhancing self-esteem levels in vocational college students.

The Impact of Self-Esteem Levels in Vocational College Students on Personal Development

The Influence of Self-Esteem on Mental and Physical Health

Self-esteem is a core component of psychological well-being, with a close relationship to mental health. High self-esteem is negatively correlated with adverse emotions such as depression and anxiety. Externalizing self-esteem positively impacts mental health, facilitating better adjustment of behaviors and attitudes and reducing neurotic and psychotic reactions following setbacks. A study by Gurhan et al. (2012) on 237 students from various health-related vocational programs at Gazi University in Turkey revealed that high self-esteem individuals scored significantly lower in physical symptoms, obsessions, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, and paranoid ideation compared to low and medium self-esteem individuals.

Similarly, a study conducted on vocational college students in western China found that overall self-esteem levels were at a moderate level, with no statistically significant differences in self-esteem scores among different genders, grades, whether they were only children, or in their hometowns. High self-esteem individuals scored significantly higher in self-affirmation, mental health, and lower in anxiety compared to low self-esteem individuals, with depression, self-affirmation, and mental health significantly predicting self-esteem (Peng et al., 2009). These findings suggest that high self-esteem is beneficial for mental and physical health, while improvements in mental and physical health contribute to increased self-esteem levels.

The Impact of Self-Esteem on Academic Achievement

Research by Zhou et al. (2014) on five-year vocational college students in the geology field in Yunnan province, using questionnaires and Go/No-Go association tasks, investigated the influence of explicit and implicit self-esteem on academic achievements. The results indicated that implicit self-esteem significantly predicted academic achievements, whereas explicit self-esteem did not. At the implicit level, self-esteem significantly influenced academic achievements for five-year vocational college students. Additionally, a survey by Yin (2007) at a vocational college in Yangzhou found that vocational students with better academic achievements had significantly higher self-esteem than students with average academic achievements, and students with average academic achievements had significantly higher self-esteem than students with poor academic achievements. Moreover, vocational students' self-esteem levels were highly positively correlated with their life satisfaction scores, indicating that higher life satisfaction corresponded to higher self-esteem levels.

The Impact of Self-Esteem on Life Satisfaction

Salmela-Aro and Tuominen-Soini (2010) conducted a survey on Finnish students entering vocational schools before and after enrollment to assess their psychological well-being. The survey was conducted four times, twice before entering vocational schools and twice during the first and second years of enrollment. The results indicated that students' self-esteem and academic achievements significantly predicted their life satisfaction. Individuals with high self-esteem experienced an increase in happiness after enrollment. This suggests that when students transits from junior to senior high schools, their self-esteem will not be threatened, if they enter vocational tracks that align with their academic achievements, leading to significantly increased life satisfaction. Litalien *et al.* (2013) conducted a survey on 149 junior high school students in Germany, finding that students' pre-entry self-goal setting positively predicted post-enrollment life satisfaction and self-esteem levels. This is consistent with self-determination theory, emphasizing the significant influence of students' self-set goals on enhancing self-esteem and subsequently increasing vocational students' life satisfaction.

Due to inconsistent findings on the self-esteem levels of vocational college students and a lack of comprehensive understanding, previous research has mainly focused on foreign student populations, leaving a gap in the exploration of self-esteem issues among domestic vocational college students. This study will adopt a cross-sectional survey to gain a comprehensive understanding of the psychological health status of vocational college students in Beijing, taking into consideration other potential factors. Through this research, valuable insights and references will be provided to promote academic performance, improve mental and physical well-being, and enhance life satisfaction among vocational college students.

The present research

Objects and Methods

Participants: A survey was conducted on vocational college students in Beijing for convenience sampling. The study consisted of two parts: the first part aimed to assess the baseline level of psychological well-being among vocational college students in Beijing. A total of 970 questionnaires were distributed, and 960 valid questionnaires were collected (98.97%). Among the 960 participants, the youngest student was 15 years old, the oldest was 24 years old, with an average age of 18.78 ± 1.02 years. There were 369 male students (38.4%) and 591 female students (61.6%). In terms of family background, 555 students were only children (57.8%), while 405 students were non-only children (42.2%). Additionally, 388 students came from rural areas (40.4%), 250 students from urban or suburban areas (26.0%), and 322 students from urban areas (33.5%). The second part of the study aimed to evaluate the effects of different intervention measures and included 84 participants. Among them, 22 were male (26.19%) and 62 were female (73.81%). There were 33 only children (39.29%) and 51 non-only children (60.71%). In terms of geographical background, 41 participants came from rural areas (48.81%), 20 from urban or suburban areas (23.81%), and 23 from urban areas (27.38%).

Research Methods

Rosenberg Self-Esteem Scale: This scale consists of 10 items and uses a 4-point Likert scale ("1" strongly agree, "2" agree, "3" disagree, "4" strongly disagree). The total score ranges from 10 to 40, with higher scores indicating higher self-esteem. It is the most widely used and comprehensive self-esteem measurement scale currently available. Yan et al. (2021) study demonstrated the validity and reliability of the Rosenberg Self-Esteem Scale (RSES) as an effective tool to assess self-esteem in Chinese middle school and college students. The Cronbach's alpha coefficients for high school and college students were 0.87 and 0.88, respectively, indicating high internal consistency. Additionally, the test-retest reliabilities (ICC) were 0.80 for high school students and 0.74 for college students, indicating good stability over time.

Beck Anxiety Inventory (BAI): Developed by Beck et al. in 1985, this inventory is commonly used to assess anxiety levels in the past week. It consists of 21 items, and higher

scores indicate higher levels of anxiety. Zheng et al. (2002) study demonstrated that the Chinese version of the Beck Anxiety Inventory (BAI) has excellent internal consistency, with a Cronbach's alpha coefficient of 0.95 for the entire scale, indicating strong reliability.

Beck Depression Inventory (BDI-II): This inventory is used to assess the severity of depressive symptoms in the past two weeks. It comprises 21 items, and scores range from 0 to 63, with higher scores indicating more severe symptoms. Scores of 0-13 indicate no depression, 14-19 indicate mild depression, 20-28 indicate moderate depression, and 29-63 indicate severe depression. Yang et al. (2014) validated the Chinese version of the Beck Depression Inventory-II (BDI-II) among non-clinical and adolescents with depression. The results showed Cronbach's alpha coefficients of 0.89 and 0.93, respectively, indicating strong internal consistency. The test-retest correlation coefficients were 0.76 and 0.56 (Ps < 0.001) respectively, indicating good reliability. The BDI-II demonstrated good reliability and validity among Chinese adolescents, making it a suitable self-assessment tool for screening and assessing the severity of depressive symptoms in this population.

Psychological Resilience Scale: Developed by Liang and Cheng (2012), this scale consists of 30 items, including five dimensions: internality, problem-focused coping style, optimism, acceptance, and utilization of social support. The scale uses a 1-4 point scoring system. Psychological measurement studies have shown that the scale has satisfactory internal consistency and test-retest reliability, as well as good content validity, structural validity, convergent validity, and criterion validity.

Subjective Happiness Scale (SHS): is a 4-item self-report measure developed to assess an individual's overall happiness as measured through self-evaluation (Lyubomirsky & Lepper, 1999). The response format is a 7-point Likert-type scale. A single composite score is computed by averaging the responses to the four items following reverse coding of the fourth item. Higher scores reflecting greater happiness.

Simplified Coping Style Questionnaire (SCSQ): Developed by Xie (1998), this questionnaire measures the coping styles of vocational college students. The scale includes two subscales: positive coping (12 items) and negative coping (8 items). Each item uses a 4-point scoring system ("not used," "occasionally used," "sometimes used," "often used"). Previous research has shown that the scale has good reliability and validity, with α coefficients of 0.798 and 0.728 for positive coping and negative coping, respectively.

Statistical Analysis: The questionnaires were double-entered using EpiData, and data analysis was performed using SPSS 21.0. Paired-sample t-tests were used for within-group intervention comparisons, and one-way ANOVA was used for between-group comparisons. The relationships between different scales were examined using correlation analysis, and multiple stepwise linear regression was used to explore the relationships between subjective well-being, anxiety, depression, and other variables.

Results Analysis

Participants' Basic Characteristics

A survey was conducted on vocational college students in Beijing using convenience sampling, resulting in a total of 960 participants. The participants' ages ranged from 15 to 24 years, with an average age of 18.78 ± 1.02 years. Among them, 369 were male (38.4%), and 591 were female (61.6%). Furthermore, 555 students were only children (57.8%), while 405 were non-only children (42.2%). Regarding the geographic background, 388 students came from rural areas (40.4%), 250 from urban or suburban areas (26.0%), and 322 from urban areas (33.5%).

Results of Depression, Anxiety, Self-Esteem, Subjective Well-Being, Simplified Coping Style, and Psychological Resilience

The results indicate that the participants' total scores for depression, anxiety, self-esteem, and subjective well-being, as well as their psychological resilience, all fall within the normal range. The average score for positive coping on the Simplified Coping Style Questionnaire is 1.78, while the average score for negative coping is 1.59. This study shows that the average score for positive coping (x=2.00, s=0.54) is significantly higher than the norm (t=12.596, P=0.000), while the average score for negative coping (x=1.33, s=0.60) is significantly lower than the norm (t=-13.497, P=0.000) (Table 1). Regarding self-esteem levels, the average score among the participants is 31.26, indicating a relatively good level of self-esteem. Out of the 960 participants, 10 individuals (1.0%) have lower self-esteem, 332 (34.6%) have a normal level of self-esteem, 369 (38.4%) have a relatively good level of self-esteem, and 249 (26.0%) have a higher level of self-esteem (Table 2). Concerning depression levels, 700 participants (72.9%) scored within the range of no depression (0-13 points), 116 (12.1%) were classified as experiencing mild depression (14-19 points), 96 (10.0%) as moderate depression (20-28 points), and 48 (5.0%) as severe depression (29-63 points) (Table 3).
  Regarding anxiety, a score above 38 points on the Beck Anxiety Inventory indicates anxiety symptoms. Out of the participants, only 82 individuals (8.5%) displayed anxiety

Table 1. Scores on Different Scales

Variable	BDI (Depression)	BAI (Anxiety)	SES (Self-Esteem)	SHS (Subjective Well-Being)	Psychological Resilience	Positive Coping Style	Negative Coping Style
Mean ± Standard Deviation	9.52±9.33	27.29±7.79	31.26±4.79	20.95±4.69	87.31±12.40	2.00±0.54	1.33±0.60

Table 2. Distribution of Participants in Different Self-Esteem Levels.

Self-Esteem Level	Number of Participants	Percentage (%)
Low (15~19)	10	1.0
Normal (20~29)	332	34.6
Good (30~34)	369	38.4
Very High (35~40)	249	26.0

Table 3. Distribution of Participants in Different Depression Levels.

Depression Level	Number of Participants	Percentage (%)
No Depression (0~13)	700	72.9
Mild Depression (14~19)	116	12.1
Moderate Depression (20~28)	96	10.0
Severe Depression (29~63)	48	5.0

Table 4. T-test Results for the Influence of Gender on Depression, Anxiety, Self-Esteem, Subjective Well-Being, Simplified Coping Style, and Psychological Resilience.

	BDI (Depression)	BAI (Anxiety)	SES (Self-Esteem)	SHS (Subjective Well-Being)	Psychological Resilience	Positive Coping Style	Negative Coping Style
T-value	0.519	-0.601	0.607	-0.874	1.353	-1.345	-0.048
P-value	0.604	0.548	0.544	0.382	0.177	0.179	0.961

symptoms.

Influence of Demographic Characteristics on Depression, Anxiety, Self-Esteem, Subjective Well-Being, Simplified Coping Style, and Psychological Resilience

Influence of Gender on Depression, Anxiety, Self-Esteem, Subjective Well-Being, Simplified Coping Style, and Psychological Resilience

There were no statistically significant differences in the scores of depression, anxiety, self-esteem, subjective well-being, simplified coping style, and psychological resilience between different genders (Table 4).

Differences in Depression, Anxiety, Self-Esteem, Subjective Happiness, Coping Styles, and Psychological Resilience among Only Children

The influence of being an only child on depression, anxiety, self-esteem, subjective happiness, and psychological resilience scores showed no statistically significant differences. However, there was a statistically

significant difference in the average score of negative coping style dimension of the Simplified Coping Style Questionnaire (t = 2.581, p = 0.010) (Table 5).

Influence of Hometown on Depression, Anxiety, Self-Esteem, Subjective Happiness, Coping Styles, and Psychological Resilience

The influence of the participants' hometown on depression, anxiety, self-esteem, subjective happiness, and psychological resilience scores showed no statistically significant differences. However, different hometowns had statistically significant effects on the average scores of positive coping style dimension (F = 3.479, p = 0.031) and negative coping style dimension (F = 3.181, p = 0.042) of the Simplified Coping Style Questionnaire (Table 6).

Influence of General Demographic Characteristics on Different Dimensions of Psychological Resilience

Results of Different Dimensions of Psychological Resilience

Table 5. Results of t-test for the Influence of Being an Only Child on Depression, Anxiety, Self-Esteem, Subjective Happiness, Coping Styles, and Psychological Resilience.

	BDI (Depression)	BAI (Anxiety)	SES (Self-Esteem)	SHS (Subjective Well-Being)	Psychological Resilience	Positive Coping Style	Negative Coping Style
F-value	-0.788	-1.315	0.500	1.186	1.542	1.477	2.581
P-value	0.431	0.189	0.617	0.236	0.123	0.140	0.010

Table 6. Results of ANOVA for the Influence of Hometown on Depression, Anxiety, Self-Esteem, Subjective Happiness, Coping Styles, and Psychological Resilience.

	BDI (Depression)	BAI (Anxiety)	SES (Self-Esteem)	SHS (Subjective Well-Being)	Psychological Resilience	Positive Coping Style	Negative Coping Style
F-value	1.582	0.091	2.029	0.331	1.424	3.479	3.181
P-value	0.206	0.913	0.132	0.718	0.241	0.031	0.042

Table 7. Scores of Different Dimensions of Psychological Resilience (Mean ± Standard Deviation).

	Internality	Flexible Coping	Optimism	Supportive Relationships	Acceptance
Mean ± Standard Deviation	17.23±3.09	17.55±3.26	18.69±3.15	17.26±2.94	16.59±3.85

Table 8. T-test Results of the Influence of Gender on Psychological Resilience (Mean ± Standard Deviation).

Gender	Male (N=369)	Female (N=591)	t-value	p-value
Internality	17.50 ±3.39	17.06±2.87	2.092	0.037
Flexible Coping	18.04±3.50	17.06±2.87	3.631	0.000

The Psychological Resilience Scale comprises five dimensions: Internality, Flexible Coping with Problem-Solving, Optimism, Ability to Form, Maintain, and Utilize Supportive Relationships, and Acceptance. The scores of participants in these five dimensions are presented in Table 7.

Influence of Gender on Different Dimensions of Psychological Resilience

There were no statistically significant differences in the impact of gender on Optimism, Ability to Form, Maintain, and Utilize Supportive Relationships, and Acceptance dimensions. However, there were statistically significant differences in the impact of gender on the Internality (t = 2.092, p = 0.037) and Flexible Coping with Problem-Solving (t = 3.631, p = 0.000) dimensions (Table 8).

Influence of Being an Only Child on Different Dimensions of Psychological Resilience

The impact of being an only child on Optimism, Ability to Form, Maintain, and Utilize Supportive Relationships, and Acceptance dimensions showed no statistically significant differences. However, there were statistically significant differences in the impact of being an only child on the

Internality (t = 3.007, p = 0.003) and Flexible Coping with Problem-Solving (t = 2.997, p = 0.003) dimensions (Table 9)

Influence of Hometown on Different Dimensions of Psychological Resilience

Using one-way ANOVA, the results indicated that the hometown of the participants had no statistically significant differences in the impact on Optimism, Ability to Form, Maintain, and Utilize Supportive Relationships. However, there were statistically significant differences in the impact of hometown on the Internality (t = 4.174, p = 0.016), Flexible Coping with Problem-Solving (t = 5.329, p = 0.005), and Acceptance (t = 8.027, p = 0.000) dimensions. Further post-hoc tests for Internality, Flexible Coping, and Acceptance dimensions were performed. The results showed that participants from urban areas had significantly higher scores than those from rural areas for Internality (p = 0.015), and participants from urban areas had significantly higher scores than those from rural areas (p = 0.002) and urban areas (p = 0.027) for Flexible Coping. Participants from rural, urban, or suburban areas had significantly higher scores than those from urban areas for Acceptance (p = 0.001, p = 0.011, respectively) (Table 10).

Table 9. T-test Results of the Influence of Being an Only Child on Psychological Resilience (Mean ± Standard Deviation).

Status	Only Child (N=555)	Non-Only Child (N=405)	t-value	p-value
Internality	17.47 ±3.30	16.89 ±2.73	3.007	0.003
Flexible Coping	17.81 ±3.45	17.19 ±2.93	2.997	0.003

Table 10. ANOVA Results of the Influence of Hometown on Psychological Resilience (Mean ± Standard Deviation).

Hometown Status	Rural (N=388)	Urban or Suburban (N=250)	Urban (N=322)	F-value	p-value
Internality	16.90 ±2.84	17.29 ±3.05	17.57 ±3.36	4.174	0.016
Flexible Coping	17.14 ±3.11	17.72 ±3.23	17.90 ±3.41	5.329	0.005
Acceptance	16.99 ±3.57	16.87 ±3.78	15.90 ±4.14	8.027	0.000

Table 11: Correlation Analysis of Different Scale Scores.

	BDI	BAI	SES	Internality	Flexible Coping	Optimism	Supportive Relationships	Acceptance	SHS	Positive Coping	Negative Coping
BDI	1										
BAI	0.600**	1									
SES	-0.540**	-0.354**	1								
Internality	-0.473**	-0.308**	0.585**	1							
Flexible Coping	-0.403**	-0.263**	0.517**	0.778**	1						
Optimism	-0.486**	-0.335**	0.640**	0.674**	0.683**	1					
Supportive Relationships	-0.426**	-0.282**	0.516**	0.660**	0.634**	0.629**	1				
Acceptance	-0.353**	-0.299**	0.413**	0.135**	0.120**	0.390**	0.261**	1			
SHS	-0.503**	-0.367**	0.482**	0.443**	0.381**	0.522**	0.454**	0.327**	1		
Positive Coping	-0.439**	-0.266**	0.462**	0.540**	0.550**	0.553**	0.578**	0.208**	0.482**	1	
Negative Coping	0.030	0.095**	-0.085**	0.073*	0.041	-0.083**	0.055	-0.317**	-0.025	0.227**	1

Relationship between Different Scale Scores

Correlation Analysis of Different Scale Scores

Correlation analysis was conducted on the measured data, and the following results were obtained: The correlation coefficient between depression level and anxiety level was 0.600. Depression was negatively correlated with self-esteem, internality, flexible coping, optimism, ability to form, maintain, and utilize supportive relationships, acceptance, subjective happiness, and positive coping scores, with correlation coefficients of -0.540, -0.473, -0.403, -0.486, -0.426, -0.353, -0.503, and -0.439, respectively. Anxiety was also negatively correlated with self-esteem, internality, flexible coping, optimism, ability to form, maintain, and utilize supportive relationships, acceptance, subjective happiness, and positive coping scores, with correlation coefficients of -0.354, -0.308, -0.263, -0.335, -0.282, -0.299, -0.367, and -0.266, respectively. Self-esteem was positively correlated with internality, flexible coping, optimism, ability to form, maintain, and utilize supportive relationships, acceptance, subjective happiness, and positive coping scores, with correlation coefficients of 0.585, 0.517, 0.640, 0.516, 0.413, 0.482, and 0.462, respectively. Subjective happiness was negatively correlated with depression and anxiety, with correlation coefficients of -0.503 and -0.367, respectively. Subjective happiness was positively correlated with self-esteem, internality, flexible coping, optimism, ability to form, maintain, and utilize supportive relationships, acceptance, and positive coping scores, with correlation coefficients

Table 12. Multiple Linear Regression Analysis of Subjective Happiness in Higher Vocational Students

Dependent Variable	Independent Variable	Partial Regression Coefficient	Standard Error	Standardized Regression Coefficient	t-value	p-value
	(Constant)	8.760	1.105		7.928	0.000
	Optimism	0.290	.053	0.195	5.433	0.000
	Avoidant Attachment to Mother	-0.084	.018	-0.143	-4.706	0.000
Subjective Happiness	Average Positive Coping	1.742	.269	0.202	6.487	0.000
	Self-esteem	0.139	.033	0.142	4.164	0.000
	Avoidant Attachment to Father	-0.068	.017	-0.122	-4.002	0.000
	Acceptance	0.129	.034	0.106	3.782	0.000

Table 13. Multiple Linear Regression Analysis of Depression Level in Higher Vocational Students

Dependent Variable	Independent Variable	Partial Regression Coefficient	Standard Error	Standardized Regression Coefficient	t-value	p-value
Depression	(Constant)	45.255	2.206		20.519	0.000
	Self-esteem	-0.499	0.069	-0.256	-7.255	0.000
	Average Positive Coping	-2.619	0.546	-0.153	-4.798	0.000
	Acceptance	-0.399	0.070	-0.165	-5.721	0.000
	Internality	-0.602	0.104	-0.199	-5.799	0.000
	Anxious Attachment to Mother	0.120	0.058	0.055	2.055	0.040
	Avoidant Attachment to Mother	0.065	0.032	0.056	2.037	0.042

of 0.482, 0.443, 0.381, 0.522, 0.454, 0.327, and 0.482, respectively. All the above correlation coefficients were significant. Table 11 indicates the correlation between other variables and their specific correlation coefficients.

Multiple Linear Regression

Multiple Linear Regression of Subjective Happiness in Higher Vocational Students

Multiple stepwise regression analysis was performed with the subjective happiness score of higher vocational students as the dependent variable and self-esteem, psychological resilience, coping strategies, and attachment as independent variables. The results are shown in Table 12. The equation for subjective happiness was Subjective Happiness = 8.760 + 0.290 × Optimism - 0.084 × Avoidant Attachment to Mother + 1.742 × Average Positive Coping + 0.139 × Self-esteem - 0.068 × Avoidant Attachment to Father + 0.129 × Acceptance. Other variables did not enter the equation.

Multiple Linear Regression of Depression Level in Higher Vocational Students

Multiple stepwise regression analysis was performed with depression level as the dependent variable and self-esteem, psychological resilience, coping strategies, and attachment as independent variables (Table 13). The

equation for depression level was Depression = 45.255 - 0.499 × Self-esteem - 2.619 × Average Positive Coping - 0.399 × Acceptance - 0.602 × Internality + 0.120 × Anxious Attachment to Mother + 0.065 × Avoidant Attachment to Mother. Other variables did not enter the equation.

Multiple Linear Regression of Anxiety Level in Higher Vocational Students

Multiple stepwise regression analysis was performed with anxiety level as the dependent variable and self-esteem, psychological resilience, coping strategies, and attachment as independent variables. The results are shown in Table 14. The equation for anxiety level was Anxiety = 44.369 - 0.211 × Self-esteem - 0.362 × Acceptance - 0.432 × Internality + 0.201 × Anxious Attachment to Father + 0.080 × Avoidant Attachment to Father. Other variables did not enter the equation.

Discussion

The Beck Depression Inventory (BDI-Ⅱ), Beck Anxiety Inventory (BAI), Self-Esteem Scale (SES), Resilient Trait Scale for Chinese Adults (RTSCA), Simplified Coping Style Questionnaire (SCSQ), Subjective Happiness Scale (SHS), and Relationship Structures Scale (ECR-RS) were used in this study to assess the individual's levels of depression, anxiety, self-esteem, psychological resilience, coping styles, subjective happiness, and attachment

Table 14. Multiple Linear Regression Analysis of Anxiety Level in Higher Vocational Students

Dependent Variable	Independent Variable	Partial Regression Coefficient	Standard Error	Standardized Regression Coefficient	t-value	p-value
Anxiety	(Constant)	44.369	2.117		20.954	0.000
	Self-esteem	-0.211	0.065	-0.130	-3.261	0.001
	Acceptance	-0.362	0.066	-0.179	-5.476	0.000
	Internality	-0.432	0.093	-0.171	-4.664	0.000
	Anxious Attachment to Father	0.201	0.053	0.115	3.783	0.000
	Avoidant Attachment to Father	0.080	0.029	0.087	2.764	0.006

patterns, respectively.

The results revealed that among the vocational students in Beijing, the scores on all the above-mentioned scales were within the normal range. The analysis of coping styles showed that the majority of the participants tended to adopt positive coping strategies, while 27.4% of the participants exhibited a tendency towards negative coping strategies.

Regarding the influence of gender, being an only child, and hometown on various psychological factors, no statistically significant differences were observed in depression, anxiety, self-esteem, psychological resilience, coping styles, subjective happiness, and attachment patterns. Specifically, in terms of self-esteem, the findings of this study were higher than those reported by Li (2003) in their research on first to third-year University students in Beijing. This discrepancy might be attributed to the development and promotion of quality education in China over the years.

Furthermore, being an only child showed no statistically significant impact on self-esteem, which aligns with the results of previous research conducted by Wang et al. (2004). On the other hand, the effect of hometown on self-esteem was not found to be significantly different, which contrasts with the findings of Li's study (2003). This difference could be related to regional variations. The development level of Beijing city is relatively high, and the differences between urban, suburban, and rural areas are smaller compared to most other cities. Moreover, rapid development in rural areas has been observed in China over the past forty years since the reform and opening-up policy, resulting in improved quality of life for the rural population. These factors may have contributed significantly to the outcomes observed in this study.

In the context of Dew and Huebner's (1994) research, they also found no significant gender differences in subjective well-being among middle school students. This phenomenon may be explained by considering various factors such as cultural influences, social norms, and the way adolescents perceive and experience happiness, which might not be predominantly influenced by gender.

As for the impact of sociodemographic characteristics on psychological resilience, statistically significant differences were found in different dimensions. Gender had a significant influence on internal locus of control and flexible

coping, with male students scoring higher than female students on both dimensions. Internal locus of control refers to the personality tendency where individuals believe that they have more control over their current and future lives. Flexible coping, which emphasizes problem-solving, represents the tendency to concentrate on stressors and issues caused by stressors and find diverse ways to solve problems (eliminating or reducing stressors). It is possible that females in this age group may be more prone to extreme and rigid thinking due to physiological and emotional factors, while males may exhibit a more calm and rational approach, leading to higher scores on these two dimensions. Moreover, being an only child showed statistically significant effects on internal locus of control and flexible coping, with only children scoring higher than non-only children. Additionally, hometown exhibited statistically significant differences in internal locus of control, flexible coping, and acceptance. The scores ranked from high to low were: urban, town or suburb, and rural. These differences could be associated with the participants' developmental environments, as urban and town environments offer more diversity, exposure to new experiences, and a variety of problem-solving approaches, while students from rural areas may have experienced more traditional education, leading to higher levels of acceptance.

In the correlation analysis of different variables, it was found that insecure attachment to parents (anxious and avoidant attachment) positively correlated with depression and anxiety, indicating that higher levels of insecure attachment were associated with higher levels of depression and anxiety. Furthermore, insecure attachment was negatively correlated with self-esteem, various dimensions of psychological resilience, and subjective happiness, suggesting that higher levels of insecure attachment were associated with lower levels of self-esteem, psychological resilience, and subjective happiness.

Multiple linear regression analyses were performed with subjective happiness, depression, and anxiety as dependent variables. The adjusted R^2 for the subjective happiness equation was 0.402, indicating that the variation in the independent variables in this model accounted for 40.2% of the variation in subjective happiness. For the depression equation, the adjusted R^2 was 0.380,

explaining 38.0% of the variation in depression levels. As for the anxiety equation, the adjusted R2 was 0.193, explaining 19.3% of the variation in anxiety levels. A higher adjusted R2 indicates a better fit of the regression equation to the data. In this study, the subjective happiness equation showed a relatively high fit, while the anxiety equation had a relatively weaker fit. The stepwise regression method was used in this study, and the results indicated that with the continuous addition of independent variables, the fit of the model improved.

Although this study assessed the psychological status of vocational students in Beijing, it has some limitations. Firstly, the sample was limited to vocational students in Beijing, which may not fully represent the psychological characteristics of vocational students nationwide. Future research could consider expanding the sample size and including a more diverse range of regions and vocational institutions to increase the representativeness of the findings. Secondly, this study adopted a cross-sectional design, which cannot observe individual changes in psychological status over time. Future research could consider using longitudinal research designs to track the development of psychological status among vocational students and gain a better understanding of the trajectory of psychological health.

Moreover, this study mainly relied on self-report measures, which may have introduced self-report bias. Future research could incorporate objective indicators, such as academic performance and physical health indicators, to comprehensively assess students' psychological conditions and increase the objectivity of the results. Additionally, although this study explored the relationships between some social, school, and family factors and psychological health, the mechanisms and influencing factors were not deeply investigated. Future research could further analyze the influencing factors of psychological health, such as academic stress, social support, and self-awareness, to gain a more comprehensive understanding of the formation mechanism of psychological health among vocational students.

Recommendations

For future research on vocational college students' psychological health, adopting longitudinal research designs is highly recommended. Longitudinal studies can track changes in their psychological well-being over time, providing valuable insights into the developmental trajectory and trends of their psychological conditions.
To enhance the objectivity and accuracy of research findings, it is advisable for future studies to incorporate multiple assessment methods beyond self-report measures. Utilizing objective indicators, such as academic performance and physical health, can offer a more comprehensive evaluation of vocational students' psychological health.

Furthermore, exploring the influencing factors and underlying mechanisms that impact vocational students' psychological health should be a priority for future research. Investigating the relationships between social, school, and family factors, such as academic stress, social support, and self-awareness, will contribute to a deeper understanding of the complexities involved in the development of psychological health among vocational college students.

The population of Chinese vocational students is vast, and their mental health development is crucial. It requires the joint efforts of society, schools, and families to provide more care and support to vocational students. By doing so, their self-esteem can be positively developed and oriented in the right direction, fostering the emergence of a new generation of highly qualified and skilled professionals. Schools should change the mistaken notion of "scores above all" and "one test determines the future," emphasizing the importance and necessity of mastering various skills so that students understand that only by acquiring various skills can they avoid being eliminated in today's competitive society. Additionally, schools should provide psychological health education and counseling services to help students effectively cope with academic stress and emotional issues, cultivate positive coping styles, and enhance psychological resilience. Furthermore, career planning and employment guidance education should be actively conducted to help students develop into highly skilled professionals with career expertise during their school years. Parents' attitudes towards vocational students also play a crucial role. Parents' tolerance and understanding undoubtedly serve as a strong backing for students to maintain confidence and participate equally in social competition. Moreover, society should offer more acceptance and recognition to vocational students, treating their contributions to society fairly and justly. When students feel respected and accepted by society, they are more likely to exert their full potential, leading to an enhancement in their self-esteem.

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