# The Social-Family-Individual Trinity: Building an Intervention Pathway for Cultivating Positive Psychological Qualities and Addressing Mental Sub-Health Among College Students in Ethnic Regions

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**Abstract: Currently, mental sub-health among college students is becoming increasingly prominent, necessitating systematic and multi-dimensional intervention solutions. This study constructs an integrated "social–family–individual" intervention pathway to address mental sub-health among college students, based on an empirical analysis of 11,510 participants. Results revealed that perceived social support, psychological resilience, and democratic parenting styles served as protective factors, while negative parenting styles correlated positively with mental sub-health. Interaction effects highlighted the foundational role of family environment in shaping psychological resources. The proposed pathway involves building social support networks, optimizing parenting practices, and fostering resilience to establish a systematic framework for mental health promotion.**

**Keywords: Mental Sub-Health; Positive Psychological Qualities; Trinity; Intervention Pathway; College Students**

## 1. Introduction

The college student population is in a critical stage of transition from adolescence to early adulthood, facing multiple developmental tasks and pressures related to academics, interpersonal relationships, employment, and self-identity [1]. In this context, mental health issues among college students, particularly the "mental sub-health" state that exists between health and illness, have become a public health concern of global importance. Mental sub-health is not a definitive clinical diagnosis, but it characterizes an intermediate state of maladaptation and impaired functioning in emotional, cognitive, behavioral, and physiological aspects, such as persistent fatigue, low mood, poor concentration, social withdrawal, and decreased life satisfaction [2]. Without timely intervention, mental sub-health may develop into more severe psychological disorders, such as anxiety and depression.

For college students in ethnic regions, in addition to the aforementioned general pressures, they may also need to cope with unique challenges such as custom adaptation, relatively lagging regional economic development, and uneven distribution resources [3]. These factors may intertwine, making their mental sub-health issues more complex and hidden. Traditional mental health work models often focus on crisis intervention and treatment for students with obvious psychological problems, representing a relatively passive and remedial approach. In recent years, the rise of positive psychology has provided a new perspective for college student mental health work. This field emphasizes shifting from "repairing damage" to "building strengths", focusing on the cultivation of individual positive psychological qualities such as optimism, hope, resilience, and gratitude. Extensive research shows that positive psychological qualities can not only directly enhance subjective well-being but also serve as effective psychological resources to buffer the negative impact of stressful events on mental health [4].

However, whether for intervention in mental sub-health or the cultivation of positive psychological qualities, existing practices often suffer from fragmentation, focusing either on training individual psychological adjustment skills or limiting provision to campus

 

psychological support services, failing to systematically integrate the multiple ecosystems that influence individual development—particularly society, family, and the individual. Bronfenbrenner's bioecological theory emphasizes that individual development is nested within multiple interconnected environmental systems, with microsystems (e.g., family, school) and mesosystems (e.g., home-school linkages) having direct impacts on the individual [5]. Based on this, constructing a systematic intervention framework that integrates the three levels of social, family, and individual, which has important theoretical value and practical urgency for comprehensively addressing the mental sub-health issues of college students in ethnic regions and systematically cultivating their positive psychological qualities.

Through a questionnaire survey of 11,510 college students, this study empirically examines the relationship between social support (social level), parental rearing style (family level), psychological resilience (individual level), and mental sub-health, aiming to answer the following questions: (1) How do these three types of key factors independently and jointly predict the level of mental sub-health among college students? (2) What interactions exist among them? On this basis, the ultimate goal of this study is to construct a "social-family-individual" trinity pathway for cultivating positive psychological qualities and intervening in mental sub-health for college students in ethnic regions, providing empirical evidence and a practical blueprint for the systematic innovation of mental health education work in colleges and universities.

## 2. Methods

### 2.1 Participants

A cluster sampling method was used to select college students from three comprehensive universities in a western province of China with concentrated ethnic populations. A total of 12,000 questionnaires were distributed, with 11,510 valid questionnaires returned, yielding an effective response rate of 95.92%. Among the participants, 4,892 were male (42.5%) and 6,618 were female (57.5%); the average age was 19.84 years (SD = 1.52). The participants covered various disciplines including humanities, social sciences, science, engineering, and medicine to ensure the representativeness of the sample.

### 2.2 Mearuements

Mental sub-health Scale. The psychological subscale from the Multidimensional Sub-health Questionnaire of Adolescents compiled by Qi et al [6]. This scale contains 39 items, covering emotional subhealth, behavioral subhealth, social adaptation subhealth, subhealth symptoms, and subhealth status. Each item has 6 rating criteria (1: Duration > 3 months; 2: Duration > 2 months; 3: Duration > 1 month; 4: Duration > 2 weeks; 5: Duration > 1 week; 6: None or duration ≤ 1 week). Lower numbers indicate longer duration of adolescent subhealth. Among the 39 rating items, having 1 ≤ "number of items with duration > 1 month" < 8 is assessed as subhealth symptoms. Having "number of items with duration > 1 month" ≥ 8 is determined as subhealth status. Within the 39 items, the emotional problems dimension has 18 items; having "number of items with duration > 1 month" ≥ 3 can be determined as emotional subhealth. The behavioral problems dimension has 8 items; having "number of items with duration > 1 month" ≥ 1 can be determined as conduct subhealth. The social adaptation difficulties dimension has 13 items; having "number of items with duration > 1 month" ≥ 4 can be determined as social adaptation subhealth. In this study, the Cronbac's α coefficient for this scale was 0.87.

Perceived Social Support Scale. The Perceived Social Support Scale compiled by Zimet et al and revised by Jiang [7]. This scale contains 12 items measuring the degree of support an individual perceives from significant others such as family, friends, and teachers. A Likert 7-point scale was used (1 representing strongly disagree, 7 representing strongly agree). Higher scores indicate a stronger perceived level of social support. In this study, the Cronbach's α coefficient for this scale was 0.91.

Psychological Resilience Scale. The Resilience Scale for Chinese Adolescents compiled by Hu and Gan [8]. This scale contains 27 items, divided into two dimensions: personal strength and support. The former includes three factors: goal focus, emotional control, and positive cognition. The latter includes two factors: family support and interpersonal assistance. The scale used a Likert 5-point scale (1 representing completely not conform], 5 representing completely conform). Some items are reverse-

 

scored. Higher total scores indicate a stronger level of psychological resilience. In this study, the Cronbach's α coefficient for this scale was 0.87.

Parental Rearing Style Questionnaire. Parental rearing style was measured using the Short-form Egna Minnen av Barndoms Uppfostran (s-EMBU-C) revised by Jiang et al [9]. This questionnaire includes six dimensions: paternal rejection, emotional warmth, and overprotection, and maternal rejection, emotional warmth, and overprotection, totaling 21 items. Each item is measured separately for father and mother. A Likert 4-point scoring method was used (1 representing never, 4 representing always). In this study, the overall Cronbach's α coefficient for this scale was 0.85.

### 2.3 Procedure and Data Analysis

This study was implemented after review and approval by the university ethics committee. Group testing was conducted by class using unified instructions to ensure standardization of data collection. All data were processed using SPSS 26.0 and AMOS 24.0 software. First, common method bias was tested using Harman's single-factor test. The results showed that the variance explained by the first common factor was 28.7% (< 40% critical value), indicating that common method bias was not severe. Subsequently, descriptive statistics and Pearson product-moment correlation analysis were conducted to preliminarily explore the relationships between variables. Finally, hierarchical regression analysis was used to examine the independent and interactive predictive effects of social support, parental rearing style, and psychological resilience on mental sub-health, after controlling for demographic variables such as gender and age.

## 3. Results

### 3.1 Common Method Bias Test

Harman's single-factor test was performed on all questionnaire items using unrotated exploratory factor analysis. The results showed that there were 12 factors with eigenvalues greater than 1, and the first factor explained 28.7% of the variance, below the 40% critical standard. This indicates that the data in this study do not have a serious common method bias problem, and subsequent analyses can be conducted.

### 3.2 Descriptive Statistics and Correlation Analysis

The means, standard deviations, and correlation coefficients of the variables are shown in Table 1. Mental sub-health was significantly negatively correlated with perceived social support ($r = -0.42$, $p < .01$) and psychological resilience ($r = -0.51$, $p < .01$), and also significantly negatively correlated with parental emotional warmth ($r = -0.31$, $p < .01$), while it was significantly positively correlated with parental rejection ($r = 0.38$, $p < .01$). Perceived social support, psychological resilience, and parental emotional warmth were all significantly positively correlated with each other.

**Table 1. Descriptive Statistics and Correlations for Key Variables (N = 11,510)**

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| Suboptimal MH | 82.45 | 18.32 | 1 | | | | |
| Perceived Support | 63.18 | 11.05 | -0.42** | 1 | | | |
| Psychological Res | 90.11 | 16.78 | -0.51** | 0.47** | 1 | | |
| Parental Warmth | 32.56 | 7.89 | -0.31** | 0.36** | 0.39** | 1 | |
| Parental Rejection | 18.32 | 5.67 | 0.38** | -0.29** | -0.33** | -0.45** | 1 |

Note: MH = Mental Health, Res = Resilience, **= p < .01. 1 = Suboptimal MH, 2 = Perceived Support, 3 = Psychological Res, 4 = Parental Warmth, 5 = Parental Rejection

### 3.3 Regression Analysis

To examine the predictive effects of various protective factors on mental sub-health, hierarchical regression analysis was conducted (see Table 2). Control variables (gender, age) were entered in Step 1. The results showed that gender had a significant predictive effect on mental sub-health ($\beta = 0.07$, $p < .01$), with female students reporting slightly higher levels of mental sub-health. In Step 2, social support, parental emotional warmth, parental rejection, and psychological resilience were included in the regression equation. The model's explanatory power increased significantly ($\Delta R^2 = 0.39$, $p < .001$). The results showed that perceived social support ($\beta = -0.18$, $p < .001$), psychological resilience ($\beta = -0.32$, $p < .001$), and parental emotional warmth ($\beta = -0.11$, $p < .001$) all significantly negatively predicted mental sub-

 

health, while parental rejection (β = 0.16, p < .001) significantly positively predicted mental sub-health.

**Table 2. Hierarchical Regression Analysis Predicting Suboptimal Mental Health**

| Predictor | Step 1 | Step 2 |
|---|---|---|
| Gender | 0.07** | 0.03 |
| Age | -0.02 | -0.01 |
| Perceived Support | | -0.18*** |
| Psychological Res | | -0.32*** |
| Parental Warmth | | -0.11*** |
| Parental Rejection | | 0.16*** |
| $R^2$ | 0.01 | 0.40 |
| $\Delta R^2$ | 0.01** | 0.039*** |

Note: Res = Resilience, ** = p < .01, *** = p < .001.

### 3.4 Interaction Analysis

To further explore the interaction mechanisms between social, family, and individual factors, interaction term tests were conducted. The results indicated that the interaction term between parental emotional warmth and social support had a significant positive predictive effect on psychological resilience (β = 0.08, p < .01). Simple slope analysis showed (see Figure 1) that for college students from families with high emotional warmth, the enhancing effect of social support on psychological resilience was more significant. This suggests that a democratic and warm family environment strengthens an individual's ability to utilize external social support resources to develop internal psychological resilience.

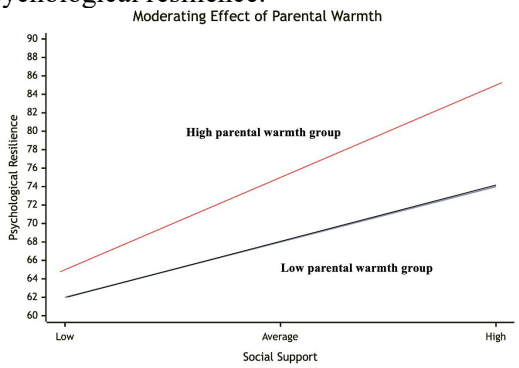


**Figure 1. The Moderating Effect of Parental Warmth on the Relationship Between Social Support and Psychological Resilience**

## 4. Discussion

This study through an empirical survey of 11,510 college students, clearly reveals that social support (social level), parental rearing style (family level), and psychological resilience (individual level), as key protective factors, collectively constitute a multi-level protective system against mental sub-health. The results not only verify the independent protective effects of each factor but, more importantly, reveal the existence of dynamic interaction effects among them, particularly the mechanism by which family rearing style serves as an important foundation for the individual's psychological resource system. This provides a solid scientific basis for constructing an integrated intervention pathway.

First, this study found that perceived social support from peers and teachers is an important negative predictor of mental sub-health. This finding is consistent with recent meta-analytic results emphasizing that perceived support is more critical for mental health than actually received support [10]. For college students in ethnic regions, a strong campus social support network can effectively compensate for the potential weakening of their original social support due to geographical distance, providing them with emotional reliance, information channels, and a sense of belonging [11].

Second, at the family level, a democratic (emotionally warm) rearing style was confirmed to be an effective protective factor, while a rejecting rearing style was a risk factor. This aligns with theories in developmental psychology regarding how "authoritative parenting" promotes children's emotional regulation abilities and healthy personality formation. More importantly, the interaction analysis found that a warm family environment can enhance the efficacy of individuals using social support to cultivate their own psychological resilience. This means that the family system constructs the initial secure base and internal working model for individuals coping with external challenges. A college student who feels love and respect in the family is more likely to interpret others' help positively and actively seek and utilize social support, thereby transforming it into inner psychological strength [12].

Finally, at the individual level, psychological resilience showed the strongest negative predictive power, highlighting its status as a core positive psychological quality. Psychological resilience is not a fixed trait but a dynamic process that can be enhanced through experiential learning and targeted training [13]. Our research confirms that it is both an

 

important endpoint for protecting mental health and a key mediating pathway through which social and family protective factors exert their effects. Based on the above discussion, this study proposes the "social-family-individual" trinity intervention pathway framework shown in Figure 2.

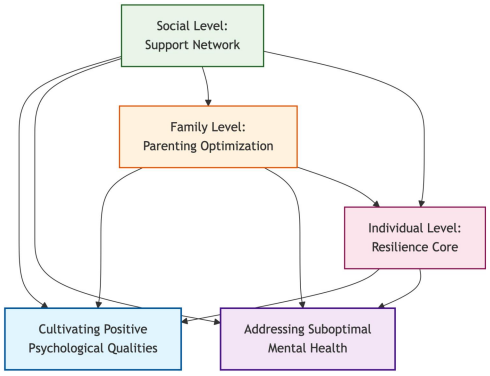


**Figure 2. The "Social-Family-Individual" Trinity Intervention Pathway Framework**

(1)Social Level: Construct a "University-Department-Class-Dormitory" Four-Level Social Support Network.

Universities should systematically conduct top-level design, transcending fragmented activities and committing to the creation of an institutionalized supportive environment. Specific measures include: (a) At the university level, establish an integrated Student Mental Health Management Center to coordinate resources and formulate inclusive support policies; (b) At the departmental level, leverage the mentoring role of academic advisors and class advisors, integrating mental health elements into professional education; (c) At the class level, promote psychological class meetings and group counseling themed around "building positive relationships"; (d) At the dormitory level, train dormitory leaders to become "Psychological Companions", creating a mutual peer support microenvironment. Particularly for students from ethnic regions, support should be provided for establishing student clubs with a sense of cultural identity, offering transitional support for cultural adaptation.

(2)Family Level: Establish a "Home-School Collaborative Education" Mechanism to Guide the Optimization of Parental Rearing Styles.

Universities should proactively break down the barriers with families, incorporating family strength into the education system. (a) Offer "Parent Academies", using online workshops or freshman parent meetings to popularize knowledge about adolescent psychological development characteristics and positive rearing styles; (b) Establish regular home-school communication channels, such as periodically sending Student Growth Bulletins to keep parents informed of their children's situation at school, especially when students experience psychological distress, promptly communicating and coordinating with families to form an educational synergy; (c) For families with obvious negative rearing styles, the school psychological counseling center can provide professional family consultation or referral services to help improve family interaction patterns.

(3) Individual Level: Develop a Stepped Mental Health Curriculum System Centered on "Psychological Resilience".

Mental health education courses should shift from traditional knowledge transmission to experiential teaching focused on skill cultivation and strength building. (a) For all students, offer compulsory or general education courses such as Positive Psychology and Stress Management and Psychological Resilience, systematically teaching skills like cognitive reappraisal, emotion management, and growth mindset; (b) For high-risk or high-need students, provide small-group, in-depth workshops focusing on specific themes (e.g., emotion regulation, interpersonal communication); (c) Integrate psychological resilience training into experiential activities such as military training, social practice, and innovation and entrepreneurship projects, allowing students to temper and enhance their psychological resilience through real challenges.

The limitation of this study lies in its cross-sectional design, making it difficult to establish causal relationships between variables. Future research could use longitudinal tracking or experimental intervention designs to further verify the effectiveness of this pathway. Furthermore, as the sample primarily came from western ethnic regions, the generalizability of the pathway needs to be tested in populations with other cultural backgrounds.

## 5. Conclusion

This study confirms that addressing the mental sub-health issues of college students in ethnic regions and cultivating their positive psychological qualities is a complex project involving multiple systems: society, family, and

 

the individual. The "social-family-individual" trinity intervention pathway constructed based on empirical findings emphasizes that these three are not isolated but form an organic whole that is nested and synergistic. This pathway provides a theoretical model and practical blueprint for universities to move from fragmented intervention to systematic education, aiming to achieve a paradigm shift from "repairing problems" to "nourishing strengths" through multi-level, multi-agent collaborative efforts, ultimately contributing to the cultivation of harmonious, well-rounded, and fully developed new-era college students.

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