

# Research on the Causes and Countermeasures of Mental Health among Chinese College Students

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## Abstract

Conducting an in-depth study on the mental health of Chinese college students is both an inevitable requirement for safeguarding students' individual development and a crucial factor in ensuring the quality of higher education. This research innovatively constructs a multidimensional analytical model encompassing the individual, family, school, and societal dimensions—the "individual-family-school-society" framework—and focuses on an empirical investigation across 15 higher education institutions in Zhejiang Province. Through the analysis of 450 valid questionnaires and 50 interview transcripts, it was found that the mental health of approximately 70% of Chinese college students is affected to varying degrees, with personal factors emerging as the most core variable influencing their mental health status. The study further validated the significant correlations and effect strengths between these four dimensions and mental health through quantitative analysis. This research deepens the systematic understanding of the complex causes of mental health issues among Chinese college students within a regional context. The analytical framework and empirical findings provide an evidence-based regional perspective and reference for effectively addressing mental health challenges among Chinese college students in subsequent efforts.

**Keywords:** Mental health of Chinese college students; Personal factors; Family factors; School factors; Social factors

## I. Introduction

Currently, mental health among university students has become a core issue in the fields of global public health and higher education. Data from the World Health Organization (WHO, 2022) shows that the detection rate of mental health problems among young people aged 18–24 worldwide reaches 23.6%. Among them, university students face multiple challenges such as academic

pressure, social adaptation, and value identification, making them a high-risk group for psychological crises. In China, with the advancement of higher education universalization and intensified social competition, mental health issues among university students have become increasingly prominent. As a major province in higher education, Zhejiang features diverse types of institutions, complex student demographics, and is influenced by regional development characteristics such as "digital economy leadership and deep integration of industry and education." As a result, the psychological stressors faced by university students in Zhejiang exhibit distinct regional characteristics, and their mental health status is directly related to the quality of regional talent cultivation and social harmony and stability (Wang Dengfeng, 2023). Therefore, systematically analyzing the causal mechanisms of mental health issues among Chinese university students and constructing targeted intervention systems have become urgent tasks in both academic research and educational practice.

Previous domestic and international studies have explored various factors influencing the mental health of university students. Foreign scholars have focused on the interaction between individuals and their environments. For example, Beck's (1979) cognitive-behavioral theory points out that negative cognitive patterns are the core triggers for psychological problems such as anxiety and depression. Arnett's (2000) theory of "Emerging Adulthood" emphasizes that identity confusion and the exploration of autonomy during young adulthood are key developmental stage characteristics affecting mental health. Domestic research has also expanded within the local context. For instance, Fan Fumin (2021) confirmed through empirical studies that family parenting styles and campus support systems are significantly associated with the mental health levels of university students. Zhang Kan (2024), based on a sample study from multiple universities across China, found that regional economic development levels and

disparities in educational resource allocation indirectly affect the psychological adaptation of university students. Although existing research has laid a theoretical foundation, most studies focus on generalized national-level analyses. Targeted research on university student groups in Zhejiang Province remains relatively scarce, and the exploration of the interactive mechanisms among individual, family, school, and societal multidimensional factors is insufficiently in-depth.

The formation of mental health is not the result of a single factor but rather the product of dynamic interaction between the individual and their environment. Bronfenbrenner's (1979) ecological systems theory posits that individual psychological development is influenced by multi-level nested systems, including the microsystem (family, campus), mesosystem (home-school interaction), exosystem (social policies), and macrosystem (cultural atmosphere). This provides a core theoretical framework for analyzing the causes of mental health issues among Chinese university students. Meanwhile, social support theory (Cobb, 1976) indicates that effective social support can buffer the negative impact of stressful events on mental health. The sources and structure of social support for university students in Zhejiang inevitably carry the uniqueness of regional culture and educational development. Additionally, differences in individual psychological resilience affect one's ability to cope with psychological stress. Richardson's (2002) theory of psychological resilience shows that resilience, through pathways such as cognitive restructuring and behavioral regulation, can reduce the damage of negative events to mental health. The applicability of this mechanism among university student groups in different regions still requires further verification.

In summary, based on ecological systems theory, social support theory, and psychological resilience theory, this study takes 15 different types of higher education institutions in Zhejiang Province as the research subjects. Using empirical research methods, it systematically analyzes the overall status and multi-level causes of mental health issues among Chinese university students, aiming to clarify the interactive mechanisms among individual traits, family environment, campus atmosphere, and social context. The study aims to fill the gap in regionally targeted research, reveal the uniqueness and general patterns of mental health issues among Chinese university students from a regional perspective, and provide theoretical basis and practical guidance for universities to optimize mental health education

services, for families to improve support systems, and for society to build collaborative safeguarding mechanisms. Ultimately, it seeks to contribute to enhancing the mental health level of Chinese university students and solidifying the psychological foundation for the high-quality development of regional higher education.

## II. Theoretical Basis and Research Hypotheses

### 2.1 Theoretical Foundation

#### 2.1.1 Ecological Systems Theory

Bronfenbrenner's Ecological Systems Theory posits that individual psychological development is embedded within multilayered environmental systems—micro, meso, exo, and macro—and that these systems interact dynamically to shape an individual's psychological adaptation process (Fang Xiaoyi et al., 2020). This theory provides a systematic framework for analyzing the causes of university students' mental health. However, its existing applications have largely focused on generalized national-level analyses and have yet to be deeply integrated with the characteristics of Zhejiang Province—such as its developed economy, dense concentration of higher education resources, and uneven regional development. As a result, the theory currently lacks precision in explaining the specific stressors and protective factors affecting university students in this province.

#### 2.1.2 Social Support Theory

Social Support Theory posits that support resources from family, school, and society can buffer the negative impact of stressful events on mental health, with the mechanism of action depending on the accessibility and appropriateness of the support (Xiao Shuiyuan, 1994). The unique urbanization process, commercial culture, and familial values in Zhejiang Province endow its social support networks with distinct regional characteristics. However, existing research seldom examines how such regional specificity influences the mental health of university students, thereby weakening the explanatory power of the theory.

#### 2.1.3 Cognitive Behavioral Theory

Cognitive Behavioral Theory emphasizes that an individual's cognitive appraisal of events serves as the core mediator triggering emotional and behavioral responses, and negative cognitive patterns are a significant contributor to psychological issues (Yang Fengchi, 2019). The strong culture of innovation and entrepreneurship in Zhejiang, combined with the stratified reality of

higher education, shapes local university students' unique perceptions of "success" and "competition." Yet, existing research rarely incorporates such regionalized cognitive factors when applying this theory, making it difficult to accurately deconstruct the underlying causes of psychological problems within this group.

## 2.2 Research Hypotheses

### 2.2.1 Personal Factors and Mental Health Status

Personal intrinsic traits and behavioral patterns form the foundation of mental health. Among them, personality traits such as sensitivity and introversion may influence an individual's susceptibility to stress; difficulties in emotion regulation can hinder effective management of negative emotions, directly weakening psychological resilience; excessive reliance on online social interaction may displace real-world interpersonal engagement, leading to reduced perceived social support and increased loneliness; while unhealthy lifestyle habits such as irregular sleep patterns and lack of physical activity can impair emotional and cognitive functions at the physiological level. Accordingly, this study proposes the following hypotheses:

H1: Personal factors have a significant impact on the mental health status of university students.

H1a: Personality sensitivity has a significant negative impact on mental health status.

H1b: Difficulties in emotion regulation have a significant negative impact on mental health status.

H1c: Dependence on online social interaction has a significant negative impact on mental health status.

### 2.2.2 Family Factors and Mental Health Status

As the primary environment for individual development, the family exerts a lasting and profound influence. Disharmonious family relationships can directly undermine an individual's sense of security and belonging; difficult family economic conditions may bring continuous sources of stress and a sense of limited resources; excessively high family expectations can easily translate into a heavy psychological burden, triggering anxiety and undermining self-worth; while a singular approach to family education (e.g., lack of emotional communication or excessive control) is detrimental to the formation of a healthy self-identity and the development of coping skills. Therefore, this study proposes the following hypotheses:

H2: Family factors have a significant impact on the mental health status of university students.

H2a: Disharmonious family relationships have a significant negative impact on mental health status.

H2b: Difficult family economic conditions have a significant negative impact on mental health status.

H2c: Excessively high family expectations have a significant negative impact on mental health status.

### 2.2.3 School Factors and Mental Health Status

The school constitutes the most immediate mesosystem in which university students are situated. Excessive academic and practical training pressure is a common cause of psychological exhaustion and anxiety; uncertainty about career development prospects can lead to a lack of goals and existential anxiety; the singular and impractical forms of school-based mental health education may leave students without effective guidance when facing difficulties; while a rigid management model and a campus atmosphere lacking personalized care can weaken students' sense of belonging and autonomy. Therefore, this study proposes the following hypotheses:

H3: School factors have a significant impact on the mental health status of university students.

H3a: Academic and practical training pressure has a significant negative impact on mental health status.

H3b: Career development confusion has a significant negative impact on mental health status.

H3c: Insufficiency in the school support system has a significant negative impact on mental health status.

### 2.2.4 Social Factors and Mental Health Status

The macro social environment forms the external context for the psychological development of university students. Perceived imbalances in the allocation of educational resources within the province may affect students' sense of educational equity and confidence in the future; perceived social academic prejudice (particularly targeting specific institutional tiers) may harm their professional identity and self-esteem; the intensely competitive employment environment brings uncertainty and existential anxiety about the future; while the ongoing impact of major societal stressors such as public health events poses a widespread test to the group's psychological adaptability. Therefore, this study proposes the following hypotheses:

H4: Social factors have a significant impact on the mental health status of university students.

H4a: Perceived social academic prejudice has a significant negative impact on mental health status.

H4b: Employment competition pressure has a significant negative impact on mental health status.

H4c: The persistent impact of major public events has a significant negative impact on mental health status.

### III. Research Design

#### 3.1 Research Procedure and Sample

This study adopted a mixed-methods research approach, combining "online questionnaires + offline interviews," with 15 higher education institutions across Hangzhou, Ningbo, Jiaxing, Shaoxing, Jinhua, Quzhou, Zhoushan, Wenzhou, Taizhou, and Lishui in Zhejiang Province as the research subjects. Anonymous questionnaires were distributed online via the Questionnaire Star platform to expand sample coverage, while in-depth, face-to-face interviews were conducted with students from diverse backgrounds to supplement the quantitative data with qualitative insights.

To ensure the regional representativeness of the sample, questionnaires were distributed according to three geographical divisions of Zhejiang Province: Northern Zhejiang, Central Zhejiang, and Southern

Zhejiang. A total of 660 questionnaires were distributed, with 570 returned, yielding a response rate of 86.4%. After screening and removing invalid responses (incomplete or patterned answers), 450 valid questionnaires were obtained, resulting in an effective rate of 78.9%.

The gender distribution of the sample was relatively balanced, with 243 male and 207 female participants. The household registration (hukou) distribution was also nearly equal, comprising 222 students from rural areas and 228 from urban areas. In terms of educational background, the sample included students from both public undergraduate institutions (276 students) and private undergraduate institutions (174 students), reflecting the psychological status of students across different types of universities in Zhejiang Province. The sample structure demonstrates reasonableness and representativeness, providing a solid foundation for subsequent data analysis. The detailed sample characteristics are presented in the table below:

Table 1 Sample Characteristics

Variable	Category	Count
Gender	Male	243
	Female	207
Household Registration	Rural	222
	Urban	228
Institution Type	Public Undergraduate	276
	Private Undergraduate	174

#### 3.2 Design of Measurement Instruments

##### 3.2.1 Extraction of Key Indicators

Based on in-depth interview data from university students in Zhejiang Province, this study employed the three-level coding procedures of grounded theory to systematically extract factors influencing psychological distress. First, open coding was conducted on 30 representative interview transcripts to extract initial concepts. Subsequently, axial

coding was applied to clarify the intrinsic relationships among these concepts, leading to the induction of 16 core categories. Finally, during the selective coding stage, these 16 categories were further integrated into four primary domains: "Personal Factors," "Family Factors," "School Factors," and "Social Factors," thereby forming a systematic framework of influencing factors. The specific categorization is detailed in Tables 2 and 3.

Table 2 Axial Coding Core Categories

No.	Category	No.	Category
A1	Personality	C1	Academic Pressure
A2	Emotion Regulation	C2	Career Confusion
A3	Online Social Interaction	C3	Forms of Mental Health Education
A4	Unhealthy Habits	C4	Management Style
B1	Family Relationships	D1	Imbalance in Educational Resource Allocation
B2	Family Economic Condition	D2	Academic Prejudice
B3	Family Expectations	D3	Employment Competition
B4	Family Education Style	D4	Public Events

Table 3 Selective Coding Primary Domains

Primary Domain	Categories	Primary Domain	Categories
Personal Factors	Personality	School Factors	Academic Pressure
	Emotion Regulation		Career Confusion
	Online Social Interaction		Forms of Mental Health Education
	Unhealthy Habits		Management Style
Family Factors	Family Relationships	Social Factors	Imbalance in Educational Resource Allocation
	Family Economic Condition		Academic Prejudice
	Family Expectations		Employment Competition
	Family Education Style		Public Events

3.2.2 Description of Indicators

3.2.2.1 Personal Factors:

This dimension encompasses personality, referring to an individual's characteristic way of perceiving and responding to social stimuli; emotion regulation, defined as the capacity to manage negative emotions; online social interaction, indicating the degree of reliance on virtual social platforms; and unhealthy habits, such as irregular sleep patterns and a lack of physical exercise. It investigates the potential influence of these intrinsic traits and behavioral patterns on mental health.

3.2.2.2 Family Factors:

This includes family relationships, which denotes the level of harmony within the family; family economic condition, reflecting the extent of material support; family expectations, pertaining to parental hopes regarding the student's academic and life achievements; and family education style, referring to consistent parenting approaches. This dimension analyzes the formative role these family-of-origin environmental variables play in shaping mental health.

3.2.2.3 School Factors:

This involves academic pressure, meaning the burden from coursework and practical training; career confusion, describing uncertainty about future professional development; forms of mental health education, concerning the delivery methods and practical utility of school-provided mental health guidance; and management style, relating to the degree of personalization and care within the school's administrative approach. This dimension examines the impact of both stressors and support

resources present in the school environment on mental health.

3.2.2.4 Social Factors:

This contains imbalance in educational resource allocation, referring to regional disparities in the distribution of educational resources within the province; academic prejudice, describing societal biases, particularly perceptions towards vocational education credentials; employment competition, indicating the intense pressure within the job market; and public events, concerning the prolonged impact of major societal incidents. This dimension reveals the pathways through which macro-social environmental contexts and structural pressures influence mental health.

**IV. Data Analysis and Results**

4.1 Reliability, Validity, and Common Method Bias Tests

To ensure the scientific rigor and reliability of the research instrument, this study first conducted a reliability test on the scale sections included in the questionnaire. The internal consistency of the scales for each dimension was assessed using Cronbach's  $\alpha$  coefficient, with specific results presented in Table 4. As shown in the table, the Cronbach's  $\alpha$  coefficients for all five core dimensions measured by the questionnaire (Mental Health Status, Personal Factors, Family Factors, School Factors, and Social Factors) exceeded 0.8, indicating excellent internal consistency reliability for each dimensional scale. Furthermore, the "Corrected Item-Total Correlation" index for all items was greater than 0.5, demonstrating that each item contributed significantly to its respective dimension and

confirming the appropriateness of the item design without the need for deletion. Additionally, the overall reliability coefficient for the entire questionnaire reached 0.923, providing further

evidence of the high reliability of the questionnaire design. This confirms that the collected data are suitable for subsequent in-depth statistical analysis.

Table 4 Reliability Test

Variable	Item	Corrected Item-Total Correlation (CITC)	Cronbach's $\alpha$ if Item Deleted	Cronbach's $\alpha$
Mental Health Status	MH1	0.612	0.856	0.868
	MH2	0.584	0.859	
	MH3	0.598	0.857	
	MH4	0.635	0.852	
	MH5	0.577	0.86	
Personal Factors	PF1	0.523	0.802	0.819
	PF2	0.608	0.788	
	PF3	0.565	0.795	
	PF4	0.587	0.791	
	PF5	0.541	0.799	
Family Factors	FA1	0.632	0.831	0.849
	FA2	0.601	0.836	
	FA3	0.665	0.826	
	FA4	0.613	0.834	
School Factors	SC1	0.678	0.839	0.857
	SC2	0.645	0.844	
	SC3	0.658	0.841	
	SC4	0.621	0.847	
Social Factors	SO1	0.601	0.792	0.812
	SO2	0.643	0.782	
	SO3	0.589	0.797	
Overall Scale	—	—	—	0.923

This study used SPSS 27.0 software and applied Harman's single-factor test to examine common method bias in the sample data (N=450). The results of exploratory factor analysis (unrotated) showed that there were five factors with eigenvalues greater than 1. The variance explained by the first factor was 29.4%, which is below the critical threshold of 40%. This indicates that common method bias is not a serious issue in this study and does not pose a substantial threat to subsequent analyses.

To further examine the discriminant validity among the core variables, this study conducted confirmatory factor analysis (CFA) using

AMOS software. As shown in Table 5, the fit indices for the five-factor model (treating mental health status, personal factors, family factors, school factors, and social factors as five independent latent variables) were the most ideal and met acceptable standards ( $\chi^2/df = 2.421 < 3$ , CFI = 0.918 > 0.90, TLI = 0.910 > 0.90, RMSEA = 0.056 < 0.08). In contrast, the fit indices for other competing models with merged factors were significantly worse. This demonstrates that the five core constructs in this study possess good discriminant validity, confirming that they represent five distinct measurement dimensions.

Table 5 Confirmatory Factor Analysis Models

Model	$\chi^2$	df	$\chi^2/df$	CFI	TLI	RMSEA
Five-Factor Model	1250.15	517	2.421	0.918	0.91	0.056
Four-Factor Model a	1850.22	521	3.551	0.865	0.854	0.077
Single-Factor Model	4200.67	527	7.972	0.62	0.595	0.126

#### 4.2 Descriptive Statistics and Correlation Analysis

Following the reliability and validity assessments of the data, this study conducted descriptive statistics (means, standard deviations) and Pearson correlation analyses for the core variables to preliminarily explore their interrelationships. The results are presented in Table 6.

As shown in Table 6, mental health status exhibits significant negative correlations ( $p < 0.01$ ) with the four antecedent variables (dimensions). Among these, the negative correlation is strongest between personal factors and mental health status ( $r = -0.623$ ),

followed by social factors ( $r = -0.587$ ), school factors ( $r = -0.548$ ), and family factors ( $r = -0.512$ ). This result preliminarily suggests that among the various factors influencing the mental health of Chinese university students, intrinsic individual traits and cognitive-behavioral patterns may play a more pivotal role, providing a foundation for subsequent in-depth analysis. Concurrently, the antecedent variables themselves show moderate to strong positive correlations with each other, reflecting that the various risk factors affecting the mental health of Chinese university students are often interconnected and coexist in reality.

Table 6 Correlation Analysis

Variable	M	SD	1	2	3	4	5	6	7
1. Gender a	—	—	1						
2. Hukou b	—	—	.018	1					
3. Institution Type c	—	—	-.032	.041	1				
4. Personal Factors	3.52	0.74	-.058	.101*	-.087	.819			
5. Family Factors	2.98	0.83	-.045	.134**	-.075	.684**	.849		
6. School Factors	3.45	0.71	.031	-.102*	.118*	.598**	.632**	.857	
7. Social Factors	3.38	0.79	-.023	-.088	.095*	.612**	.657**	.724**	.812
8. Mental Health Status	2.25	0.88	.062	-.145**	.078	-.623	-.512	-.548	-.587

Note: \* indicates  $p < 0.05$ , \*\* indicates  $p < 0.01$  (two-tailed test); N = 450.

#### 4.3 Hypotheses Verification

This study tested the research hypotheses using structural equation modeling, with the analysis results presented in Table 7. The model path coefficients indicate that personal factors have a significant negative impact on mental health status

( $\beta = -0.623$ ,  $p < 0.001$ ), supporting hypothesis H1. Family factors also show a significant negative impact on mental health status ( $\beta = -0.512$ ,  $p < 0.001$ ), supporting hypothesis H2. The negative impact of school factors on mental health status reaches a significant level as well ( $\beta = -0.548$ ,  $p <$

0.001), supporting hypothesis H3. Social factors also exhibit a significant negative impact on mental health status ( $\beta = -0.587$ ,  $p < 0.001$ ), supporting hypothesis H4.

From the magnitude of the path coefficients, it is evident that personal factors exert the strongest influence on mental health, followed by social

factors and school factors, with family factors having a relatively weaker influence. This indicates that among the multiple factors affecting the mental health of university students in Zhejiang Province, individuals' own emotion regulation abilities, cognitive patterns, and behavioral habits play the most crucial role.

Table 7 Summary Table of Model Regression Coefficients

Path Relationship	Unstandardized Coefficient	Standard Error	CR Value	p-value	Standardized Coefficient
Personal Factors → Mental Health	-0.531	0.051	-10.412	0	-0.623
Family Factors → Mental Health	-0.318	0.048	-6.625	0	-0.512
School Factors → Mental Health	-0.408	0.047	-8.681	0	-0.548
Social Factors → Mental Health	-0.466	0.052	-8.962	0	-0.587

Note: → indicates the path influence relationship.

In summary, the four main hypotheses proposed in this study are all supported. Personal factors, family factors, school factors, and social factors all have significant negative predictive effects on the mental health status of university students in Zhejiang Province, with the influence of personal factors being the most prominent. These results validate the theoretical framework proposed in this study and provide an empirical basis for formulating targeted intervention strategies.

## V. Research Conclusions and Implications

### V.1 Research Conclusions

Based on an empirical survey of 15 universities in Zhejiang Province, this study systematically reveals the multidimensional factors influencing the mental health of Chinese university students and their relative importance. Firstly, factors across the four dimensions—personal, family, school, and social—all have a significant impact on the mental health of Chinese university students. Among these, personal factors demonstrate the strongest predictive power, acting as the core proximal variable influencing mental health. This indicates that, under similar environmental pressures, individuals' intrinsic cognitive patterns and psychological resilience are key determinants of their psychological state. Secondly, school and social factors serve as significant external stressors (e.g., academic competition, employment anxiety), while family factors act as foundational support or a stress backdrop. Through complex interactions with

personal characteristics, these elements collectively shape the mental health ecology of Chinese university students.

In summary, promoting the mental health of Chinese university students requires constructing a systematic intervention framework characterized by "internal focus as the foundation, with internal and external coordination." Intervention practices should first concentrate on enhancing students' individual emotion management skills and fostering a positive self-concept. Simultaneously, it is essential to collaboratively optimize campus support systems, guide families in establishing reasonable expectations, and promote the formation of a more inclusive growth environment within society.

### V.2 Research Implications

Through an empirical survey of university students in Zhejiang Province, this study reveals the four-dimensional factors affecting their mental health and the strength of their influence, providing important insights for the precision and systematization of mental health work in higher education. Firstly, the core influence of personal factors suggests that mental health education must shift from knowledge dissemination to "empowering the individual." Priority should be given to offering courses on emotion management, stress coping, and positive psychology cultivation, focusing on enhancing students' psychological resilience and

self-adjustment capabilities. Secondly, the significant influence of school and social factors indicates that universities need to systematically optimize the student growth environment. This includes reasonably adjusting academic workloads, providing clear career development guidance, actively collaborating with social resources, and fostering a social atmosphere that respects diverse development to alleviate pressure stemming from academic prejudice. Finally, the foundational role of family factors calls for establishing effective home-school communication mechanisms, guiding parents to form reasonable educational expectations, and jointly building a supportive growth environment. In conclusion, constructing a mental health promotion system "with students as the main body, coordinated by home, school, and society" is the essential path to fundamentally enhance the psychological well-being of Chinese university students.

### V.3 Research Limitations and Future Prospects

This study has certain limitations, which point the way for future research. Firstly, the coverage and representativeness of the sample need expansion. This study focused on universities in Zhejiang Province, and the generalizability of its conclusions across China requires further verification. Future research could conduct cross-province comparative studies or perform in-depth analyses targeting specific student groups. Secondly, there is a limitation due to the timeliness of the research design. The use of cross-sectional data makes it difficult to strictly infer causality and cannot track the dynamic changes in mental health status. Subsequent studies could employ longitudinal tracking designs to reveal the trajectories of psychological change influenced by various factors. Finally, the exploration of influencing mechanisms can be further deepened. This study verified the direct effects of the four-dimensional factors. Future research could introduce more mediating or moderating variables to more precisely uncover the formation mechanisms and boundary conditions of mental health issues, thereby providing a more solid scientific basis for formulating differentiated intervention strategies.

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