

Mediating Model of College Students' Chinese Zhongyong Culture Thinking Mode and Depressive Symptoms

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Background: College is a key period for students' learning and development, as they begin independently to face life's adversities. The essence of China's zhongyong culture is to provide a practical way of thinking, a basic principle of the Chinese people. However, empirical research on psychopathology is lacking. The present study investigated Chinese college students to explore and explain the psychological mechanism of depressive symptoms via the zhongyong practical thinking mode.

Methods: The study examined the relationship between zhongyong practical thinking and depressive symptoms, coping style, and ruminations of 501 Chinese college students. The statistical software SPSS was used to establish an intermediary model between moderate zhongyong practical thinking and depressive symptoms.

Results: Rumination partially mediated the relationship between zhongyong practical thinking and depressive symptoms, but coping style had no mediating effect. Therefore, reducing the negative rumination behaviours of college students may be more conducive to alleviating their depressive symptoms. The chain mediating effect of coping style and rumination was significant. The college students with high levels of zhongyong thinking adopted positive coping styles to cope with various pressures and situations, reducing negative coping and rumination and thereby reducing their depressive symptoms.

Discussion: The results of the study could help universities to provide courses and activities that promote students' mental health from the perspective of zhongyong psychological interventions. The results provide a model for further studies of the influence of zhongyong practical thinking on depressive symptoms amongst college students.

Keywords: zhongyong practical thinking, depression symptoms, rumination, coping style, college student mental health

Introduction

Zhongyong, which embodies the unique world outlook and values of China's Confucian culture, deeply influences Chinese people's thoughts, words, and deeds. College students are faced with multiple pressures that lead to a higher risk of depression and other psychological problems. These in turn bring trouble and pain that create sub-optimal health. Rumination and poor coping styles are two variables that are closely related to depression. Zhongyong culture can buffer and regulate the negative emotions caused by stress and alleviate the depressive symptoms of college students.

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Zhongyong Practical Thinking and Depressive Symptoms

Zhongyong thinking has been used in China for more than a thousand years. It has had a far-reaching impact on all aspects of people's psychology and behaviour. It is essentially a form of practical cognition that can directly guide the way individuals act in particular situations.¹

Researchers have developed instruments to measure and study zhongyong practical thinking from different angles and at different levels. At present, the measurement of golden mean thinking tends to use questionnaire surveys and the Zhong Yong Practical Thinking Scale compiled by Zhao.² The latter has many dimensions but it has limited reliability and validity. Wu and Lin³ adapted Zhao's scale, which focused mainly on interpersonal relationship processing, which obviously made it defective. Li⁴ analysed contemporary college students' practical thinking of zhongyong from a quantitative point of view and discussed its influence on the body and mind in terms of the individual and interpersonal relationships, the individual and the surrounding environment, and the individual mind, or self.⁵ Zhongyong thinking requires that individuals refer to the active principle of harmony in diversity when dealing with interpersonal relationships. Harmony means to do things according to different situations and take appropriate measures when dealing with different opinions or when trying to get along with different personalities. Therefore, the idea of harmony in diversity in dealing with interpersonal relationships is the concrete embodiment and application of zhongyong thinking in interpersonal communication.⁶ Zhongyong thinking in dealing with the relationship between people and the surrounding environment (things) requires individuals to take moderate measures according to changes therein. This is usually shown as flexibility; individuals can control their environment and adapt to it. In dealing with the relationship between individual and self-body and mind, the mean of zhongyong thinking requires people recognise human emotions and thoughts that are consistent with real-life situations. Human nature can be good.⁷

Wang et al⁸ discovered that when college students found themselves in conflict situations, those with low zhongyong thinking were more inclined to choose coping strategies involving compromise, while those with high zhongyong thinking were more inclined to choose cooperative coping strategies. Zheng⁹ showed that the zhongyong thinking, as an individual self-monitoring

mechanism, could guide the individual's behaviour, which helped to improve their level of psychological adaptation level. Kang¹⁰ conducted a study of 442 Chinese college students and found that zhongyong thinking could limit aggressive behaviour by changing the individual's cognition and emotion and helping to form a positive understanding of forgiveness. Chen and Huang¹¹ concluded that the coping tendency of college students born in the new century was influenced by the culture of zhongyong practical thinking; the authors suggested that college students who felt under pressure should consider zhongyong practical thinking, which could benefit their mental health.

With the development of the social economy, improvements in people's living standards, the quickening pace of life, and increasingly fierce competition, depression has become one of the common psychological problems in today's society. According to the latest data from the World Health Organization (WHO), around 350 million worldwide suffer from depression. Rates of depression in China have reached 2.1%. Every year, around 280,000 people commit suicide in China, and 50–70% of them are depressed. Depression affects people's daily lives, interfering with study and work. If individuals remain in such a state for a long time, they develop psychological problems,¹² while those with more severe depressive symptoms will have suicidal thoughts and sometimes attempt to kill themselves.¹³ College students in particular face a variety of pressures, and their mental health issues deserve our attention. Cultural background determines the general mechanism and fixed mode of individual psychology and behaviour. Therefore, only by examining native culture can we truly understand the Chinese way of thinking, discover its structure, and learn how it affects people.⁴

Previous studies have found that zhongyong practical thinking is closely related to mental health. It is significantly correlated with many mental health indicators, such as life satisfaction, happiness, and self-awareness, and negatively correlated with anxiety and depression.^{14,15} Guo et al¹⁶ showed that improving college students' understanding of zhongyong practical thinking can effectively regulate depression and improve emotional stability. Gao et al¹⁷ suggested that the predictive relationship between zhongyong core values and degrees of depression may be influenced by mediation and regulation by other factors.

The present study assumed that zhongyong practical thinking amongst college students (ie, interpersonal

zhongyong practical thinking, event zhongyong practical thinking, and self zhongyong practical thinking) directly influenced and negatively predicted depressive symptoms. The intermediary variables between zhongyong practical thinking and depressive symptoms were explored so that the mechanism of action between them could be better understood.

The Mediating Role of Coping Style

Coping style refers to the strategies that individuals adopt to deal with problems.¹⁸ Coping is also an intermediary mechanism between stressors and people's physical and mental health. Adopting a positive coping style can be both beneficial and harmful to mental health.¹⁹ According to the defence mechanism theory of coping style, when the individual encounters external stimuli, they will unconsciously respond with defence mechanisms such as denial, repression, projection, and sublimation, and produce emotional and behavioural responses to protect their physiology and psychology from harm.²⁰ The individual's response to external stimuli is not only a defensive stress response. It also includes purposeful and conscious cognitive and behavioural efforts that can reduce anxiety and depression, relieve emotional tension, regulate behaviour, and maintain psychological balance.²¹ Liu²² examined 230 Chinese college students' zhongyong thinking, coping styles, and subjective well-being and concluded that the higher the level of zhongyong thinking, the more positive the coping style and vice versa. Wang et al²³ studied 1497 Chinese college students to explore the soothing effects of psychological capital and coping style on their depressive symptoms. The results showed that positive coping styles had significant negative effects on college students' depressive symptoms. By contrast, negative and neutral coping styles had significant positive consequences. Other empirical studies^{24,25} have shown that individuals who adopt negative coping styles have higher levels of depression.

The present study assumed that the positive coping styles of college students were positively correlated with zhongyong practical thinking and negatively correlated with depressive symptoms. Although previous studies found no significant correlation between zhongyong thinking and negative coping style, this may be due to issues relating to the samples. The present study assumed that negative coping style was negatively correlated with zhongyong practical thinking and positively correlated with depressive symptoms. In addition, it was hypothesised

that positive and negative coping styles would play an intermediary role between zhongyong practical thinking and depressive symptoms.

The Mediating Role of Rumination

Rumination refers to a stable negative way of thinking in which individuals focus on negative events and emotions and repeatedly think about their causes and consequences.^{26–28} Nolen-Hoeksema²⁷ put forward the idea of the ruminative response style, arguing that rumination means that when an individual is faced with problems, they focus overly on negative events, thus paying too much attention to their negative emotions and failing to deal with them effectively.

Yang et al²⁹ conducted a one-year longitudinal study of high school students in China and found that rumination and stressful life events were both influencing factors in depression and made depressive symptoms more serious. The students with high levels of rumination tended to focus on negative events and think about them obsessively, aggravating their depression. Zhang³⁰ argued that rumination was a key factor in the development and maintenance of depression and an important component of susceptibility to depression. Therefore, rumination was a negative mode of reaction in which the study participants were unable to adapt effectively to the current environment. When an individual falls into rumination when depressed, the duration of the depression will be prolonged and further aggravated.³¹ Individuals who adopt such a negative response become easily maladjusted.³² Several studies^{33–35} have shown that there is a significant positive correlation between negative coping style and rumination – that is, the more negative an individual's coping style, the higher their level of rumination. Yu et al³⁶ argued that individuals are more likely to fall into rumination when they adopt a negative coping style. A negative coping style can significantly predict the level of rumination of individuals.

Although there is a lack of research showing a significant correlation between zhongyong practical thinking and rumination, the aforementioned studies suggested that zhongyong practical thinking was negatively correlated with depression and other indicators. By contrast, rumination and depression were closely related. Therefore, the present study assumed that rumination would play an intermediary role between zhongyong practical thinking and depressive symptoms. The negative (positive) coping style and rumination of the college

students who participated played a chain mediating effect in the relationship between their zhongyong practical thinking and depressive symptoms.

The present study examined explored zhongyong cultural data and psychopathology (depressive symptoms) from the psychological point of view, which helped us to understand the psychological significance of zhongyong culture. It was hoped that the study would enrich the content of Chinese native psychology and provide a new perspective for enhancing the mental health of college students.

Materials and Methods

Participants and Procedure

A total of 501 college students with a mean age of 19.13 years ($SD = 1.23$) from a college in the Guangdong Province were selected through convenience sampling. Amongst them, 258 (51.5%) were male and 243 (48.5%) were female. Of these, 119 (23.8%) were freshmen; 114 (22.8%) sophomores; 116 (23.2%) junior students; and 152 (30.3%) senior students.

After the City University of Macau gave its consent, a website link to the questionnaire containing all measures was distributed to participants. They completed and submitted their responses to all measures via an online platform (<http://www.sojump.com/>). Questionnaires were excluded as invalid if the responses were incomplete or if the same answers were chosen for all items. A total of 513 completed questionnaires were compiled, 501 of which were valid, so the effective recovery rate was 97.7%. All data were analysed using SPSS version 23.0.

Measures

Zhong Yong Practical Thinking Scale (ZYPTS)

Using studies^{2,3} of zhongyong practical thinking, Li and Chen³⁷ developed a 22-item Zhong Yong Practical Thinking Scale including three dimensions: interpersonal zhongyong practical thinking; event zhongyong practical thinking; and self zhongyong practical thinking. The first subscale, self zhongyong practical thinking, assesses individual reflection with zhongyong philosophy's inner logic while receiving both inside and outside information. Typical items of the scale are "I will accept others' kind criticism generously" and "It is a safe way to think about the possible consequences before deciding whether to do it or not." The next subscale, interpersonal zhongyong practical thinking, evaluates how individuals adopt the

zhongyong philosophy of inner logic in interpersonal communication. Typical items of the scale are "On the occasion of disagreement, I am used to finding out opinions that are acceptable to everyone" and "When I make a decision, I try to adjust my expression to take into account the harmony of the whole atmosphere." The event ZYPT subscale measures how individuals think and cope with events through the inner logic of zhongyong philosophy in life. Typical items of the scale are "When I encounter contradictions or difficulties in doing things, I will adjust my emotions" or "Before doing something, I usually have to sort out the origin and development of things." The ZYPTS uses a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate higher levels of zhongyong practical thinking. In the present study, the internal consistency (Cronbach's alpha) of the three different subscales was 0.88, 0.84, and 0.82.

Patient Health Questionnaire (PHQ-9)

The present study used Zhang et al³⁵ translated and revised Patient Health Questionnaire-Depression Scale to measure the severity of depression of the participating college students. The scale was compiled strictly according to the standards of DSM-IV, which included nine items and was scored by 4 points (0 = not at all to 3 = almost every day). Grades range from 0 (not at all) to 3 (almost daily). The total scores of nine items were added to obtain the total score for the PHQ-9. The higher the PHQ-9 score, the more serious the depressive symptoms. A score ≥ 5 meant that depressive symptoms were present. The score of 5~9 points indicated a mild depressive tendency; 10~14 a moderate depressive tendency; 15~19 a moderately severe depressive tendency; and 20~27 a severe depressive tendency. Typical items on the scale are "I feel unhappy, depressed or desperate" or "I have the idea of dying or hurting myself in some way." In the present study, the Cronbach coefficient of the scale was 0.90.

Rumination

The rumination scale used in the present study was the negative rumination scale compiled by Ryan and translated and revised by Wang.³⁸ Ryan found that in real life, people reviewed and thought about traumatic experiences repeatedly. To measure people's rumination on traumatic experiences, he developed a negative rumination scale. Typical items of the scale are "I always unconsciously think of the troubles I have encountered" and "Those sad past events always flashed in

my mind, which made it difficult for me to sleep.” There are seven items on the scale. Participants respond to items on a 7-point, Likert-type scale ranging from 1 (totally not true) to 7 (completely true). The higher the score, the stronger the tendency to ruminate. The higher an individual scores on this scale, the higher their tendency to ruminate. In the present study, the Cronbach coefficient of the scale was 0.97.

Coping Style

In the present study, the Simple Coping Style Scale revised by Xie³⁹ was used to measure the coping styles of the participants. There are 20 items in total. They measure the attitudes or steps individuals tend to take when faced with events and choices in their social life. Typical items of the scale are “I think time will change the status quo, and the only thing to do is to wait” and “I depend on others to solve problems.” This scale includes positive coping (12 items) and negative coping (eight items). Participants respond to items on a 4-point, Likert-type scale ranging from 0 (totally not true) to 3 (completely true). The higher the score for each dimension, the more inclined the subjects are to that particular attitude or measure. In the present study, the internal consistency (Cronbach’s alpha) of the two different subscales for coping style were 0.94 and 0.80.

Results

Test for Common Method Bias

The use of self-report measures may have produced common method bias.⁴⁰ Therefore, Harman’s one-factor test was applied to test for common method bias, examine the factor analysis of the data, and select the extraction method with an eigenvalue greater than 1. Seven factors with eigenvalues greater than one were extracted, which explained 59.42% of the total variance; the explanatory variables of the first principal component factor accounted

for 37.66%. Confirmatory factor analysis results indicate that the fitting indexes of the model were not good and that the variance contribution rate of the first principal component factor did not exceed 40%.⁴¹ Therefore, the existence of common method bias in the present study was unlikely.

Descriptive Statistics and Pearson Correlation Analysis of Each Variable

Table 1 lists the descriptive statistics of each variable in the present study and the results of the Pearson product-moment correlation. Correlation analysis revealed that the dimensions of the college students’ zhongyong practical thinking (self zhongyong practical thinking, event zhongyong practical thinking, and interpersonal zhongyong practical thinking) were positively correlated with positive coping style and negatively correlated with negative coping style and rumination. The depressive symptoms of the students were positively correlated with rumination and negative coping style and negatively correlated with all dimensions of zhongyong practical thinking and positive coping style.

Multiple Chain Mediating Effects of Coping Style and Rumination Between Zhong Yong Practical Thinking and Depressive Symptoms

To explore the role of coping style and rumination in zhongyong practical thinking and depressive symptoms of the participants, the present study used Model 6 in PROCESS to analyse the chain mediation effect. PROCESS is a macro for SPSS that can analyse complex mediating effect models containing multiple mediating variables and covariates, and output three indicators—total effect, direct effect, and indirect effect—and use the bootstrap method to test mediating effect. In the present study, 5000 bootstrap samples were

Table 1 Means, Standard Deviations, and Pearson Correlation Coefficient for the Study Variables

Variable	M	SD	R	PCY	NCY	D
SZY	3.09	1.18	0.580**	0.402**	0.439**	0.560**
IZY	3.03	1.15	0.599**	0.420**	0.461**	0.568**
EZY	3.06	1.17	0.564**	0.391**	0.417**	0.572**
R	2.63	1.74	—	0.692**	0.757**	0.755**
PCY	2.06	0.71		—	0.537**	0.683**
NCY	1.61	0.52			—	0.744**
D	1.28	0.47				—

Notes: N=501. **P< 0.01.

Abbreviations: SZY, SelfZhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

Table 2 Mediating Effects of Self-Zhong Yong Practical Thinking and Depression Symptoms

Mediation Path	Effect Value	Effect Size (%)	CI
SZY-R-D	$(-0.35) \times 0.24 = -0.08$	20.51%	$(-0.10, -0.07)$
SZY-PCY-R-D	$0.24 \times (-0.85) \times 0.24 = -0.05$	12.82%	$(-0.06, -0.04)$
SZY-NCY-R-D	$(-0.19) \times 0.57 \times 0.24 = -0.03$	7.69%	$(-0.05, -0.03)$
Total mediating effect	-0.16	41.02%	

Note: N=501.

Abbreviations: SZY, SelfZhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

selected. Under the 95% confidence interval, gender, age, and grades were taken as control variables to test the chain mediating effects of coping style and rumination on the dimensions of zhongyong practical thinking and depressive symptoms amongst the participants.

Multi-Chain Mediating Effects of Coping Style and Rumination on Self Zhong Yong Practical Thinking and Depressive Symptoms

Self zhongyong practical thinking had a significant negative predictive effect on depressive symptoms of the participants ($\beta = -0.23$, $p < 0.001$), with a 95% confidence interval $[-0.16, -0.09]$. The three mediation paths of self zhongyong practical thinking \rightarrow rumination \rightarrow depressive symptoms; self zhongyong practical thinking \rightarrow positive coping style \rightarrow rumination \rightarrow depressive symptoms; and self zhongyong practical thinking \rightarrow negative coping style \rightarrow rumination \rightarrow depressive symptoms were all significant. As can be seen in

Table 2 and Figure 1, the total mediating effect value was -0.16 , the total effect value was $(-0.16) + (-0.23) = -0.39$, and the total mediating effect size was 41.02%. The results showed one direct effect path and three intermediary effect paths between the participants' self zhongyong practical thinking and depressive symptoms.

Multi-Chain Mediating Effects of Coping Style and Rumination on Interpersonal Zhong Yong Practical Thinking and Depressive Symptoms

Interpersonal zhongyong practical thinking had a significant negative predictive effect on depressive symptoms ($\beta = -0.36$, $p < 0.001$), with a 95% confidence interval $[-0.16, -0.10]$. The four mediation paths of interpersonal zhongyong practical thinking \rightarrow rumination \rightarrow depressive symptoms; interpersonal zhongyong practical thinking \rightarrow positive coping style \rightarrow depressive symptoms; interpersonal zhongyong practical thinking \rightarrow positive coping style \rightarrow rumination \rightarrow

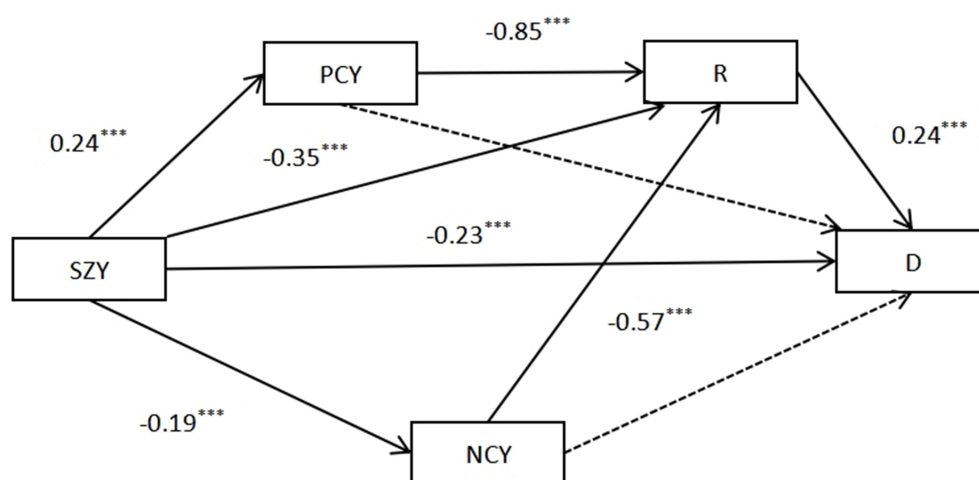


Figure 1 Mediating model of SZY and college students' D.

Notes: The dotted line indicates that the path coefficient is not significant. *** $P < 0.001$.

Abbreviations: SZY, Self Zhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

Table 3 Mediating Effects of Interpersonal Zhong Yong Practical Thinking and Depression Symptoms

Mediation Path	Effect Value	Effect Size (%)	CI
IZY-R-D	$(-0.37) \times 0.24 = -0.09$	15.00%	$(-0.11, -0.07)$
IZY-PCY-D	$0.26 \times (-0.28) = -0.07$	11.67%	$(-0.08, -0.05)$
IZY-PCY-R-D	$0.26 \times (-0.84) \times 0.24 = -0.05$	8.33%	$(-0.07, -0.04)$
IZY-NCY-R-D	$(-0.21) \times 0.55 \times 0.24 = -0.03$	5.00%	$(-0.06, -0.03)$
Total mediating effect	-0.24	40.00%	

Note: N=501.

Abbreviations: SZY, Self Zhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

depressive symptoms; and interpersonal zhongyong practical thinking \rightarrow negative coping style \rightarrow rumination \rightarrow depressive symptoms were all significant. As Table 3 and Figure 2 show, the total mediating effect value was -0.24, the total effect value was $(-0.24) + (-0.36) = -0.60$, and the total mediating effect size was 40.00%. The results revealed one direct effect path and four intermediary effect paths between the participants' interpersonal zhongyong practical thinking and depressive symptoms.

Multi-Chain Mediating Effects of Coping Style and Rumination on Event Zhong Yong Practical Thinking and Depressive Symptoms

Event zhongyong practical thinking had a significant negative predictive effect on the participants' depressive symptoms ($\beta = -0.20$, $p < 0.001$), with a 95% confidence

interval $[-0.13, -0.07]$. The three mediation paths of event zhongyong practical thinking \rightarrow rumination \rightarrow depressive symptoms; event zhongyong practical thinking \rightarrow positive coping style \rightarrow rumination \rightarrow depressive symptoms; and event zhongyong practical thinking \rightarrow negative coping style \rightarrow rumination \rightarrow depressive symptoms were all significant. As Table 4 and Figure 3 show, the total mediating effect value was -0.15, the total effect value was $(-0.15) + (-0.20) = -0.35$, and the total mediating effect size was 42.86%. The results revealed one direct effect path and three intermediary effect paths between the participants' zhongyong practical thinking and depressive symptoms.

Discussion

The present study has shown that the three dimensions of the college students' zhongyong practical thinking had significant direct effects on their depressive symptoms and negatively predicted them. Costanza et al¹³ found in

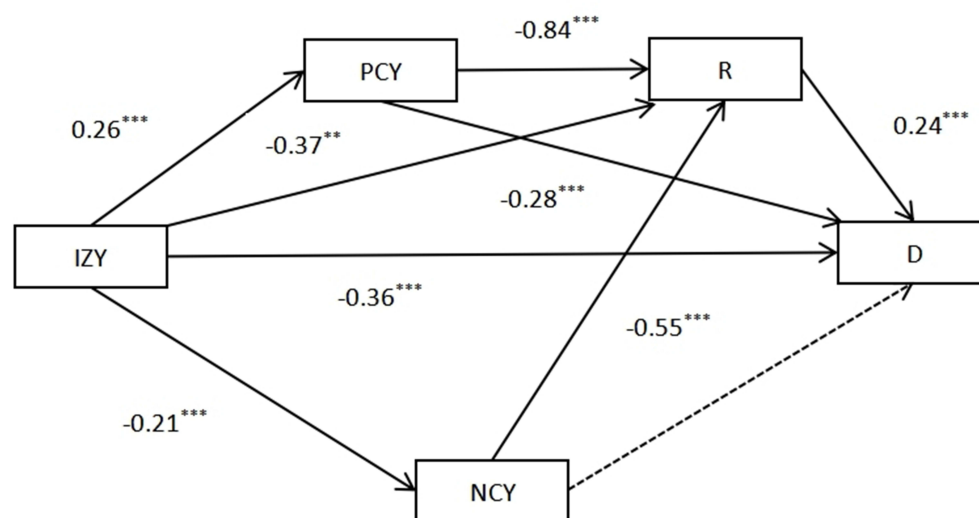


Figure 2 Mediating model of IZY and college students' D.

Notes: The dotted line indicates that the path coefficient is not significant. ** $P < 0.01$, *** $P < 0.001$.

Abbreviations: SZY, Self Zhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

Table 4 Mediating Effects of Event Zhong Yong Practical Thinking and Depression Symptoms

Mediation Path	Effect Value	Effect Size (%)	CI
EZY-R-D	$(-0.34) \times 0.23 = -0.08$	22.86%	$(-0.09, -0.06)$
EZY-PCY-R-D	$0.24 \times (-0.86) \times 0.23 = -0.05$	14.29%	$(-0.06, -0.03)$
EZY-NCY-R-D	$(-0.18) \times 0.59 \times 0.23 = -0.02$	5.71%	$(-0.05, -0.02)$
Total mediating effect	-0.15	42.86%	

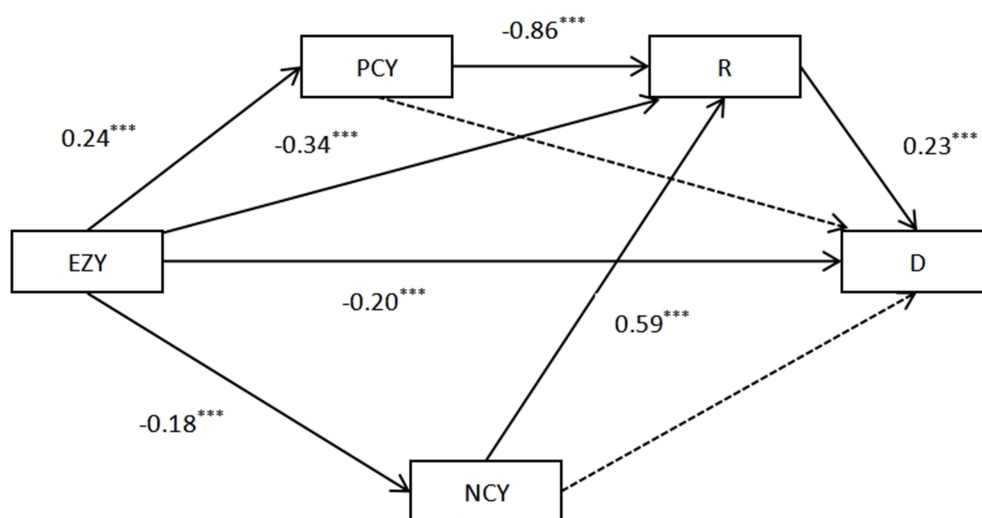
Note: N=501.

Abbreviations: SZY, Self Zhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

their investigation of suicidal patients that interpersonal and emotional relationships were still the first major cause of depression; the second was occupation and education (relating mainly to levels of self-realisation). They also supported the correlation between suicide and zhongyong practical thinking (eg, self zhongyong and interpersonal zhongyong). Acting according to zhongyong thinking allowed the participants in the present study to adopt different coping methods in different environments, making them more flexible in dealing with issues and improving their coping ability. In the context of Chinese culture, zhongyong thinking allows individuals to adjust their perspectives when evaluating emotional events, cope more effectively with environmental change, and enhance their subjective well-being and physical and mental harmony.⁴² Individuals with a high level of zhongyong thinking are better able to distinguish and cooperate when they encounter stress events. They know when to use certain coping strategies and the appropriate actions to

take. The positive influence of zhongyong thinking on the individual's handling of stress events (and its flexibility) meant that the depressive symptoms of the participants who possessed high-level zhongyong thinking could be alleviated.

The present study found that rumination played a partial mediating role between zhongyong practical thinking and depressive symptoms. When the college students' zhongyong thinking was relatively negative, they were prone to negative emotions, and rumination was a susceptibility factor in this. According to the theory of the reflective style of rumination, individuals who pay attention to their own negative emotions and the negative reasons that cause these emotions (such as bad experiences) are more likely to fall into depression.²⁷ Many factors affect people's emotional stability, but the individual's mode of thinking is a particularly important one. Producing, maintaining, and recovering from certain emotions is influenced by specific situations and cognitive

**Figure 3** Mediating model of EZY and college students' D.

Notes: The dotted line indicates that the path coefficient is not significant. *** $P < 0.001$.

Abbreviations: SZY, Self Zhong Yong practical thinking; IZY, Interpersonal Zhong Yong practical thinking; EZY, Event Zhong Yong practical thinking; R, rumination; PCY, positive coping style; NCY, negative coping style; D, depression.

style. Patients with depression tend to have low self-esteem and negative views on things, themselves, and others. They experience more negative emotions and present more depressive and anxiety symptoms. Changing the way of thinking can change mood. As a way of thinking, zhongyong thinking, whose core lies in the perception of Yin-Yang transformation and the overall situation, is manifested in the multi-thinking, integration, and harmony of event clues in interpersonal interaction situations in daily life.⁴³ This also suggests that in the psychological intervention with college students, to cultivate the zhongyong thinking mode of college students, we can start reducing the individual's excessive rumination, which is beneficial to alleviate the individual's depressive symptoms.³¹

In addition, positive coping style only plays a partial mediating role in the mediating model of interpersonal zhongyong practical thinking. Baertschi *et al.*⁴⁴ indicated that there was a close correlation between suicide and personality. From the five-factor personality model, people with high conscientiousness and low extroversion personality have greater possibility and thoughts of suicide, while people with openness personality have less thoughts of suicide. This also shows that if college students have positive personality, they can actively cope with difficulties, which can effectively reduce depressive symptoms and prevent suicidal thoughts. Grasping zhongyong thinking means that college students can properly grasp the measure of all kinds of things (ie, to develop a sense of propriety); it is particularly difficult to master this kind of approach, and the slightest carelessness can damage harmonious relationships with others. Interpersonal zhongyong practical thinking requires the individual to be harmony in diversity when dealing with interpersonal problems. College students who adopt a positive coping style can better adjust and adapt to the stressful environment, truly achieve the concept of harmony in diversity, and minimise the negative emotional experience produced by interpersonal relationships, thus avoiding depression. Therefore, improving coping style and improving interpersonal problem-solving ability can greatly reduce the possibility of depression caused by interpersonal stress events, which is of great significance for maintaining physical and mental health.⁴⁵

The relationships between the three dimensions of the zhongyong practical thinking (ie, self, interpersonal, and events) and depressive symptoms were found to be partially mediated by the serial mediation paths via positive or negative coping style and rumination. The results show that the three dimensions of the zhongyong practical thinking (self, interpersonal, and events) mediate depressive symptoms through

positive coping style or negative coping style and rumination. From the perspective of self zhongyong practical thinking, individuals with self zhongyong practical thinking can realise that the world is constantly changing, constantly reflect on themselves, adjust the action plan accordingly, analyse according to specific conditions and adapt to local conditions, find an appropriate and positive coping style to adapt to various changes in life situations, reduce negative coping and rumination, and avoid falling into depressive symptoms. From the perspective of event zhongyong practical thinking, people with high event zhongyong practical thinking can realise that the surrounding environment is changeable and impermanent, and there are often changing situations or sudden setbacks. Individuals do not have to adopt a tough confrontation but adopt a flexible way to deal with the dynamic changing environment, that is, to cope with flexibly changing events and adopt zhongyong thinking to look at the present predicament.⁴⁶ From the perspective of interpersonal zhongyong practical thinking, learning the overall thinking of zhongyong thinking mode enables college students to look at problems from the perspective of others and collect more comprehensive clues and information before making emotional and behavioural responses, which helps individuals understand the thinking of harmony in diversity, pay attention to the positive aspects of negative events, and change irrational beliefs,^{47,48} to get rid of negative emotions, flexibly adjust and balance, reduce depression, anxiety and inferiority, and promote the improvement of emotional stability.

Through zhongyong thinking, it is possible to guide individuals to look at what is around them, other people, and themselves, and to think about the relationship between themselves and their surroundings. It can help college students learn to integrate external conditions and requirements and their internal needs according to their values, and take this as a guide in daily life, to reflect constantly, to revise action plans, and to improve themselves and their ability to cope with life events and internal conflict. They can enhance their positive coping abilities and reduce their negative coping tendencies, thus avoiding excessive rumination and alleviating depressive symptoms.

Limitations and Suggestions

Zhongyong thinking can play an important role in stabilising the mental health of college students. Costanza *et al.*⁴⁹ showed that demoralisation and despair are characteristic of patients with severe depression, and changing thinking styles can improve symptoms. Students' zhongyong thinking should be cultivated as part of a targeted psychological

intervention in clinical work so they can improve their coping ability and adapt to self and society.¹⁶

The present study investigated a rarely examined psychological variable (ie, zhongyong practical thinking) and its relationship with depression and rumination. The sample size was relatively large, and the recovery rate was high. The psychometric properties of the measures were reported. It is helpful to highlight the direct and indirect effects of the hypothetical models that were used. Having analysed data from college students with psychopathology (depressive symptoms), it is proposed that zhongyong thinking should be used as an intervention in suicide prevention strategies. However, only the effects of coping style and rumination were selected. Because other relevant psychosocial factors were not taken into account, the findings may not be generalisable. In addition, the study population comprised college students in Guangdong Province, so the sample was not representative. The potential universality of the results would need to be verified by studies involving larger numbers of students. Finally, the study used a cross-sectional sequential mediation model, so future researchers could carry out longitudinal studies of zhongyong thinking interventions to confirm their efficacy.

Conclusion

The present study's findings show that the participants' rumination played a partial mediating role between zhongyong practical thinking and depressive symptoms. At the same time, coping style and rumination played an intermediary chain role in the relationship between zhongyong practical thinking and depressive symptoms. The stronger the zhongyong practical thinking, the harder the individual tried to resolve difficult situations. They knew how to control their emotions, respond positively to reduce negative coping and rumination, and reduce their depressive symptoms, thus enhancing their mental health.

Data Sharing Statement

The data presented are available on request from the corresponding authors at 404728242@qq.com.

Ethics Approval and Consent to Participate

The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Ethics in Human Research Committee of the City University of Macau. The participants provided their written informed consent to

participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

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Author Contributions

All authors made substantial contributions to design, data collection, analysis and interpretation; took part in drafting and critically revising articles; agreed to submit to the current journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

Disclosure

The authors declare no conflicts of interest.

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