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A Literature Review on the Association Between Psychological Resilience and Prodromal Symptoms of Mental Disorders in Chinese University Students

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Abstract. This review synthesizes existing research to explore the relationship between Chinese college students' psychological resilience and early mental illness symptoms (mainly subthreshold depression and mild anxiety), as well as the underlying mechanisms of this association. It first defines the concept of resilience and the connotation of early mental illness symptoms, and sorts out relevant theoretical models and common evaluation tools. Then, it analyzes the current status of college students' resilience and the epidemiological characteristics of early psychological problems, noting that resilience is generally at a medium level but has declined in recent years, with the detection rate of subthreshold depression reaching 38%. Finally, it explains how resilience exerts protective effects through stress buffering, cognitive regulation and social support, and reveals the specific correlation between different dimensions of resilience and specific early symptoms. The study finds that psychological resilience is a key protective factor against early psychological problems in college students, with its mechanism showing distinct Chinese cultural characteristics; family, school and peer support under collectivism are the core protective forces. This review provides theoretical and practical support for building an advantage-based early prevention and intervention system for college students' mental health.

Keywords: Psychological Resilience, Chinese College Students, Early Symptoms of Mental Illness, Subthreshold Depression, Social Support

1. Introduction

1.1. Origin of the research and problem formulation

In recent years, mental health problems among college students in China have become increasingly prominent, with a steady rise in the number of individuals affected by psychological disorders. The formation of this phenomenon is mainly due to the interaction and superposition of multiple factors such as academic pressure, employment competition, and interpersonal relationship problems, which together constitute a complex psychological pressure ecology.

In so many problems related to mental health, early detection and early intervention of mental illness are key to improving the personal situation and reducing the relevant burden on society.

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However, when individuals reach the clinical diagnostic criteria, they often have caused significant damage to their academic performance, social function, and quality of life, and the intervention cost has increased significantly, and the prognostic effect is relatively limited. Therefore, attention to pre-diagnostic, mild psychological states—such as subthreshold depression and subclinical anxiety—has become an area of growing importance in both preventive medicine and positive psychology.

Under such circumstances, psychological resilience - that is, a core ability that enables people to maintain their state or slowly adjust when encountering difficulties and setbacks - has attracted much attention for its possible protective effect. Existing studies have shown that psychological resilience is an important protective factor to maintain mental health; Individuals with higher levels of resilience have fewer negative emotional experiences, such as depression and anxiety, and higher subjective well-being and life satisfaction [1]. Furthermore, psychological resilience is not only a protective factor of mental health, but also an effective predictor of the risk of subsequent psychological problems of college students, and even significantly correlated with the probability of suicidal ideation.

It therefore remains to be examined whether psychological resilience can also serve a buffering and protective function with respect to those early, mild symptoms that do not yet meet clinical diagnostic thresholds. Summarizing the relationship between resilience and these early symptoms among college students in China can not only help people better understand the role of resilience but also provide a practical basis for the establishment of early prevention and intervention methods based on these advantages.

The purpose of this review is to integrate the existing research and explore the relationship between the resilience of Chinese college students and the early symptoms of mental illness, hoping to provide some reference for future related research and practical application.

1.2. Definition of core concepts and scope of review

In order to make the discussion clearer and more targeted, this study first makes a simple definition of the core concepts used in this review. This paper defines resilience as a multi-dimensional integrated concept, which refers to the dynamic adaptation process in which individuals gradually recover and maintain good psychological function when encountering major setbacks, trauma, or continuous pressure. It also refers to the result of the final adjustment to a good state. At the same time, it also includes the internal personality characteristics and external help that can promote this adaptation, such as optimism, self-confidence, support from people around us, etc. With such a comprehensive perspective, this study can better understand how psychological resilience affects mental health.

The early symptoms of mental illness mainly refer to those mental states that have not reached the official diagnostic criteria for depression, anxiety, and other mental disorders in the Diagnostic and Statistical Manual of Mental Disorders or the International Classification of Diseases, but have some related symptoms, which can make people feel painful and affect their normal lives. This review focuses on subthreshold depression, that is, depression symptoms such as depression and lack of interest in doing things, but the number or duration of symptoms can not meet the diagnostic criteria, which belongs to a mental sub-health state between health and depression. In addition, it will also involve other common early psychological problems, such as less serious anxiety and stress reactions.

This review clearly focuses on the group of Chinese college students. College students occupy a critical transitional stage from adolescence to adulthood, during which psychological development is characterized by heightened identity exploration, emotional volatility, and increased susceptibility to

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stress. Moreover, China's cultural and social environment, such as attaching importance to the collective and high expectations for academic work, will also have a special impact on the performance of psychological resilience and its relationship with mental health. The scope of the review will include the main theoretical models in this field, the commonly used evaluation tools, the relevant distribution characteristics, the actual research results of psychological resilience and early symptoms, as well as the possible mechanism of action between them.

2. Theories, measurement and current status of psychological resilience among Chinese college students

2.1. The core connotation and theoretical model of psychological resilience

Resilience refers to the ability of individuals to adapt well and achieve positive development in the face of adversity, trauma, or major pressure (Borucka, Theory of Resilience: Key Conceptual Structures and Chosen Issues). Its conceptualization has evolved from trait theory, through process theory, to outcome theory, and has now converged into an integrated perspective emphasizing dynamic and interactionist principles. Trait theory regards resilience as the inherent stability of individuals; Process theory focuses on the dynamic adaptation process of the interaction between the individual and the environment; The result theory focuses on the final state of positive development after experiencing adversity.

In terms of the theoretical model, Kumpfer's environment–individual interaction model is particularly representative in this regard. According to this model, resilience emerges from the interplay of risk and protective factors within the individual–environment interaction. Its core elements include: risk and protection factors in the external environment, individual internal resilience traits (such as cognitive ability, self-efficacy), the adaptation process of the interaction between individuals and the environment, and the final positive adaptation results. This model emphasizes the complexity and systematicness of the formation of toughness.

Masten's "ordinary magic" model provides another important perspective [2]. According to this theory, resilience is not a special gift possessed by a few people, but is rooted in the normal operation of ordinary human adaptive systems [2]. This conclusion has important implications for the implementation of inclusive education of psychological resilience for all college students. These systems include individual cognitive ability, emotion regulation ability, self-efficacy, and social support networks from families, schools, and communities. When these basic systems function well, individuals can show resilience.

2.2. Measurement scales of college students' psychological resilience

There are various tools to assess psychological resilience, with different emphases. Among these, the Connor–Davidson Resilience Scale (CD-RISC) is the most widely used instrument. The scale contains three dimensions of resilience, strength, and optimism, and has good reliability and validity. It is often used to measure the relatively stable resilience traits of individuals. Among Chinese college students, CD-RISC is widely used, and its score is often used as an indicator of psychological resilience. The cross-sectional history study found that from 2007 to 2021, the level of psychological resilience of Chinese college students showed a downward trend [3]. This change may be related to the increasing pressure of social competition, the impact of the Internet environment, and the special growth experience of the only child generation, suggesting the urgency of

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strengthening systematic monitoring and intervention, which indicates the importance of continuous monitoring.

Another common tool is the Adolescent Resilience Scale (HKRA) developed by Yueqin Hu and Yiqun Gan [4]. Based on the Chinese cultural background, the scale includes five dimensions: goal focus, emotional control, positive cognition, family support, and interpersonal assistance. It focuses more on measuring the psychological and behavioral performance of individuals in the process of coping with stress, reflecting the process of resilience. The research shows that the scale can effectively distinguish the resilience performance of Chinese adolescents in different stress situations.

Different measurement tools have differences in evaluating static traits and dynamic processes. The CD-RISC tends to operationalize resilience as a stable personal trait, whereas instruments such as the Adolescent Resilience Scale place greater emphasis on the dynamic manifestation of resilience within specific situational contexts.

2.3. Current status and characteristics of psychological resilience among Chinese college students

Based on a number of surveys, Chinese college students' psychological resilience is generally at the medium or slightly above the medium level, but there are significant individual differences. Recent studies indicate that the overall level of resilience among this population shows a fluctuating or downward trajectory in recent years. Regarding demographic differences, research indicates that male college students may score lower on resilience measures than their female counterparts; moreover, students from rural backgrounds tend to score higher on the tenacity and strength dimensions than those from urban areas. There are differences in optimism and other dimensions among students of different grades. Regular physical activity and financial hardship have also been identified as significant factors influencing students' levels of psychological resilience. These differences may stem from variations in emotional expression norms, social support networks, early life adversity exposure, and the degree to which family responsibilities are cultivated.

The key factors affecting the resilience of Chinese college students are multi-level. At the individual level, high self-efficacy, positive cognitive style (such as regarding setbacks as growth opportunities), and effective coping style are the core protective factors. At the environmental level, social support systems are crucial. The emotional support and good communication of family, the acceptance and help of peers, the caring environment of school, and the supportive role of teachers can significantly improve students' psychological resilience. Confucian cultural identity has been found to play a mediating role in this process, facilitating the transformation of perceived social support into adaptive emotion regulation strategies.

The development of Chinese college students' psychological resilience faces special challenges and opportunities. The challenges mainly come from high-intensity academic competition, anxiety about future employment, high family expectations as an only child, and the complex information environment and network social pressure in the Internet age. The opportunity lies in the fact that higher education increasingly pays attention to mental health education and holistic training, and intervention measures such as positive experiential teaching and psychological support group counseling have been proven to effectively improve students' psychological resilience and positive psychological quality [5].

The current research has initially described the general picture of Chinese college students' psychological resilience and its influencing factors, and has carried out beneficial exploration in the practice of intervention. However, the long-term tracking of the development trajectory of resilience,

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the in-depth excavation of the cultural specificity protection mechanism, and the development of personalized intervention programs based on digital technology are still areas that need to be focused on in the future.

3. Identification and manifestation of early symptoms of mental illness

3.1. Concept definition and recognition significance of early mental symptoms

The early symptoms of mental illness refer to the psychological or behavioral abnormalities with potential disease risk that individuals show before meeting the clinical diagnostic criteria. This state occupies a transitional zone between health and clinical illness, representing a precursor or at-risk condition for subsequent disorder development. Among them, "subthreshold depression" is the core example of this concept, which means that individuals have sustained depression symptoms, such as depression and decreased interest, but its severity or duration has not reached the diagnostic threshold of depression in the Diagnostic and Statistical Manual of Mental Disorders and other standards. Studies have shown that subthreshold depression is very common in the general population, and it is an important risk indicator for predicting major depression in the future.

Early identification of symptoms at this stage is of vital public health significance. It directly corresponds to the secondary prevention strategy of mental disorders, namely "early detection and early intervention". By identifying individuals in subthreshold states and implementing timely intervention, it is possible to effectively impede or delay the progression of symptoms to clinical disorders, thereby reducing the incidence of conditions such as major depression. For college students, early intervention can not only help improve their current psychosocial function and quality of life, but also prevent serious consequences such as academic interruption, deterioration of interpersonal relationships, and even suicide.

3.2. Early clinical manifestations of common mental disorders

The early symptoms of different mental disorders are different and often intertwined, and the functional damage is relatively light, which can be easily ignored by individuals due to ordinary pressure.

The early core symptoms of depressive disorder include continuous (usually more than two weeks) depression, loss of pleasure, and decreased energy; Among college students, these symptoms are often manifested as a marked decline in academic motivation, difficulty sustaining attention in class, or social withdrawal, features that are readily attributed to everyday fatigue or general stress. Accompanying symptoms include sleep disorders (insomnia or drowsiness), appetite changes, difficulty concentrating, reduced self-evaluation, a sense of worthlessness, and recurrent thoughts about death or suicide (but there is no clear plan or action).

The early core characteristics of anxiety disorder are excessive and uncontrollable anxiety and nervousness, which often point to a variety of life events in the future. Individuals may feel irritable and accompanied by obvious physical symptoms, such as muscle tension, restlessness, palpitations, sweating, shortness of breath, or gastrointestinal discomfort. Behavior may begin to avoid certain situations (such as social occasions and examinations).

The early clinical manifestations of psychotic disorders, such as schizophrenia, are often particularly insidious in nature. It may include mild, unusual thinking content (such as short-term suspicion or implicated ideas), abnormal perception (such as occasionally hearing the voice calling one's name), slightly loose speech expression, and negative symptoms such as decreased social

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motivation and social withdrawal. Although these symptoms are typically transient and mild, their presence may signal a heightened risk of conversion to full-threshold psychotic disorder.

3.3. Epidemiological characteristics of early symptoms in college students

Epidemiological surveys show that the detection rate of subthreshold depression in college students is high, and the universality of early psychological problems has attracted the extensive attention of researchers. Numerous studies have found that a substantial proportion of college students experience depressive symptoms, the majority of which are mild in severity and fall below the clinical threshold for a formal diagnosis of depression. A large-scale survey of Chinese college students shows that subthreshold depression has a high prevalence in this group, with a detection rate of 38.0%, and more than half of the students have different degrees of depression [6]. It can be seen that these early psychological problems of college students are not individual cases.

There are significant individual differences in college students' early psychological problems: the detection rate of depression and anxiety in girls is generally higher than that in boys; Junior-year students are particularly prone to experiencing a sense of emptiness and confusion about the future, owing to the multiple decision-making pressures associated with major selection, further study, and employment planning; The risk of depression is higher in the students with estranged family relationships, parents' lack of understanding and support, and harsh education methods. Academic studies, interpersonal relationships, development confusion, and economic pressure in college life are the main external causes of psychological problems. When such pressures remain unaddressed over an extended period, they may give rise to physical and mental exhaustion, persistent anxiety, depressive states, and even the emergence of somatic symptoms.

At present, there are not enough long-term follow-up studies on how these early psychological problems of Chinese college students will develop and whether they will become real mental diseases. Existing studies have shown that the outcomes of subthreshold depression are quite heterogeneous: some individuals' symptoms can be relieved spontaneously, but others show a trend of persistence or aggravation, and eventually develop into clinically diagnosed depression [7]. Research suggests that factors such as the level of resilience, the quality of social support, and coping styles may determine the outcome of individuals to a large extent, which is one of the core reasons why this review focuses on the protective effect of resilience. Therefore, society should not ignore the risk that depression may become serious and its impact on learning and life because individuals have not reached the diagnostic criteria for depression.

4. Correlation analysis between psychological resilience and early symptoms

4.1. Mechanism of psychological resilience as a protective factor

Psychological resilience does not directly prevent early psychological problems; rather, it exerts its protective effects through several complex and interrelated pathways.

First of all, according to the theory of stress buffering, psychological resilience can alleviate the damage of stress events to mental health. When students encounter academic pressure, conflicts with classmates, and other situations, people with strong psychological resilience can treat the pressure more reasonably, mobilize themselves and the resources around them to solve problems, and avoid the pressure from gradually turning into depression, anxiety, and other emotions. Existing neurobiological studies have suggested that psychological resilience may reduce the peak secretion of cortisol under stress by regulating the reactivity of the hypothalamic pituitary adrenal axis (HPA

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axis), thereby reducing the cumulative damage of chronic stress on the nervous system, providing preliminary evidence for the physiological protection mechanism of resilience [8].

Secondly, from the perspective of thinking and behavior, psychological resilience can help people form a healthier way of thinking and reduce the possibility of psychological problems. People with high mental toughness are more used to adjusting their emotions in a positive way, and will not be immersed in negative thoughts repeatedly. Rumination, that is, the psychological tendency to repeatedly indulge in negative events, is an important cognitive mechanism for the occurrence and maintenance of depression, and psychological resilience helps to break this bad cognitive cycle and guide individuals to adopt a more flexible problem-oriented thinking mode. Psychological resilience also fosters enhanced problem-solving skills and self-efficacy; when facing difficulties, resilient individuals are more inclined to proactively confront challenges rather than succumb to feelings of helplessness or hopelessness.

Moreover, from the perspective of interpersonal relationships and environment, people with strong psychological resilience are more able to seek and use the help of people around them. The support of family, friends, and teachers is an important force to resist psychological distress. Individuals with high resilience are more able to actively seek and accept social support from family, friends, and teachers in difficult situations. Perceived social support plays a significant mediating role between psychological resilience and depressive symptoms, and can effectively alleviate early depression indicators such as loneliness and meaninglessness.

4.2. Correlation between different dimensions of resilience and specific symptoms

Psychological resilience is not a single linear trait, but consists of several relatively independent dimensions; The correlation between these dimensions and different types of early psychological symptoms may be different, and it is regulated by gender, cultural background, and other factors. Therefore, it is necessary to conduct a detailed analysis at the dimension level.

For example, the commonly used CD-RISC Resilience Scale divides resilience into resilience, strength, and optimism, which have different associations with various psychological symptoms.

The tenacity dimension primarily reflects individuals' capacity to maintain goal-directed behavior and resist the impulse to disengage in the face of adversity, and demonstrates a strong negative correlation with core depressive symptoms such as hopelessness and loss of motivation. When individuals encounter setbacks in succession, higher resilience helps to maintain goal-directed behavior and block the formation of learned helplessness [9].

The "power" dimension reflects the individual's internal sense of control and self-efficacy belief under pressure, and is significantly negatively correlated with the excessive worry about the uncontrollability of the future, that is, the core cognitive model of generalized anxiety; According to Bandura's self-efficacy theory, a sense of belief in personal ability can help reduce individuals' catastrophic assessment of potential threats, thereby reducing anxiety [10]. People with inner strength believe that they can cope with all kinds of challenges, will not think too seriously of possible troubles, and can also reduce tension.

"Optimism" is to look at things from a positive perspective. It is helpful to the overall mental health. It can reduce depression and anxiety.

Emotion regulation ability and self-confidence (that is, self-efficacy) are important bridges connecting psychological resilience and psychological symptoms. For example, studies have found that mindfulness and looking at problems from a different perspective can improve psychological resilience and make people happier; Other studies have shown that learning to actively adjust ideas can improve psychological resilience and life satisfaction, and improve physical and mental status.

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This shows that psychological resilience can play a protective role, partly because it allows people to adjust their thoughts and emotions more flexibly. In addition, self-confidence is also an important part of psychological resilience, which can directly help people deal with stress and reduce the occurrence of anxiety and depression.

Understanding the differential associations between distinct dimensions of resilience and specific psychological symptoms has important implications for the design of targeted psychological interventions. If a person is mainly depressed and not interested in anything, he can focus on cultivating his tenacity and sense of purpose. For individuals with widespread concern and lack of control as the main performance, the society can systematically improve their coping skills and internal sense of control through problem-solving therapy and relaxation technology training, so as to enhance the resilience level of the "strength" dimension.

Future research also needs to more carefully study the corresponding relationship between different aspects of psychological resilience and various psychological symptoms, pay attention to the impact of gender and cultural differences, and design more targeted improvement programs to better prevent the occurrence and aggravation of College Students' early psychological problems.

5. Conclusion

Psychological resilience is the key protective factor for Chinese college students to resist early psychological problems such as depression and anxiety. It is not a fixed single trait, but a dynamic process formed by the interaction of personal characteristics, external support, and pressure factors in the local cultural environment. College students with high psychological resilience can better alleviate the impact of negative emotions, improve sleep and daily adaptation, and their level can be significantly improved by cultivating positive coping styles, improving self-confidence, and other intervention measures. This process has distinctive Chinese cultural characteristics: under the background of collectivism, the support of family, classmates and school is the core protective force of psychological resilience; Family expectations and collective identity can be transformed into psychological motivation therefore, the psychological resilience of Chinese college students is not only reflected in their ability to adjust their emotions, but also in their ability to actively respond to pressure with the help of collective support networks.

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