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Influence of self-concept and cognitive emotion regulation strategies on the depression of Chinese vocational college students

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Abstract

This study aimed to explore the relationships between self-concept (SC), cognitive emotion regulation strategies (CERS), and depression among Chinese vocational college students. Specifically, it sought to examine how different components of SC and adaptive and maladaptive CERS influence the depression levels of this population. A quantitative research design was employed, using a cross-sectional survey approach. A total of 375 vocational college students participated in the study, selected through stratified random sampling. Participants completed self-report questionnaires assessing self-concept, CERS, and depression. Data analysis included descriptive statistics, Pearson correlation analysis, and multiple regression to examine the relationships between the key variables. The results revealed a moderate negative correlation between SC and depression, with students exhibiting a more positive SC experiencing lower levels of depression. More adaptive CERS, such as positive reframing, were negatively associated with depression, while maladaptive strategies like rumination were positively correlated with depressive symptoms. Additionally, both SC and emotion regulation strategies significantly predicted depression levels, with emotion regulation strategies having a stronger impact. This study emphasizes that cognitive emotion regulation strategies (CERS) and self-concept (SC) play an important role in analyzing the predisposition to depression in students of vocational colleges in China. Although SC demonstrated a slight relation, adaptive CERS portrayed a more powerful influence on depression protective conditions. The results confirm the importance of school-based interventions that would add a combination of SC and emotion regulation skills to the mental health and academic achievements of students. This study contributes to the understanding of how SC and CERS jointly influence depression in vocational college students. The findings have practical implications for educational institutions, suggesting that interventions targeting SC enhancement and emotion regulation skills can help mitigate depression and improve student well-being.

Keywords: Cognitive emotion regulation, Depression, Vocational college students, Mental health interventions, Self-concept.

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1. Introduction

Mental health issues among students have emerged as a rising concern in recent years, especially within the context of higher education [1]. Depression, characterized by persistent sadness, loss of interest, and cognitive impairments, is one of the most common mental health disorders among adolescents and young adults worldwide [2]. Among students, depression not only impacts academic achievement but also inhibits social functioning, long-term career success, and quality of life [3]. China's rapid growth of the higher education system has resulted in a significant increase in vocational colleges, which accommodate a large portion of the student population [4]. Yet, these students tend to suffer from academic pressure, social discrimination, and restricted social mobility, which render them more susceptible to psychological illnesses, such as depression [5]. In contrast to their counterparts in more elite institutions, vocational college students tend to be viewed as intellectually inferior, which can adversely affect their sense of self-worth and self-esteem [6]. More recent studies have begun to investigate not only the incidence of depression in this group but also the psychological and cognitive processes that can account for or buffer it Ge et al. [5]. In particular, SC and CERS have been identified as two potentially important psychological constructs that influence how students perceive and respond to depressive symptoms [7].

Self-concept, typically defined as an individual's perception and judgment of themselves, has always been related to mental health outcomes [8]. A healthy and positive social connection is related to healthier emotional regulation, higher academic motivation, and lower depression rates [9]. A negative self-concept, typically indicated through low self-esteem and internalized failure, is a consistently established predictor of depressive symptoms, particularly in adolescents and young adults [10]. In the Chinese cultural environment, where scholastic achievement is highly esteemed and closely related to one's identity, struggling students in academics such as those who attend vocational colleges may develop a broken or negative self-concept, placing them at greater risk for depression [11]. Several studies have confirmed that Chinese students with high SC scores experience reduced levels of depression, which suggests a probable protective role played by this psychological variable [12].

Cognitive emotion regulation, as deliberate cognitive coping methods that one applies to control their emotional reactions, has also received specific interest in the context of mental health [13]. Facilitative techniques such as positive reappraisal, acceptance, and refocusing attention away from emotional content toward planning have proven effective in reducing depressive symptoms by aiding in the healthy reappraisal of adverse events [14]. On the other hand, maladaptive strategies such as rumination, self-blame, and catastrophizing are associated with increased emotional distress and are consistently found to be indicators that students often rely on internal cognitive strategies due to cultural norms that discourage open emotional expression [15]. This dependence can render cognitive regulation most effective in influencing mental health outcomes [16]. Empirical research with Chinese university students has indicated that students who employ adaptive strategies more often have lower depression levels, while students who employ maladaptive strategies experience greater emotional distress [17]. In addition, studies indicate that not only do SC and cognitive emotion regulation potentially act independently but also interactively contribute to depression, although such interaction effects are not well explored in vocational college environments [18].

With an increasing volume of literature on student mental health, much remains unknown regarding the psychological determinants of depression among vocational college students in China [19]. Research has largely been conducted with students from general universities, overlooking the exclusive psychosocial distress experienced by vocational college students [20]. These students are frequently subjected to social stereotyping and lower societal expectations, which can negatively impact their self-confidence and emotional resilience [21]. In addition, although SC has been widely researched in the context of depression, there have been few studies on how it specifically operates within the vocational college population, where students may experience increased identity conflicts and feelings of inferiority [22].

Likewise, studies of CERS have tended to investigate general populations or clinical samples, with less emphasis on their application in educational settings [15]. Although research has established unequivocal connections between maladaptive regulation strategies and depression, it is unknown how these patterns present among Chinese vocational students, who might internalize failure differently under cultural and institutional demands [6]. Additionally, few studies combine both SC and CERS within a single predictive model of depression, particularly in Chinese vocational education [23]. Most studies like to examine these constructs separately, not measuring their combined or interactive effects [24]. This fragmented approach renders it difficult to develop integrated interventions. Thus, what is required is research that not only measures these variables simultaneously but also considers them within the specific context of Chinese vocational

college students. Addressing this gap can enhance knowledge of depression's intricacies and guide more targeted mental health interventions among this underrepresented population.

The primary objective of this study is to investigate the influence of SC and CERS on depression among Chinese vocational college students. Specifically, the study aims to: (1) examine the relationship between SC and depression, (2) assess how adaptive and maladaptive CERS relate to depression, and (3) determine whether SC and CERS jointly predict depression in this population. By addressing these objectives, the study seeks to develop a more integrated understanding of the psychological factors that contribute to depression among vocational students, a group that has received limited attention in the literature. The research also aims to provide empirical support for a conceptual framework that can be used to guide future mental health interventions and policy decisions within vocational educational institutions in China.

This research is important because it examines a significant mental health concern within an under-researched population: Chinese vocational college students. By analyzing both SC and CERS as predictors of depression, the study provides a more accurate representation of how internal psychological processes influence emotional health. The findings can guide teachers, counselors, and policymakers in developing evidence-based programs to enhance students' self-perception and promote healthier emotion regulation strategies. Additionally, the study contributes to the broader literature on adolescent and young adult mental health by exploring cultural and institutional factors that impact psychological outcomes. Ultimately, the research aims to inform the development of mental health programs tailored to the specific needs of Chinese vocational college students.

2. Literature Review

SC is the sum total of an individual's perceptions of himself or herself in terms of beliefs, values, and attitudes toward self [18]. SC is the foundation on which self-esteem is built and how people judge their self-worth and react to life problems [7]. Depression is described as persistent sadness, hopelessness, and a loss of interest or pleasure in everyday things [2]. During adolescence and early adulthood, formative years for identity development, SC is especially important in emotional and psychological growth [20]. In the Chinese context, students in vocational colleges tend to feel increased academic and societal pressure because of perceived educational hierarchy, which can have a negative effect on their self-concept [9]. Such students tend to internalize societal stigma or feel inferior, increasing their susceptibility to mental health problems, such as depression [12].

Empirical evidence has consistently supported a negative correlation between SC and depression across various cultural and educational settings. Research by Yang et al. [23] and others has indicated that people with higher scores on SC are much less likely to suffer from depressive symptoms. In China, Ge et al. [5] conducted a study that established that students who attended lower-ranked schools had lower levels of SC, which were directly correlated with higher depressive symptoms. Additionally, longitudinal studies have established that healthy SC not only shields against existing depression but also indicates lower levels of depression in the future [20]. Transposing these results to the specific population of Chinese vocational college students, it is plausible to assume that students with better social competence are likely to experience less depression [8]. This is also based on the cognitive theory of depression, which states that negative self-evaluations play a role in leading to depressive thinking [13]. Therefore, the prediction of a negative correlation between SC and depression in this population is both theoretically valid and empirically supported.

H₁: There is a negative relationship between SC and depression among Chinese vocational college students.

Cognitive emotion regulation is the conscious, cognitive means by which people regulate their emotional reactions to stressful or aversive events [25]. Adaptive strategies include positive reappraisal, planning, and acceptance, while maladaptive strategies encompass rumination, self-blame, and catastrophizing. Adaptive cognitive strategies help individuals reframe negative events constructively, thereby maintaining emotional balance [15]. Depression, which is characterized by dominant feelings of helplessness, low mood, and cognitive distortions, tends to occur when maladaptive emotion regulation tactics are in control [26]. In schools, students are confronted with a range of emotional challenges, such as academic underachievement, peer difficulties, and uncertainty about the future, and thus require effective regulation [27]. In Chinese vocational college students, these issues are compounded by systemic stigmatization and constrained upward mobility, making them more susceptible to poor emotional regulation and deteriorating mental health [16].

A number of studies have documented a strong association between CERS and depression. Garnefski and Kraaij [28], through the development of the Cognitive Emotion Regulation Questionnaire (CERQ), it was found that the use of more adaptive strategies was significantly related to lower depressive symptoms. Studies of Chinese university students and adolescents, for instance, by Zhi and Derakhshan [29], have corroborated such results, identifying adaptive coping methods such as positive reappraisal and refocusing to decrease psychological distress and mitigate against depression onset. In addition, the role of cultural norms in emotional expression suggests that cognitive regulation strategies, being internal and personal, are especially important in East Asian contexts where outward emotional expression is discouraged.

H₂: More adaptive CERS are negatively associated with depression.

Less adaptive CERS are mental processes that tend to sustain or intensify aversive emotional states instead of diminishing them [16]. Such strategies include rumination (recurrent preoccupation with distressing thoughts), self-blame, catastrophizing (anticipation of worst consequences), and other-blame [8]. In contrast to adaptive strategies that facilitate reframing or acceptance of adversity in a constructive manner, maladaptive strategies are frequently associated with psychological distress and dysfunctional thought patterns [18]. Depression among teenagers and young adults is significantly influenced by the quality and style of emotional regulation, with the repetitive use of poor strategies creating self-reinforcing negative cognitive and affective processes [23]. For Chinese vocational college students, who potentially

encounter a distinct set of stressors related to their academic status, limited work opportunities, and societal pressure, dependence on less adaptive regulation strategies could exacerbate emotional challenges and lead to depressive symptoms [30].

A robust empirical literature base exists to support the association between maladaptive CERS and depression. Garnefski and Kraaij [28] have identified that rumination and catastrophizing strategies are reliable predictors of elevated depression levels in diverse populations, for example, adolescents and university students. In a Chinese cultural context, research by Chen et al. [3] and Peng et al. [31] indicated that students who more often used self-blame and catastrophizing demonstrated much higher levels of depressive symptoms compared to their peers who employed these strategies less frequently. In addition, these maladaptive strategies are postulated to combine with cultural patterns of emotional suppression in East Asian cultures to increase their effects.

H₃: Less adaptive CERS are positively associated with depression.

SC and CERS, though different constructs, both play a role in the building and maintenance of emotional health or distress. SC refers to one's internalized self-beliefs and perceived value, which may either be protective or risk factors for mental health outcomes [20]. CERS, however, regulate how individuals approach and respond to negative emotional experiences through internal thinking processes [25]. In conjunction, these measures capture both appraisals of the self within cognition and affect regulation strategies as integral elements of psychological theories on depression [14]. Within vocational college students in China, who might face multi-layered social, academic, and emotional hurdles, both regulatory strategies and self-perception prove to be indispensable in determining course trajectories in mental health [13].

Research has increasingly relied on multifactorial models to account for depression, recognizing that depression cannot be attributed to a single psychological variable in isolation [15] established that both low SC and high levels of maladaptive emotion regulation strategies are strong predictors of depressive symptoms in student populations. Additionally, there is some evidence to indicate an interaction effect, such that SC can moderate the effect of regulation strategies on mental health outcomes [4]. In Chinese educational contexts, where external judgments tend to impact internal assessments of self-worth, the synergistic effect of poor self-concept and maladaptive emotion regulation can be particularly devastating [18]. Strong SC with adaptive strategies, on the other hand, can serve as a buffer.

H₄: SC and CERS significantly predict depression.

2.1. Theoretical Framework Supporting the Research

The theoretical basis for explaining the interaction between self-concept, CERS, and depression among Chinese vocational college students primarily lies in Beck's Cognitive Theory of Depression and aspects of Self-Discrepancy Theory. Beck's cognitive model suggests that individuals with negative self-schemas are more likely to develop depressive symptoms, especially when experiencing stress or failure [32]. This model describes how a reduced or distorted self-concept, feeling inadequate, having low self-esteem, or feeling like a failure, may result in automatic negative thoughts and a depressive cognitive style. Concurrently, Self-Discrepancy Theory [33] posits that emotional discomfort and psychological distress occur when there is a misalignment between an individual's actual self and his or her ideal or ought self (typically informed by cultural and family expectations), especially in collectivist societies such as China that value social comparison and achievement. In addition, the function of cognitive emotion regulation is described in the Process Model of Emotion Regulation [34], which emphasizes how individuals regulate emotional events with cognitive methods that either reduce or enhance negative affect. Maladaptive methods like rumination and catastrophizing enhance negative self- and experience-based interpretations, thereby exacerbating depressive symptoms, while adaptive methods like positive reappraisal can interrupt such a cycle. Collectively, these theories support a model in which SC and CERS both directly and interactively influence depression, providing a robust framework for predicting mental health outcomes in this group. This integrated perspective is visually represented in Figure 1: Conceptual Framework, which depicts the hypothesized directional relationships between the major variables.

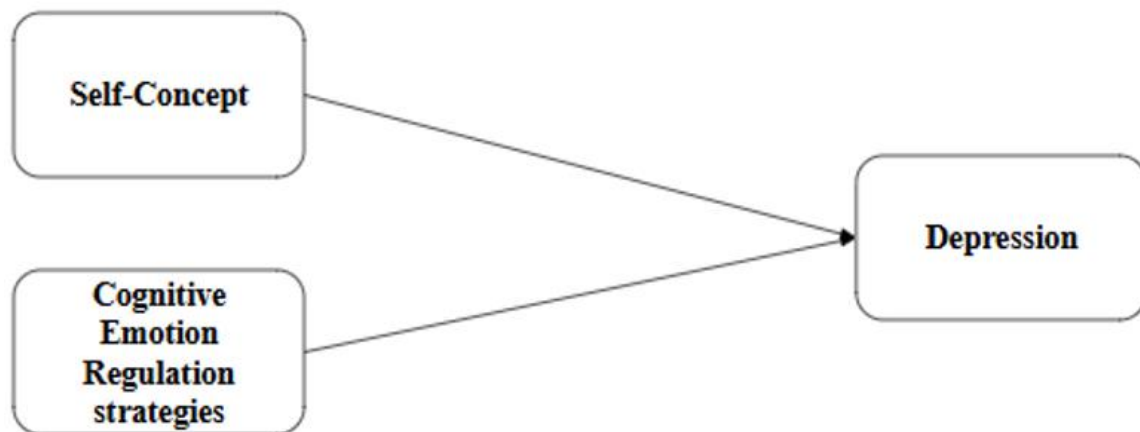


Figure 1.
Conceptual Framework.

3. Methodology

3.1. Research Design

This research employed a quantitative study design to examine the relationships among self-concept, CERS, and depression among Chinese vocational college students. A correlational research design was used to explore how self-concept and CERS are associated with depressive symptoms in this population. The study aimed to test hypotheses that were formulated a priori regarding the nature and strength of these associations.

3.2. Population

The subject population for this investigation was students attending Chinese vocational colleges. Vocational education in China has a significant responsibility in preparing students with specialized labor-market skills, and students in this category tend to experience specific academic stressors and pressures related to their training and professional preparation. This population was selected because concerns had been mounting regarding mental health disorders, specifically depression, in this group. Vocational college students tend to be subjected to academic pressures, social comparison, and restrictive support systems, factors that have been shown to exacerbate mental health issues. For this reason, understanding psychological processes affecting depression in such an environment is important for developing interventions aimed at improving students' welfare. The study was limited to currently enrolled vocational college students within China during the data collection period.

3.3. Sample Size and Sampling Technique

375 students from vocational colleges were involved in the research. The sample size was calculated using power analysis to ensure adequate statistical power to identify real relationships between variables. Based on the type of research, the sample was deemed sufficient to provide reliable and valid data. To obtain a representative sample, a stratified random sampling method was employed. This method ensured that students with varying academic years (freshmen, sophomores, and juniors) and residential backgrounds (urban, suburban, and rural) were represented in the sample. The strata were formed based on these two key demographic variables to ensure diversity and obtain a comprehensive understanding of the population being studied. Utilizing stratified random sampling, the research aimed to reduce selection bias and improve the generalizability of the findings to the larger population of vocational college students.

3.4. Data Collection Procedure

Data collection in the current study was conducted through self-administered questionnaires. Participants were initially introduced to the purpose of the study, and informed consent was obtained from all participants prior to completing the questionnaires. The questionnaires included established and validated measures for self-concept, CERS, and depression. Specifically, the Self-Concept Scale (SCS), Cognitive Emotion Regulation Questionnaire (CERQ), and the Beck Depression Inventory (BDI) were used to gather data. Each participant completed the questionnaires independently at prearranged times at their respective campuses. The questionnaires were completed in the classroom, with researchers or trained assistants available to clarify and respond to questions. All responses were anonymized to ensure confidentiality and reduce response bias. After completing the questionnaires, participants submitted them to the researchers, who prepared the data for analysis. The entire data collection process spanned two weeks to achieve the desired sample size and ensure sufficient data was collected.

3.5. Data Analysis

The information was computed using a combination of statistical methods to examine correlations between self-concept, CERS, and depression. Descriptive statistics such as means and standard deviations were calculated to describe the sample population and provide an overview of the levels of self-concept, emotion regulation, and depression among participants. Correlation analysis was employed to explore the direction and strength of relationships among key variables to understand the associations between CERS, self-concept, and depression. Pearson correlation coefficients were used to test for associations, with statistical significance set at $p < 0.05$. Multiple regression analysis was also conducted to assess the predictive power of SC and CERS for depression, allowing for the determination of their relative contributions to depressive symptoms. Variance inflation factor (VIF) and tolerance values were examined to check for multicollinearity among predictors. All statistical analyses were performed using SPSS software version 25. These analyses aimed to infer the contribution of SC and cognitive emotion regulation to depression levels among Chinese vocational college students.

4. Results

Table 1 provides the demographic details of the 375 Chinese vocational college students who participated in the study. In terms of gender distribution, the majority of participants were female ($n = 276$, 73.6%), with only 99 (26.4%) participants being male, indicating a significant gender imbalance in the sample. When considering place of residence, students from townships constituted the largest group ($n = 133$, 35.5%), followed by those from rural areas ($n = 128$, 34.1%) and urban settings ($n = 114$, 30.4%). This suggests a relatively balanced representation of urban and rural backgrounds. Regarding academic year, respondents were evenly distributed across the three years of vocational study: 128 freshmen (34.1%), 117 sophomores (31.2%), and 130 juniors (34.7%). Such a distribution ensures that the results are not biased toward any particular academic year and can be generalized across different stages of vocational education.

Table 1.

The Quantity and Percentage of General Data of Chinese Students (n = 375).

General data of Chinese students	The number of students	Percentage
1. Gender		
Male	99	26.4
Female	276	73.6
Total	375	100.0
2. Place of Residence		
City	114	30.4
Township	133	35.5
Rural area	128	34.1
Total	375	100.0
3. Level of Education		
Freshman year	128	34.1
Sophomore year	117	31.2
Junior year	130	34.7
Total	375	100.0

Table 2 reports descriptive statistics of the major variables, which comprise components of self-concept, CERS, and depression. For all aspects of self-concept, the majority of the components were found to be moderate; for instance, physical self ($M = 3.18$, $SD = 1.17$), psychological self ($M = 3.47$, $SD = 1.04$), family self ($M = 3.49$, $SD = 1.08$), and social self ($M = 3.44$, $SD = 1.27$). Nevertheless, self-criticism was significantly low ($M = 2.72$, $SD = 1.06$), whereas both self-identity and self-satisfaction obtained high mean scores ($M = 3.65$), indicating that even though there has been some inner conflict, most students possess a strong sense of identity and personal satisfaction. The sum score of SC ranged in the moderate category ($M = 3.26$, $SD = 0.50$). For CERS, positive refocusing ($M = 4.02$, $SD = 0.94$) and positive reframing ($M = 3.75$, $SD = 1.03$) were highly scored as adaptive strategies, while catastrophizing ($M = 2.18$, $SD = 0.95$), other-blame ($M = 2.37$, $SD = 1.22$), and rumination ($M = 2.46$, $SD = 1.22$) were low scores as maladaptive strategies. Depression levels among participants were moderate ($M = 2.42$, $SD = 0.62$), suggesting that although not highly depressed, many students do suffer some level of emotional distress.

Table 2.

Means and Standard Deviations of the Influences of SC and CERS on the Depression of Chinese Higher Vocational Students.

Variable	Component	Mean	Standard deviation	Level
Self-concept	Physical self	3.18	1.17	Moderate level
Self-concept	Moral-ethical self	3.08	0.71	Moderate level
Self-concept	Psychological self	3.47	1.04	Moderate level
Self-concept	Family self	3.49	1.08	Moderate level
Self-concept	Social self	3.44	1.27	Moderate level
Self-concept	Self-criticism	2.72	1.06	Low
Self-concept	Self-identity	3.65	1.14	High
Self-concept	Self-satisfaction	3.65	1.14	High
Self-concept	Self-action	3.39	1.26	Moderate level
Self-concept	Total Score of Self-concept	3.26	0.50	Moderate level
Cognitive emotion regulation strategies	Self-blame	3.07	1.20	Moderate level
Cognitive emotion regulation strategies	Acceptance	2.62	0.44	Low
Cognitive emotion regulation strategies	Focus on thought/rumination	2.46	1.22	Low
Cognitive emotion regulation strategies	Positive refocusing	4.02	0.94	High
Cognitive emotion regulation strategies	Positive reframing	3.75	1.03	High
Cognitive emotion regulation strategies	Putting into perspective	3.47	0.44	Moderate level
Cognitive emotion regulation strategies	Catastrophizing	2.18	0.95	Low
Cognitive emotion regulation strategies	Other-blame	2.37	1.22	Low
Depression	Depression	2.42	0.62	Moderate level

Table 3 presents the Pearson correlation coefficients between the key study variables. Depression was significantly negatively correlated with SC ($r = -0.402$, $p < .001$), which indicates that greater SC is associated with lower levels of depression. More adaptive cognitive emotion regulation strategies were also significantly negatively correlated with depression ($r = -0.600$, $p < .001$), suggesting their protective role against depressive symptoms. Conversely, less adaptive emotion regulation strategies for cognition were positively and strongly related to depression ($r = 0.647$, $p < .001$), confirming their contribution to psychological distress. Additionally, SC was positively related to more adaptive strategies ($r = 0.594$, $p < .001$) and negatively related to less adaptive strategies ($r = -0.507$, $p < .001$). These findings highlight the

significant interrelation among these variables in psychology and support the proposed directions of influence, validating the study's theoretical model.

Table 3.

Correlation Analysis of the Relationships among the SC, CERS of Chinese Higher Vocational Students, and Depression.

Variable	Depression	Self-concept	More adaptive cognitive emotion regulation strategies	Less adaptive cognitive emotion regulation strategies
Depression	1			
Self-concept	-0.402***	1		
More adaptive CERS	-0.600***	0.594***	1	
Less adaptive CERS	0.647***	-0.507***	-0.713***	1

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4 presents multicollinearity diagnostics for the regression analysis in terms of tolerance values and variance inflation factors (VIFs). All the tolerance values were greater than the generally accepted cutoff of 0.2, and all VIF values were less than the critical value of 5. For self-concept, tolerance was 0.633 and VIF was 1.579, suggesting negligible multicollinearity. The higher adaptive CERS had a tolerance of 0.419 and a VIF of 2.384, and the lower adaptive strategies had a tolerance of 0.481 and a VIF of 2.079. These figures indicate that the independent variables are not highly interrelated and can be safely included in the same regression model without biasing the outcome. Therefore, the regression analysis satisfies the multicollinearity assumptions, ensuring the stability of the model.

Table 4.

Relationships among the self-concept, CERS, and depression of Chinese higher vocational students ($n=375$).

Variable	Component	Tolerance	Variance Inflation Factor(VIF)
Self-concept		0.633	1.579
CERS	More adaptive CERS	0.419	2.384
	Less adaptive CERS	0.481	2.079

Table 5 presents the results of multiple regression analysis examining the extent to which SC and adaptive and maladaptive CERS predict depression. The combined model included all three independent variables. The regression coefficient for SC was not significant ($b = -0.005$, $t = -0.293$, $p > .05$), indicating that SC alone did not significantly predict depression when controlling for emotion regulation strategies. Conversely, more adaptive strategies of cognitive emotion regulation significantly predicted depression ($b = -0.335$, $\beta = -0.276$, $t = -4.822$, $p < .001$), suggesting that students who adopt adaptive strategies experience fewer depressive symptoms. Fewer adaptive CERS significantly predicted depression ($b = 0.447$, $\beta = 0.443$, $t = 8.303$, $p < .001$), demonstrating that maladaptive strategies contribute significantly to depressive symptoms. These findings suggest that cognitive emotion regulation is more important than SC in predicting depression among Chinese vocational college students.

Table 5.

Multiple Regression Analysis of the Influence of SC and CERS of Chinese Higher Vocational Students on Depression.

Variable	Component	b	SE	β	t
constant		36.108	6.693	-	5.381***
SC		-0.005	0.017	-0.014	-0.293
CERS	More adaptive CERS	-0.335	0.070	-0.276	-4.822***
	Less adaptive CERS	0.447	0.054	0.443	8.303***

Table 6 presents the overall statistics for the multiple regression model. The model yielded a multiple correlation coefficient of $R = 0.676$, indicating a strong relationship between the predictors and depression. The R^2 value of 0.457 suggests that approximately 45.7% of the variance in depression can be explained by the combined influence of self-concept, more adaptive, and less adaptive CERS. The adjusted R^2 (0.453) confirms the model's explanatory power with a minimal adjustment for the number of predictors. The standard error of the estimate was 9.21, and the model's F-statistic was significant ($F = 111.222$, $p < .001$), indicating that the model as a whole significantly predicts depression. These results underscore the effectiveness of the model in explaining psychological outcomes in this student population and provide strong empirical support for the study's conceptual framework.

Table 6.

Regression Model.

Model	R	R^2	R^2_{adj}	Std. error of the estimate	F	p
1	0.676 ^a	0.457	0.453	9.20507	111.222	0.000 ^b

Note: ^a Predictors: (Constant), Self-concept, More adaptive CERS, Less adaptive CERS

^b Dependent Variable: Depression

5. Discussion

This research investigated the complex interplays between self-concept, CERS, and depression in Chinese vocational college students. With the high incidence of depression in educational institutions, especially among vocational students who usually experience specific academic and social difficulties, it is essential to understand the psychological mechanisms that underlie mental well-being. The results indicate that both SC and CERS have significant effects on the mental health of these students. Although SC is a significant factor in determining emotional outcomes, cognitive emotion regulation, especially adaptive strategies, has a more direct effect in reducing depressive symptoms. These findings contribute not only to the research on mental health in Chinese educational settings but also provide useful insights into how interventions in SC and emotional regulation can enhance students' well-being.

The findings of the present study highlight the strong associations between self-concept, CERS, and depression among Chinese vocational college students. The first significant finding, reflecting a moderate negative correlation between self-concept and depression, suggests that students with more positive and robust self-concepts tend to have lower levels of depressive symptoms [7]. This supports the protective role of SC for mental health. In the case of Chinese vocational college students, whose social and academic pressures commonly lead to feelings of inferiority and low self-esteem [6], the findings support that previous research has demonstrated that negative SC is a risk factor for depression. Although the correlation between SC and depression was high, regression analyses showed that SC independently predicted depression once the effects of CERS were controlled for [9]. This suggests that while SC plays a significant role in emotional well-being, it may not be the sole factor in determining depression levels. Instead, CERS most notably has more adaptive and less maladaptive strategies that are more significant in determining depression outcomes.

The study also identifies the role played by CERS in controlling depressive symptoms. Increased frequencies of adaptive strategies such as positive refocusing and positive reframing were found to have a significantly negative correlation with depression, confirming earlier studies indicating that adaptive strategies of emotion regulation function as shields against emotional discomfort [28]. These findings are particularly significant in the case of Chinese vocational students, who, by definition, tend to have fewer outside systems of support available for several reasons related to the competitive nature of schooling systems [23]. Utilizing more adaptive styles of coping is making students more capable of redefining undesirable experiences, moderating emotions, and keeping in check the growth of depressive signs. The positive relation of adaptive CERS and better mental health supports the hypothesis that interventions focused on these strategies would significantly increase students' emotional health. Less adaptive ones, such as catastrophizing and rumination, were strongly positively correlated with depression, thus further confirming the damaging effects of maladaptive cognitive processing in perpetuating emotional suffering [12]. The high levels of predictive precision associated with such detrimental coping tactics also suggest, however, that focusing on supporting healthier coping behaviors in students might be a very effective way to reduce depression in student populations at vocational colleges.

Interestingly, the study also showed that there was a complex interplay between SC and CERS. Whereas SC was moderately correlated with more adaptive and less adaptive emotion regulation strategies, its influence on depression was less than that of cognitive emotion regulation. The implication is that SC indirectly influences depression by influencing the way students regulate emotions. For example, students with healthier SC are more likely to use positive reappraisal, which in turn shields them against negative depressive symptoms [9]. However, students who have poor social competence (SC) are more likely to use maladaptive processes such as rumination, which can intensify depressive emotions. The relationship between these concepts demonstrates that SC and cognitive emotion regulation strategies (CERS) are important factors to understand the development and maintenance of depression in vocational students. This association aligns with findings from existing research on the combined influence of emotion regulation and SC on mental health [35], highlighting the requirement for an integrated intervention for mental health involving both self-perception and emotion regulation.

Finally, the results of this study have a number of significant practical and theoretical implications. Theoretically, the current research adds to the expanding pool of literature concerning the psychological determinants of depression, especially for Chinese vocational college students. With the identification of the dual function of SC and CERS, the study comes closer to revealing how these variables together play a role in depressive symptoms [16]. This combined model may be considered a starting point for further research that considers other possible moderators or mediators, such as academic stress or social support, which can impact the interaction among self-concept, emotion regulation, and depression. In application, the research emphasizes the necessity of enhancing positive self-concept and sound emotion regulation capacity in vocational education. Institutions may offer focused interventions, including workshops or counseling programs, to enable students to learn improved emotional regulation skills and enhance their self-concept. Because depression has been linked to academic achievement, interpersonal relationships, and overall health, treatment of these psychological variables may have important implications for both the psychological health and academic achievement of Chinese vocational college students [30]. In addition, by targeting cognitive emotion regulation, an area that is modifiable, these results provide a platform for promoting the emotional resilience and coping skills of students, with a long-term aim of preventing depression in this vulnerable population of students.

In general, the present study provides significant evidence for the roles of SC and CERS in predicting depression among Chinese vocational college students. While self-concept is a contributing factor, CERS, particularly more adaptive ones are the main predictors of depressive symptoms. These findings emphasize the need to incorporate emotion regulation training and SC improvement into psychological treatment for students. By cultivating more adaptive coping strategies and a healthier sense of self, schools can alleviate students' emotional burdens and experience improved academic performance, mental health, and overall life satisfaction. Further research should continue to investigate the mechanisms behind these

findings and their applications in various educational settings, expanding our understanding of the most effective ways to support students in overcoming emotional and academic challenges.

6. Conclusion

In conclusion, this study extensively contributes to understanding the interactive complexity of self-concept, CERS, and depression among Chinese vocational college students. The research underlines the interrelated nature between SC and emotion regulation as predictors of depression in the sense that healthier emotion regulation strategies serve as strong protective factors against resisting depressive symptomatology. Although SC was mildly correlated with depression, it was the CERS, namely the use of adaptive strategies, that evidenced a stronger and more direct correlation with depression. These results emphasize the need for schools to use interventions that address both the enhancement of SC and emotion regulation skills in order to improve students' mental health outcomes. Although the research has useful theoretical and practical implications, it also admits limitations such as its cross-sectional design and employment of self-reports, limitations that future studies can address via longitudinal designs as well as by other data sources. Lastly, the study upholds the significant role of psychological constructs in contributing to student happiness and underscores that there is a need for a comprehensive approach towards mental health intervention using SC reinforcement as well as emotion regulation training. These programs may have potential for enhancing both students' mental health and academic achievement, leading to a more resilient and supportive student body.

6.1. Implications

The practical implications of this study are extensive, especially for educational institutions aiming to promote students' mental health and well-being. Considering the findings that CERS, particularly adaptive ones, significantly impact depression reduction, vocational colleges should incorporate emotion regulation training into their academic support services. Interventions teaching positive reframing, positive refocusing, and stress-coping behaviors can effectively guide students in managing stress and emotional challenges. Promoting self-concept enhancement, leading to improved self-identity and satisfaction, can also protect students from the adverse effects of depression. Counseling programs targeting emotional regulation and self-concept development can help students cope with academic and personal setbacks. Additionally, addressing maladaptive strategies such as catastrophizing and rumination may prevent the onset or worsening of depressive symptoms. Schools could implement workshops, seminars, or individual counseling focused on identifying and modifying these detrimental emotional habits. By actively promoting self-concept enhancement and emotion regulation skills, vocational schools can reduce depression rates and improve academic performance, social relationships, and overall life satisfaction among students. These interventions would foster a healthier, more supportive community, better equipping students to navigate emotional and academic challenges.

The theoretical contribution of this study is substantial, given that it adds to the volume of literature on the intersections between self-concept, cognitive emotion regulation, and mental health, especially among Chinese vocational college students. The research provides empirical evidence supporting the theory that both cognitive emotion regulation and self-concept are essential in explaining depression, indicating that mental health outcomes are influenced not only by individual factors, including self-perception, but also by how individuals regulate their emotions in response to stressors. By demonstrating that adaptive emotion regulation techniques have a more direct effect in reducing depressive symptoms than self-concept itself, the study challenges models that emphasize the role of self-concept without considering coping mechanisms. Additionally, the study highlights the dynamic interaction between self-concept and emotion regulation and suggests that a more integrated theoretical model is necessary to fully understand how these variables interact to influence psychological well-being. This research supports the development of models incorporating both cognitive and emotional processes to explain mental health outcomes, offering a more comprehensive perspective than approaches that treat self-concept and emotional regulation as separate constructs. The findings also suggest that future theoretical models should explore the mediating or moderating roles of other factors, such as personality traits, academic stress, and social support, in the relationship between self-concept, emotion regulation, and depression, thereby providing a broader understanding of the psychological processes involved in depression among student populations.

6.2. Limitations and Future Directions

Although this research offers significant insights into the association between self-concept, cognitive emotion regulation, and depression among Chinese vocational college students, there are various limitations that must be taken into account when interpreting the results. To begin with, the research is based on cross-sectional data, which can only capture associations at a single point in time and thus cannot establish cause-and-effect relationships among the variables. Future studies may utilize longitudinal designs to gain a deeper understanding of the directionality and causal processes among self-concept, emotion regulation, and depression. This research also relied on self-report questionnaires, which are prone to response biases such as social desirability and introspective errors. Utilizing more than one mode of data collection, for instance, interviews or behavioral measures, may provide a richer insight into the constructs. A second limitation is the inclusion of vocational college students in China only, which could make the findings less applicable to other schooling contexts or cultural backgrounds. Further studies can explore similar connections elsewhere in other countries or educational environments, such as universities and secondary schools, and test whether such results would be consistent across a wider range of samples. In addition, although this study targeted self-concept and emotion regulation strategies, other potential predictors of depression, including social support, academic stress, and personality traits, were not considered. Future research could extend the model to include these additional factors, offering a more comprehensive

understanding of the diverse influences on student mental health. Lastly, interventions that enhance positive self-concept and adaptive emotion regulation strategies could be tested in future research to evaluate their effectiveness in alleviating depression and improving mental well-being among student populations.

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