Difficulties in Emotion Regulation and Mental Health of College Students under Different Management Models in China

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Abstract

The COVID-19 pandemic severely affected the mental health (MH) of college students in China. The enclosed and isolated environment resulting from the pandemic caused distress among college students and affected their emotion regulation ability. Policy adjustments by the Chinese government contributed to large-scale infection, which traumatized students. This study focused on measures college administrators in China took to help college students regulate the emotional impact of the COVID-19 pandemic. Difficulties in emotion regulation and MH scales were used to investigate 1200 college students from two universities in China (with 600 students each) implementing distinct management models. The universities were under militarized management and people-oriented management respectively. Independent t-tests for difference analysis were conducted, and a comparative analysis was performed. The results revealed that the management model considerably affected the emotion regulation of students, contributing to students' MH. The college students under militarized management outperformed those under people-oriented management in terms of both difficulty in emotion regulation and MH. Regression analysis was performed on the correlation between college students' difficulties in emotion regulation and MH during the COVID-19 pandemic. Consistent with the results, college students' emotion regulation difficulties had significant predictive power on their MH during the COVID-19 pandemic. This study provides insights into the factors affecting college students' MH in the current postpandemic context in China and serves as a reference for how colleges and universities can prevent MH problems in the current uncertain environment of China.

Keywords: mental health of college students, college students have difficulty regulating emotions, militarized management, people-oriented management mode

1. Introduction

The development of college and university competencies associated with college management standards and planning to support such competencies positively affect student work (Barbosa, Carrasco, & Abarca, 2022). The management model is crucial to the physical and mental health (MH) of college students, and colleges and universities should demonstrate management characteristics that address student development (J. Li, 2021). Private colleges and universities in China should constantly innovate student education and management, establish a robust management system, innovate cultivation concepts, and optimize cultivation methods to realize students' scientific cultivation (Huang & Ke, 2021). Some colleges and universities believe that they should follow military management and cultivate civilized habits in students through strict disciplinary measures adopted from the army (Ren & Yang, 2008). By imitating the military management model, psychological, physical, and political qualities and other aspects can be improved among college students (Xu, 2015).

The MH of college students is increasingly being regarded as a vital public health priority. However, few people have focused on college students' perceptions of factors resulting in MH challenges or potential initiatives that may address these challenges (Wasil et al., 2022). Furthermore, the COVID-19 pandemic has triggered strong negative emotions among college students, exacerbating their existing mental challenges (Kohls et al., 2020). Under the COVID-19 lockdown, several colleges and universities suspended physical teaching and evacuated college students from campuses. Moreover, some public health measures, including mandatory physical distancing and regulations on social gatherings, may have caused a feeling of isolation and of loss of social support, resulting in several MH conditions such as stress, fear, loneliness, insomnia, and overthinking (Sahu, 2020). Studies have revealed that the MH of college students during the COVID-19 pandemic had degraded compared with their MH before the pandemic (Freibott, Stein,

& Lipson, 2022). This study focused on analyzing the current status of stress and the difficulties in emotion regulation and MH of college students in China under the militarized management and people-oriented management models during the COVID-19 pandemic. It also investigated which management model is more suitable for maintaining the physical health and MH of college students in China at major public events.

1.1 Present Study

Although the effect of difficulties in emotion regulation on MH during the COVID-19 pandemic has been investigated, few studies have focused on the mechanism underlying various management models. The adjustment of China's pandemic prevention and control policies in December 2022 resulted in a recurrence of the pandemic, triggering uncertainties such as whether the virus would continue to mutate, how to effectively prevent the pandemic, and what the effect of large-scale infection on political and economic life would be. We focused on the mechanisms underlying the relationship between stress and college students' MH during the pandemic. Inspired by research on militarized student management models in colleges and universities (W. H. Wang, 2015), this study investigated the status of college students' difficulties in emotion regulation and MH during the COVID-19 pandemic under various management models and performed a comparative analysis. Furthermore, the study investigated the effect of different college management models on college students' MH in the COVID-19 pandemic. In the case of major public events, there are few studies on the impact of the university management model on the physical health and MH of college students.

To sum up, one of the purposes of this study was to explore whether there are differences between two different student management models (militarized student management model and people-oriented student management model) in the emotion regulation difficulties and MH of college students when faced with major public events. The second objective was to explore which management model has a significant impact on the MH of college students.

This study proposed four research questions:

(1) Is the MH of college students in the people-oriented management model significantly higher than that in the military management mode?

(2) Is the Difficulties in Emotion Regulation of college students in the people-oriented management model significantly higher than that in the military management mode?

(3) Under the military-style student management model, is emotion regulation difficulty correlated with MH, and does emotion regulation difficulty have a significant predictive effect on MH?

(4) Under the human-centered student management model, is emotion regulation difficulty significantly correlated with MH, and does emotion regulation difficulty have a significant predictive effect on MH?

1.2 Institutional Theory

Institutional theory is defined as the regulatory, normative, and identity structures and activities that provide stability and meaning to social behavior, including laws, regulations, customs, social and professional norms, culture, and ethics (Scott, 2008). Scholars have proposed three dimensions of institutional environment: supervision, norms, and cultural cognition. Regulatory elements emphasize external institutions, including policies, laws, and regulations, whereas normative elements mainly include traditions and practices shared within society that are related to values and social norms. This dimension is less formal than the regulatory element. Finally, cultural cognitive elements emphasize individual perception, including a set of shared symbolic systems internalized within the individual and providing a meaningful framework for action (DiMaggio, & Powell, 1983).

This study focuses on the influence of institutional theory's supervision, norms, and cultural cognition on college students' emotions and MH. Previous studies argued that institutions would bring negative discrete emotions and that institutions would affect people's attitudes, moods, and emotions (Kent et al., 2023). In particular, the lockdown regime during the COVID-19 pandemic had a significant negative impact on emotion regulation (Congard et al., 2023). At the same time, it had an enormous impact on MH (Coco, G. L. et al., 2023). Therefore, this study attempts to explore the emotion regulation difficulties and MH-related problems of college students under the military management and people-oriented management models.

1.3 Militarized Student Management Model

The main contents of military management in colleges and universities, namely, firm and correct political direction, united and tense style of life, rigorous and realistic teaching style, prohibited organizational discipline and uniform internal affairs order, are a part of a rigorous and realistic teaching style. Achieving this style is the goal of quasi-military management (Huo et al., 2021). The core aim of military management of college students is to enhance

their will and ability through strict military training (Xie, 2022).

1.4 People-oriented Management Mode

With the emergence of humanistic and social constructivist methods, the teaching methods of different disciplines have changed significantly. However, what they do have in common is putting the learner at the heart of the learning process. This is known as student-centered learning (Khoury, 2022). The people-oriented management model refers to student-centered emphasis on differential teaching, improvement of interaction College teacher with students, and cultivation of students' critical reasoning and critical thinking ability. It also involves integrating students' individual learning needs into a "do it yourself" approach (Dada, Laseinde, & Tartibu, 2023).

1.5 Current Status of College Students' Difficulties in Emotion Regulation

Difficulties in emotion regulation can be a trigger for depression, suicide, social anxiety, and anxiety-awakening symptoms in college students (Mayorga et al., 2018). Mood disorders are a key mechanism for the etiology, maintenance, and treatment of alcohol and drug abuse (Weiss, Forkus, Contractor, & Schick, 2018). The COVID-19 pandemic was particularly detrimental to college students' social activities, living arrangements, and academic opportunities (McLafferty et al., 2021). The pandemic posed several emotional challenges for college students. A large-scale study tracking 2,000 college students from June 2019 to June 2020 reported a decrease in positive emotions, such as happiness and optimism, and an increase in negative emotions, such as stress and sadness, among the students (Foa, Gilbert, & Fabian, 2020). Trait-emotion-related processes (including emotion regulation and differentiation) mediated the positive correlation between COVID-19 impact and Obsessive-compulsive disorder OCD severity, whereas no state risk factors appeared as significant mediators (Berman et al., 2022). Studies have revealed that the sudden shift to online education with limited preparation during the COVID-19 pandemic negatively affected students' emotional experience (Khlaif, Salha, Affouneh, Rashed, & ElKimishy, 2021). Accordingly, hypothesis H1 is proposed: The MH of college students based on the people-oriented management model is significantly higher than that based on the militarized management model.

1.6 Current Status of College Students' MH

During the COVID-19 pandemic, college students were particularly vulnerable (Cao et al., 2020). The prevalence of depression and anxiety among college students during the pandemic was reported to be 39% and 36%, respectively (Y. Li, Wang, Wu, Han, & Huang, 2021).The effect of the COVID-19 pandemic on college students' MH revealed that the prevalence of depression and anxiety was alarmingly high and increasing among college students (Zimmermann, Bledsoe, & Papa, 2021). In a study of the MH status of college students in France at the beginning of the COVID-19 pandemic, 11.6% students with depressive symptoms, 58.1% students with anxiety symptoms, and 4.4% students with suicidal ideation were reported. Moreover, students' quality of life associated with MH was significantly lower than that associated with physical health. Social isolation caused by lockdowns, pandemic-related financial constraints, and examination-related stress was related to poor self-reported MH status. Volunteering in the health-care system was related to lower MH scores. Coping strategies were oriented toward avoidance and positive evaluation (Leaune et al., 2021). In the COVID-19 pandemic, 11.4%, 16.1%, and 27.5% of students in an Iranian university were found to have suicidal thoughts, major depression, and high anxiety, respectively (Ghafari, Mirghafourvand, Rouhi, & Osouli Tabrizi, 2021). Considering the importance of students' MH, particularly during the COVID-19 pandemic, evaluating and monitoring their unprecedented MH burden is critical (Adhikari, Sujakhu, Sandervee, & Zoowa, 2021). A study reported on the psycho-social reactions of college students such as anxiety and depression (Aqeel et al., 2021). According to the findings, the prevalence of anxiety among students was as follows: normal, 43.2%; mild, 20.5%; moderate, 13.6%; and severe, 22.7%. The results specified the prevalence of normal (65.9%), mild (9.10%), moderate (9.12%), and severe (15.90%) depression, suggesting that the prevalence of anxiety disorder was higher than that of depression (Aqeel et al., 2021). Accordingly, hypothesis H2 is proposed: The MH of college students based on the people-oriented management model is significantly higher than that based on the militarized management model.

1.7 Dysregulation of Emotion and MH

Previous studies have mentioned that emotion regulation difficulties are significantly negatively correlated with children's MH (Oz, & Kvrak, 2023). Additionally, some studies have pointed out that emotion regulation difficulties are negatively correlated with college students' MH (Burr et al., 2023). Cardi et al. (2021) confirmed that emotion regulation difficulties can significantly predict MH, especially under strict management containment management system. Difficulty in emotion regulation poses a great threat to MH and may lead to MH problems such as symptoms of borderline personality disorder, anxiety, depression, and stress (Christoforou et al., 2021). Although there is no lack of studies on the relationship between emotion regulation difficulties and MH, few studies have been conducted based on

the different management models of college students. Accordingly, hypotheses H3 and H4 are proposed: Under the military-style student management model, emotion regulation difficulties are significantly negatively correlated with MH, and emotion regulation difficulties can significantly predict MH (H3). Under the human-oriented student management model, emotion regulation difficulties are significantly negatively correlated with MH, and emotion regulation difficulties can significantly predict MH (H4).

2. Methods and Materials

2.1 Research Ethics

The Ethical Committee of Dhurakij Pundit University approved this study. Measures were taken to protect the rights of participants specified in the National Policy and Guidelines for Human Research 2015, which the National Research Council of Thailand prepared. Informed consent was acquired from participants to obtain their data.

2.2 Participants and Procedure

Convenience sampling was used for data collection. A total of 1200 students from two universities in southern China were considered as the study subjects. Students volunteered for the study. Before data collection, the aim of the study and the questionnaire design were explained to the teachers responsible for distributing the questionnaire. The teachers responsible for the questionnaire survey were required to obtain participants' informed consent before the survey. The participants could withdraw from the survey at any time without any adverse consequences. Additionally, the participants were informed that data would be collected and extracted anonymously. Questionnaire Star (www.wjx.cn) was used to distribute questionnaires online. Teachers supervised the survey process online as well. The data were collected from December 10, 2022, to December 15, 2022.

A total of 400 pretest questionnaires were distributed. A total of 1200 formal questionnaires were distributed, with 600 questionnaires distributed in each of two universities implementing distinct management models. A total of 574 valid questionnaires were collected from the university under the people-oriented management model, with the effective response rate being 89%. The background variable was gender. The collected research samples were counted, organized, and analyzed. Under the people-oriented management model, the number of male students was 159, accounting for approximately 28% of the total sample, whereas the number of female students was 415, accounting for approximately 72% of the total sample.

2.3 Measuring Tool

The questionnaire used in this study had two main parts. The first part consisted of the guidelines, which informed the participants of the survey purpose and provided notes for filling out the questionnaire. The second part consisted of the gender variables.

2.4 Difficulties in Emotion Regulation

Based on the brief version of the difficulties in emotion regulation scale, participants' difficulties in emotion regulation were measured using DERS-16, which Bjureberg et al. (2016) developed. The scale comprises 16 questions in five dimensions, namely Lack of Emotional Clarity (e.g., I have difficulty making sense of my feelings), Difficulties Engaging in Goal-Directed Behavior (e.g., When I am upset, I have difficulty focusing on other things), Impulse Control Difficulties (e.g., When I am upset, I feel out of control.), Limited Access to Effective Emotion Regulation Strategies (e.g., When I am upset, my emotions feel overwhelming), and Nonacceptance of Emotional Responses (e.g., When I am upset, I feel like I am weak). Responses were scored on a 5-point Likert scale (1 = Almost never; 5 = Almost always). The higher the score is, the higher is the degree of difficulties in emotion regulation.

2.5 MH

The MH of college students was quantified using Lin's (2000) MH scale. The scale is a unidimensional scale with six questions (e.g., I am satisfied with myself), and the last question is a reverse question. The reverse question was removed for data analysis. Participants' responses were scored on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The higher the score is, the better the MH of the participants.

2.6 Data Analyses

SPSS 21.0 was used to process and analyze data, and the criteria of statistical significance ($p < 0.05$) were adopted in the data analysis process. SPSS was used for the preliminary analysis of data, including demographic analysis of samples, reliability testing of measuring tools, and intervariable correlation analysis. The hypothetical model was tested using a two-step strategy (Anderson & Gerbing, 1988). First, project analysis was used to analyze pretest data and exploratory factor analysis (EFA) and confirmatory factor analysis were adopted for the formal data to assess

reliability, convergent validity, and discriminant validity. Second, differences in stress and emotion regulation variables of college students under different management models and background variables were investigated by using independent sample t-test. Third, Pearson correlation analysis was conducted to analyze whether a correlation and co-linearity between stress and difficulties existed in emotion regulation of college students under different management models. Fourth, regression analysis was performed to predict the correlation between stress and emotion regulation variables among college students under various management models.

3. Results

3.1 Reliability and Validity Assessment

3.1.1 Item Analysis

After the pretest, we conducted item analysis, and the analysis results showed that the critical ratio (CR) of all items in the Difficulties in Emotion Regulation Scale was greater than 3. The correlation coefficient between each item and the total score was greater than 0.4, and the value of Cronbach's α did not increase after deleting the item, meeting the statistical standard of item analysis item retention (Nunnally & Bernstein, 1994). Hence, all items of the scale were retained in this study. The CR value of the last item in the MH Scale was less than 3, and the correlation value between this item and the total score was lower than 0.4. After deleting this item, the value of Cronbach's α increased, meeting the item deletion criteria in the item analysis (Nunnally & Bernstein, 1994).

3.1.2 Reliability

The consistency of the measurement tools applied in this study was tested. Tables 1 and 2 present the findings. The Cronbach's α of the difficulties in emotion regulation scale was 0.962; the Cronbach's α of the MH scale was 0.781; the Cronbach's α of each dimension of the difficulties in emotion regulation scale was 0.871, 0.911, 0.920, 0.956, and 0.881, respectively. These figures were greater than 0.7, which implied that the involved measurement tools exhibited excellent reliability.

3.1.3 EFA of the Pretest Questionnaire

To test the construct validity of the measurement tools in the present study, EFA was adopted for analyzing the measurement tools. Tables 1 and 2 present the results. The Kaiser–Mayer–Olkin (KMO) value of the difficulties in emotion regulation scale was 0.941. The Bartlett spherical test significance was 0.000. The KMO value of the MH scale was 0.667. The Bartlett spherical test significance was 0.000. The factor loadings of both measurement models were greater than 0.5, and the explained variance was more than 40%, consistent with the reference range of reliability Wu (2010) proposed. The results revealed that the occupational values scale after EFA exhibited excellent construct validity.

Table 1. Exploratory Factor Analysis of Difficulties in Emotion Regulation Scale

Factor name	Factor dimension	Factor loadings	Factor loadings after rotating axis		Cronbach's α
			Characteristic value	Explained variance %	
Lack of clear emotions	Item 1	.875	2.050	12.881%	.871
	Item 2	.872			
Inability to engage in goal-oriented behavior when frustrated	Item 1	.841	2.701	16.882%	.911
	Item 2	.833			
	Item 3	.668			
Difficult to control impulsive behavior when depressed	Item 1	.839	2.478	15.448%	.920
	Item 2	.823			
	Item 3	.487			
Difficult to obtain effective emotion regulation strategies	Item 1	.771	3.380	21.128%	.956
	Item 2	.771			
	Item 3	.606			
	Item 4	.585			
	Item 5	.570			
Not accepting negative emotions	Item 1	.767	3.243	20.271%	.881
	Item 2	.765			
	Item 3	.635			
		Total cumulative explained variance		86.579%	
		Total question reliability of the scale		.962	

Source: Compiled in this study

Table 2. Exploratory Factor Analysis of Mental Health

Factor name	Factor dimension	Factor loadings	Factor loadings after rotating axis		Cronbach's α
			Characteristic value	Explained variance %	
Mental health	Item 1	.599	2.723	54.465	.781
	Item 2	.606			
	Item 3	.807			
	Item 4	.871			
	Item 5	.820			
		Total cumulative explained variance			54.465%
		Total question reliability of the scale			.781

Source: Compiled in this study

3.1.4 Confirmatory Factor Analysis

(1) Confirmatory Factor Analysis of Difficulties in Emotion Regulation and MH of College Students Based on the Militarized Management Model

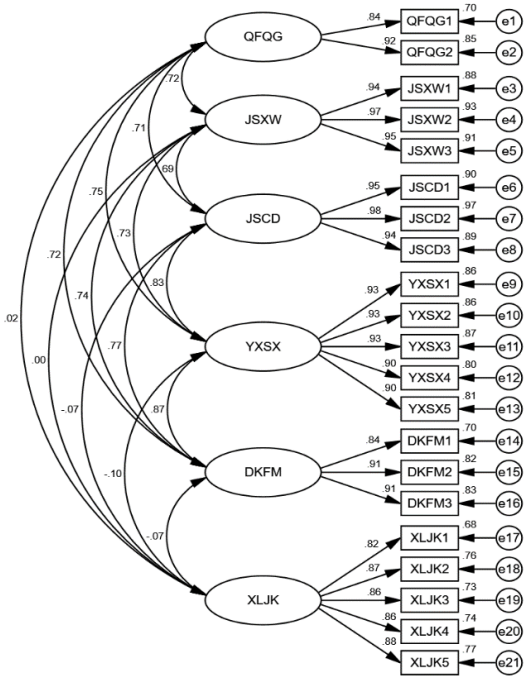

Figure 1. Confirmatory factor analysis of militarized management model

Note: QFQG, JSXW, JSCD, YXSX, and DKFM are the five dimensions of the Difficulties in Emotion Regulation scale. QFQG = lack of clear emotion, JSXW = inability to engage in goal-directed behavior when frustrated, JSCD =

difficulty controlling impulsive behavior when frustrated, YXSX = difficulty accessing effective emotion regulation strategies, DKFM = do not accept negative emotion dimension. XLJK is the mental health scale.

Table 3. Model Fitting Indicators of Militarized Management Model

Index	X^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Statistical value	4.394	0.880	0.840	0.948	0.951	0.959	0.077
Reference value	< 5	> 0.8	> 0.8	> 0.9	> 0.9	> 0.9	< 0.08
Target	OT	OT	OT	OT	OT	OT	OT

Note: OT = on target, df = degree of freedom, GFI = Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index, NFI = Normed Fit Index, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSE = Root Mean Square Error of Approximation.

Table 3 shows that X^2/df is 4.394, less than 5; GFI is 0.880, greater than 0.8; AGFI is 0.840, greater than 0.8; NFI is 0.945, greater than 0.9; CFI and TFI are greater than 0.9; and RMSEA is 0.077, less than 0.08. According to the standard of the model fitting index, the fitting index meets the requirements. Thus, this study further analyzes the model path.

(2) Convergent Validity

Convergent validity refers to the fact that the classifications obtained when two different measurement instruments are used to measure the same concept are highly correlated (Geng, 2008). In line with Rong (2009, P.145), this study tested convergent validity based on construct reliability (CR) and average variance extracted (AVE). The eligibility criteria were CR > 0.7 and AVE > 0.5.

Table 4. Results of Convergent Validity Analysis of the Militarized Management Model

Variables	Items	Standardized factor loading	SE	CR	P	CR	AVE
QFQG	QFQG1	0.837				0.874	0.776
	QFQG2	0.923	0.044	24.504	***		
JSXW	JSXW1	0.940				0.967	0.908
	JSXW2	0.966	0.021	50.588	***		
	JSXW3	0.953	0.021	47.749	***		
JSCD	JSCD1	0.946				0.972	0.919
	JSCD2	0.985	0.017	59.319	***		
	JSCD3	0.945	0.021	48.253	***		
YXSX	YXSX1	0.928				0.964	0.843
	YXSX2	0.930	0.025	41.139	***		
	YXSX3	0.933	0.025	41.674	***		
	YXSX4	0.896	0.028	36.476	***		
	YXSX5	0.902	0.028	37.144	***		
DKFM	DKFM1	0.835				0.916	0.784
	DKFM2	0.907	0.038	27.99	***		
	DKFM3	0.912	0.039	28.197	***		
XLJK	XLJK1	0.822				0.933	0.736
	XLJK2	0.871	0.042	25.29	***		
	XLJK3	0.856	0.042	24.615	***		
	XLJK4	0.862	0.042	24.889	***		
	XLJK5	0.876	0.041	25.52	***		

Table 4 shows the factor loading, CR, and AVE of each variable observation value. The factor loading value of each item is between 0.822 and 0.966, indicating that the convergent validity is high. The CR of each dimension is greater than 0.7 to meet the standard, and the AVE is greater than 0.5 to meet the standard. The significance probability $P < 0.001$, indicating that there is a significant relationship between the six variables and each measurement index variable and that the convergence of the scale structure model meets statistical requirements.

(3) Discriminant Validity

Table 5. Results of Discriminant Validity Analysis of Militarization

	QFQG	JSXW	JSCD	YXSX	DKFM	XLJK
QFQG	0.881					
JSXW	0.717	0.953				
JSCD	0.714	0.694	0.959			
YXSX	0.749	0.725	0.828	0.918		
DKFM	0.723	0.744	0.766	0.874	0.885	
XLJK	0.021	0.003	-0.068	-0.098	-0.074	0.858

Note: The bold value in the upper right corner is the square root of the AVE value.

Table 5 shows that the AVE of each dimension is greater than 0.5, and the square root of the AVE is greater than the correlation coefficient between each dimension. This shows that the scale has good discriminant validity.

(4) Confirmatory Factor Analysis of Difficulties in Emotion Regulation and MH of College Students in the People-oriented Management Model

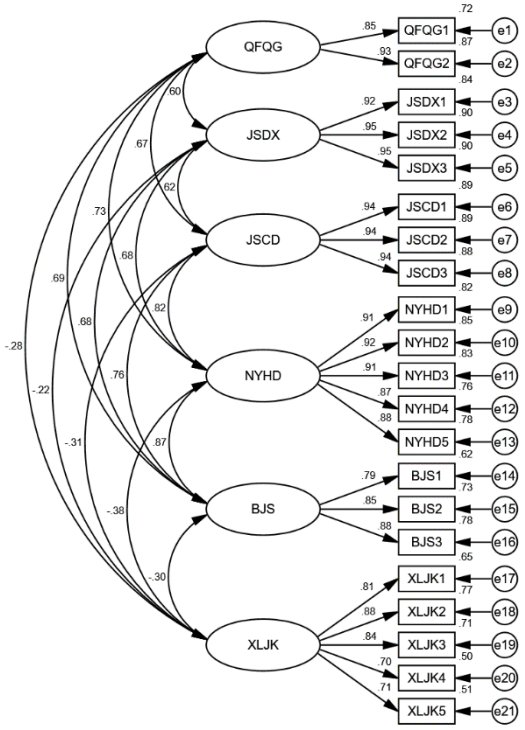

Figure 2. Confirmatory factor model of the people-oriented management model

Note: QFQG, JSXW, JSCD, YXSX, and DKFM are the five dimensions of the difficulties in emotion regulation scale. QFQG = lack of clear emotion, JSXW = inability to engage in goal-directed behavior when frustrated, JSCD = difficulty controlling impulsive behavior when frustrated, YXSX = difficulty accessing effective emotion regulation strategies, DKFM = do not accept negative emotion dimension. XLJK is the mental health scale.

Table 6. People-oriented Management Model Fitting Index

Index	X^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Statistical value	3.810	0.898	0.865	0.947	0.952	0.960	0.070
Reference values	< 5	> 0.8	> 0.8	> 0.9	> 0.9	> 0.9	< 0.08
Target	OT	OT	OT	OT	OT	OT	OT

Note: OT = on target, df = degree of freedom, GFI = Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index, NFI = Normed Fit Index, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSE = Root Mean Square Error of Approximation.

Table 6 shows that X^2/df is 3.810, less than 5; GFI is 0.898, greater than 0.8; AGFI is 0.865, greater than 0.8; NFI is 0.947, greater than 0.9; CFI and TFI are greater than 0.9; and RMSEA is 0.070, less than 0.08.

According to the standard of the model fitting index, the fitting index meets the requirements. Thus, this study further analyzes the model path.

(5) Convergent Validity and Discriminant Validity of People-oriented Management Model

Convergent validity refers to classifications obtained when two different measurement instruments measure the same concept and are highly correlated (Geng, 2008). In line with Rong (2009, P.145), this study tested the convergent validity based on CR and AVE. The eligibility criteria were as follows: CR > 0.7 and AVE > 0.5.

Table 7. Results of Convergent Validity Analysis of People-oriented Management Model

Variables	Items	Standardized factor loading	SE	CR	P	CR	AVE
QFQG	QFQG1	0.851				0.888	0.799
	QFQG2	0.935	0.044	24.672	***		
JSDX	JSDX1	0.916				0.957	0.882
	JSDX2	0.951	0.024	42.028	***		
	JSDX3	0.950	0.025	41.845	***		
JSCD	JSCD1	0.942				0.959	0.886
	JSCD2	0.944	0.021	45.745	***		
	JSCD3	0.938	0.022	44.612	***		
NYHD	NYHD1	0.908				0.955	0.809
	NYHD2	0.923	0.028	37.297	***		
	NYHD3	0.913	0.029	36.172	***		
	NYHD4	0.872	0.031	32.129	***		
	NYHD5	0.881	0.031	32.9	***		
BJS	BJS1	0.785				0.878	0.706
	BJS2	0.852	0.048	22.347	***		
	BJS3	0.881	0.048	23.266	***		
XLJK	XLJK1	0.808				0.894	0.628
	XLJK2	0.879	0.044	23.959	***		
	XLJK3	0.845	0.044	22.825	***		
	XLJK4	0.704	0.046	18.028	***		
	XLJK5	0.712	0.048	18.288	***		

Table 7 shows the factor loading, CR, and AVE of the observed values of each variable. The factor loading value of

each item is between 0.704 and 0.951, indicating that the convergent validity is high. The CR of each dimension is greater than 0.7 to meet the standard, the AVE is greater than 0.5 to meet the standard, and the significance probability $P < 0.001$, indicating that there exists a significant relationship between the six variables and each measurement index variable and that the convergence of the scale structure model meets the statistical requirements.

(6) Discriminant Validity

Table 8. The Discriminant Validity Analysis Results of the People-oriented Management Model

	QFQG	JSDX	JSCD	NYHD	BJS	XLJK
QFQG	0.894					
JSDX	0.600	0.939				
JSCD	0.668	0.619	0.941			
NYHD	0.732	0.679	0.815	0.900		
BJS	0.686	0.677	0.758	0.871	0.840	
XLJK	-0.276	-0.217	-0.309	-0.382	-0.301	0.793

Note: The bold value in the upper right corner is the square root of the AVE value.

Table 8 shows that the AVE of each dimension is greater than 0.5, and the square root of AVE is greater than the correlation coefficient between each dimension. This shows that the scale has good discriminant validity.

3.2 Descriptive Statistics

In total, 1200 formal questionnaires were distributed, with 600 questionnaires distributed in each of the two universities having different management models. A total of 574 valid questionnaires were collected from the university under the people-oriented management model, indicating an effective rate of 89%. The background variable was gender. The collected research samples were counted, organized, and analyzed. Under the people-oriented management model, the number of male students was 159, accounting for approximately 28% of the total sample, whereas the number of female students was 415, accounting for approximately 72% of the total sample. As Table 9 shows, the number of female participants in the study was higher than that of male participants. A total of 567 questionnaires were obtained from the students under the militarized management model, an effective response rate of 94.5%. In this case, the background variables were gender and two secondary colleges. The collected research samples were counted, organized, and analyzed. Under the militarized management model, the number of male students was 232, accounting for approximately 41% of the total sample, whereas the number of female students was 335, accounting for approximately 59% of the total sample. More women than men participated in the study (Table 10).

Table 9. Basic Data Sheet of Effective Samples under the People-oriented Management Model (N = 564)

Background variables	Categories	Number of people	Percentage
Gender	Male	159	28%
	Female	415	72%

Source: Compiled in this study

Table 10. Basic Data Sheet of Effective Samples under the Militarized Management Model (N = 567)

Background variables	Categories	Number of people	Percentage
Gender	Male	232	41%
	Female	335	59%

Source: Compiled in this study

3.3 Independent Sample t-test for Difference Analysis

To determine the differences in emotion regulation among college students under the people-oriented model and the militarized model, an independent sample t-test statistic was used. The data analysis indicated that different management models exerted a significant effect on the overall mean of difficulties in emotion regulation during the COVID-19 pandemic (Table 11). During the pandemic, the mean of difficulties in emotion regulation among college students under the people-oriented management model was 2.58, whereas that among students under the militarized

management model was 2.389. Table 11 indicates an obvious difference in the grand mean of difficulties in emotion regulation under the two management models during the COVID-19 pandemic, which is consistent with .

Table 11. Analysis of Differences in Mean and Standard Deviation of College Students' Difficulties in Emotion Regulation under Different Management Models

Variable name	Management mode	Number of cases	Mean value	Standard deviation	t value
Grand mean of difficulties in emotion regulation	People oriented	574	2.581	0.874	3.605
	Militarized	567	2.389	0.921	

Note: *p < 0.05 **p < 0.01 ***p < 0.001

Source: Compiled in this study

To examine differences in college students' MH under the people-oriented model and the militarized model, an independent sample t-test statistic was used. According to the data shown in Table 12, the grand mean of MH under different management models differed significantly. In the COVID-19 pandemic, the mean of MH among college students under the people-oriented management model was 3.439, whereas the mean of MH among college students under the militarized management model was 2.954. The data in Table 12 show that an obvious difference existed in the grand mean of MH under the two management models during the COVID-19 pandemic, consistent with H2.

Table 12. Analysis of Differences in Mean and Standard Deviation of MH of College Students under Different Management Models

Variable name	Management mode	Number of cases	Mean value	Standard deviation	*t value*
Grand mean of mental health	People oriented	574	3.439	0.798	10.794
	Militarized	567	2.954	0.702	

Note: *p < 0.05 **p < 0.01 ***p < 0.001

Source: Compiled in this study

3.4 Correlation Analysis

As Table 13 shows, the correlation coefficient between difficulties in emotion regulation and MH of college students under the people-oriented management model was $r = -0.318$ ($p < 0.01$), indicating a weak correlation. Therefore, the co-linearity problem did not exist, and the correlation was negative.

Table 13. Difficulties in Emotion Regulation and MH and Correlation Analysis under the People-oriented Model

Correlation	Emotion regulation	Mental health
Emotion regulation	1	
Mental health	-.318**	1

** Significant correlation at 0.01 level (two-tailed).

As Table 14 shows, the correlation coefficient between difficulties in emotion regulation and MH of college students under the militarized model was $r = -0.055$ ($p > 0.05$), indicating a nonsignificant correlation. Therefore, the degree of difficulties in emotion regulation among college students under the militarized model during the COVID-19 pandemic did not generate predictive power on the degree of MH of college students.

Table 14. Difficulties in Emotion Regulation and MH and Correlation Analysis under the Militarized Management Model

Correlation	Emotion regulation	Mental health of college students
Emotion regulation	1	
Mental health	-0.055	1

** Significant correlation at the 0.01 level (two-tailed).

3.5 Regression Analysis

Based on the correlation analysis results, a simple regression analysis of the overall data and emotion regulation and MH under the people-oriented management model and militarized management model was conducted. Tables 15 and

16 present the results. Under the people-oriented management model, the difficulties in emotion regulation of college students generated significant predictive power on college students' MH (β = −.318***, t = −8.014). This is consistent with hypothesis H4. Under the militarized management model, the difficulties in emotion regulation of college students generated a nonsignificant predictive power on college students' MH (β = −.0.055, t = −1.314). This result is different from hypothesis H3.

Table 15. Simple Regression Analysis of Emotion Regulation on College Students' MH under the People-oriented Model

Variable	Mental health	
	B	t
Emotion regulation	-0.318***	-8.014
F	64.219	
R^2	0.95	

Note: *p < 0.05 **p < 0.01 ***p < 0.001

Source: Compiled in this study

Table 16. Simple Regression Analysis of Emotion Regulation on College Students' MH under the Militarized Management Model

Variable	Mental health	
	B	t
Emotion regulation	-0.055	-1.314
F	1.727	
R^2	.001	

Note: *p < 0.05 **p < 0.01 ***p < 0.001

Source: Compiled in this study

4. Discussion

This study investigated the current status of and differences in difficulties in emotion regulation and MH of college students in two Chinese universities. Additionally, it examined the correlation between difficulties in emotion regulation and students' MH under different management models during the COVID-19 pandemic. In this study, we verified that difficulties in emotion regulation could predict the degree of MH of college students, consistent with previous studies' findings. The negative levels of MH problems were positively correlated with over-regulated emotional dynamics (Trapp, Kalzendorf, Baum, Hajak, & Lautenbacher, 2018), confirming that difficulties in emotion regulation were related to MH problems during the COVID-19 pandemic (Extremera, Sánchez-Álvarez, & Rey, 2020) and could trigger MH problems (Cardi, Albano, Gentili, & Sudulich, 2021). This phenomenon can be attributed to the adverse effects of the COVID-19 pandemic on the emotion regulation of college students Carosella et al. (2023) and their MH.

Unlike previous studies, this study focused on the differences in difficulties in emotion regulation and MH of college students under different management models. Studies have reported that before the COVID-19 pandemic, the closed management of colleges under the militarized management model adversely affected college students' emotional and MH (Wei, 2020). The people-oriented management model is more beneficial for the physical health and MH development of college students (K. Li, 2019; X. Wang, 2021). The findings revealed that during the COVID-19 pandemic, college students under the militarized management model achieved higher emotion regulation status and MH compared with those under the people-oriented management model. These findings show that the emotional adjustment difficulties of college students under the military management model are medium to low, whereas the emotional adjustment difficulties of college students under the people-oriented management model are medium. The MH of college students under the military management model and the people-oriented management model is medium to high. The degree of MH of college students under the people-oriented management model is better than that under the military management model. This finding differs from those of previous studies. The militarized management model requires college students to comply with strict attendance management requirements and adhere to a strict code of conduct (Huo & Lu, 2020). Guidelines are provided to regulate students' behavior. The military

personnel concept is mainly used to educate students so that they can experience the quality of military personnel in practice (Zhang, 2016). This concept may have affected the emotion regulation and MH of college students during the closed and isolated periods of colleges and universities during the COVID-19 pandemic. College students under the militarized management model could better adapt to the pace of life and study during the COVID-19 pandemic. In contrast, before the COVID-19 pandemic, it was generally believed that a people-oriented management model could better regulate college students' emotions and influence their MH and that the people-oriented method fully embodied student-centeredness; respected students' dignity; considered students' personality, intellectual interests, and personality; and guided students' sustainable development in a comprehensive manner. Therefore, the pressure on students should be reduced, and their MH should be improved (Chen, 2020). During the COVID-19 pandemic, college students under the people-oriented management model had lower emotion regulation and MH than those under the militarized management model. This phenomenon could be related to the sudden information explosion and the various isolation policies during the COVID-19 pandemic (Buckner et al., 2021; Douglas, Katikireddi, Taulbut, McKee, & McCartney, 2020; Hoyt, Cohen, Dull, Castro, & Yazdani, 2021; S. Wang et al., 2021). This result indicates that militarized management is more beneficial for developing college students' psychological resistance and psychological endurance during major public events and emergencies.

Therefore, according to this study, in the post-COVID-19 pandemic period, college administrators should focus on the status of difficulties in emotion regulation and MH of college students. Colleges and universities adopting the people-oriented management model should focus on the current status and dynamics of college students' MH, understand college students' emotion regulation problems, provide training and forums, and use mutual aid to help college students control their emotion and solve their MH problems. Universities with the military management model should pay more attention to the current situation of college students' MH.

5. Conclusion

This study focused on the current status of difficulties in emotion regulation and MH of college students under distinct management models and the effect of difficulties in emotion regulation on the MH of college students during the COVID-19 pandemic. Additionally, this study sampled and compared college students under two management models in China and verified that college students' difficulties in emotion regulation significantly affected their MH during the pandemic. Emotion regulation abilities of college students under the militarized management model were superior to those of students under the people-oriented management model. College students under the people-oriented management model had better MH than those under the military management model, but the MH status of college students under these two management mode was good. This study focused on the effect of various student management models on college students' MH in particular situations. College administrators should prevent college students from developing MH problems during frequent major public events through management methods and should focus on the key factor in college students' difficulties in emotion regulation. This study confirmed the influence of institutional theory's supervision, norms, and cultural cognition on college students' emotions and MH. It also showed that different management systems' supervision, norms, and cultural cognition will have different impacts on college students' emotions and MH.

6. Limitations and Future Directions

First, data from underdeveloped cities in central China were considered in the study. Further exploratory studies on other geographic regions or economically developed regions in China should be considered in the future to confirm the results of the current study. Second, the study investigated two generalized management models, leading to certain biases in the results. In future studies, other management models can be considered for enriching the findings of the study. Third, the study considered only college students as the subjects. In the future, other groups, such as high school students and junior middle school students, should be considered to enhance the generalizability of the findings.

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