



A Study on the Relationship Between Parenting Styles, Subjective Well-Being, and Explanatory Styles Among College Students

Xintian Du^{1,*} and Yani Duan²

¹Southwest Minzu University, Chengdu 610041, China

²College of Psychology and Mental Health, North China University of Science and Technology, Tangshan 063210, China

Abstract

This study aims to explore the influence of parental parenting styles on college students' explanatory styles and to examine the mediating role of subjective well-being in this relationship. Using convenience sampling, 303 valid questionnaires were collected from undergraduate students. Data were analyzed using SPSS 27.0 Chinese Edition, employing independent samples t-tests, one-way ANOVA, simple effect analyses, correlation analyses, and regression analyses, while the mediating effect was tested using the product coefficient method with Bootstrap sampling via the PROCESS plugin. Results indicated that: (1) certain dimensions of parental parenting styles showed differences by gender and only-child status, with no significant grade differences; (2) only-child status and grade had distinct impacts on subjective well-being and explanatory styles, and certain dimensions of parenting styles were correlated with subjective well-being; and (3) parental

parenting styles directly predicted college students' explanatory styles, with subjective well-being playing a partial mediating role. The study concludes that parenting styles influence students' explanatory styles—specifically, emotionally warm parenting positively affects explanatory styles, while rejecting and overprotective parenting negatively impact them. Significant positive correlations exist among parenting styles, subjective well-being, and explanatory styles. Furthermore, subjective well-being mediates the influence of parenting styles on explanatory styles: individuals experiencing rejecting parenting styles tend to report lower subjective well-being, which in turn leads to more negative explanatory styles.

Keywords: parenting styles, subjective well-being, explanatory style, college students.

1 Introduction

As a core group bearing societal expectations and individual developmental aspirations, college students are in a critical transitional phase where personality maturation and social role transformation converge.

Citation

Du, X., & Duan, Y. (2026). A Study on the Relationship Between Parenting Styles, Subjective Well-Being, and Explanatory Styles Among College Students. *Journal of Digital Intelligence in Education*, 1(1), 42–57.



© 2026 by the Authors. Published by Institute of Central Computation and Knowledge. This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>).

Submitted: 04 December 2025

Revised: 29 January 2026

Accepted: 13 May 2026

Published: 15 August 2026

Vol. 1, No. 1, 2026.

10.62762/JDIE.2025.159515

*Corresponding author:

✉ Xintian Du

dxt0211152021@163.com

During this period, they face heavy academic pressures, intense competition, complex interpersonal relationships, and the gap between self-perception and external evaluation. They also confront numerous uncertainties in the transition from campus to society. The interplay of these multiple pressures has led to a high incidence of mental health issues among college students. Emotional disturbances such as anxiety and depression are commonplace, not only affecting their daily studies, lives, and physical and mental development but also impacting the quality of talent cultivation in higher education and the future development potential of society. Against this backdrop, delving into the underlying factors affecting college students' mental health and clarifying the pathways of influence between external environments, psychological traits, and cognitive patterns not only provides scientific grounds for developing precise and effective psychological intervention strategies but also lays a crucial foundation for helping students navigate this critical growth phase smoothly and cultivating mentally and physically healthy contributors to society.

The family, as the primary environment for individual development, is widely recognized by academia for its foundational role in shaping university students' mental health and personality. Parental styles, as the core vehicle of familial influence, subtly mold individuals' cognitive patterns, emotional responses, and behavioral tendencies through daily interactions [1]. Tiggemann et al. [2] demonstrated that parenting styles—particularly rejecting and overprotective rearing patterns—directly predict individuals' attributional tendencies, which in turn shape their psychological well-being outcomes. Practically speaking, democratic parenting styles often involve emotional support, respect, and encouragement, enabling individuals to accumulate ample positive emotional experiences during development. In contrast, authoritarian and permissive parenting styles tend to lead to emotional neglect and value rejection, undermining psychological security. These differing emotional experiences stemming from parenting styles form the core prerequisite for subjective well-being and lay the groundwork for subsequent cognitive pattern formation.

Subjective well-being represents an individual's overall assessment of life quality and emotional experience. It serves both as a direct external manifestation of psychological health and as a vital psychological bridge connecting external environments with

personal cognitive traits. Positive psychology research indicates that subjective well-being is not merely an emotional response but actively influences an individual's cognitive processing. Individuals with high subjective well-being typically possess richer psychological resources and a more positive emotional baseline. When confronting life events, they tend to focus on positive information and downplay negative cues. Individuals with low subjective well-being, however, are prone to cognitive biases toward negative emotions, interpreting events more negatively. This difference in cognitive processing directly points to an individual's stable cognitive evaluation pattern, namely explanatory style.

As a stable cognitive evaluation pattern, explanatory style serves as a key psychological mediator linking external environments to mental health. According to Seligman's learned helplessness theory, optimistic explanatory styles effectively buffer against stress impacts and reduce the risk of negative emotions, whereas pessimistic styles are more likely to trigger psychological maladjustment [3]. Notably, the formation of explanatory style is not an isolated cognitive process but is profoundly influenced by an individual's long-term emotional experiences: the emotional environment shaped by early family upbringing gradually solidifies into a stable explanatory style through the "mediated transmission" of subjective well-being. Specifically, positive parenting styles enhance subjective well-being, which in turn fosters optimistic explanatory styles. Conversely, negative parenting styles diminish subjective well-being, thereby increasing the likelihood of developing pessimistic explanatory styles.

As a crucial external factor in adolescent socialization, the relationship between family upbringing patterns and the formation of cognitive characteristics in college students has drawn significant academic attention. From a cognitive psychology perspective, an individual's attribution tendencies toward life events, as a stable psychological representation, not only modulate psychological adaptation mechanisms but also directly influence the operational efficacy of emotional regulation systems. Notably, the dual-dimensional indicator of psychological well-being—comprising life satisfaction and emotional equilibrium—has become a core observation point in contemporary developmental psychology for assessing psychological capital among youth. However, existing research predominantly examines the relationships between parenting styles and explanatory styles, or

between parenting styles and subjective well-being, in isolation. Systematic empirical support remains lacking for the chain-like mechanism linking these three factors—particularly the mediating role of subjective well-being in the "emotion-driven cognition" theoretical framework between parenting styles and explanatory styles.

Therefore, this study focuses on university students to reveal, through a mediation model, the predictive effect of parental upbringing practices on cognitive attribution patterns. It also systematically explores the mediating mechanism of subjective well-being—validating its mediating effect between parenting styles and explanatory styles while clarifying the internal pathway of "how parenting styles influence explanatory styles through subjective well-being." This research paradigm holds theoretical innovation value and practical significance for constructing an integrated family-emotion-cognition-mental health model and refining university mental health education intervention systems. It also provides scientific guidance for family education practices and university mental health education work.

1.1 Parental Parenting Styles

Parenting styles represent the stable combination of parental beliefs, behaviors, and emotional expressions toward children, reflecting the essence of parent-child interactions [1]. Empirical studies indicate that parental rearing patterns are closely associated with adolescents' motivational orientations and self-evaluative tendencies, underscoring their broad developmental significance [4]. They play a pivotal role in children's personality development and mental health: positive parenting enhances life satisfaction, while negative parenting may lead to cognitive and emotional distortions [5]. This study utilizes the Brief Parental Style Questionnaire, categorizing parenting styles into three dimensions: rejection, emotional warmth, and overprotection (see Appendix Table A1).

1.2 College Students' explanatory styles

Explanatory style originates from research on "learned helplessness," representing an individual's stable cognitive pattern for interpreting causal relationships in events, acquired through socialization processes [3]. Empirical evidence further demonstrates that explanatory style is closely associated with subjective well-being among college students, with optimistic attributional styles significantly predicting higher levels of well-being [6]. Pearson and Seligman

identified three core dimensions: temporal consistency, spatial universality, and attribution directionality. Pessimistic styles correlate significantly with depression and social avoidance, while optimistic styles enhance academic persistence and psychological resilience [7, 8]. This study employs the locally adapted and revised Seligman Explanatory Style Questionnaire [9] for measurement.

1.3 Subjective Well-Being

Subjective well-being represents an individual's comprehensive evaluation of their own life in terms of life satisfaction, positive affect, and negative affect [10]. Empirical research has confirmed that parenting styles exert significant effects on college students' subjective well-being, which in turn mediates psychological outcomes such as depressive symptoms [11]. Its formation involves both objective and subjective factors: Objectively, social networks and economic conditions exert significant influence, with parental parenting styles—as a core social relationship element—impacting well-being by affecting the quality of social support [10]; On the subjective level, personality traits and explanatory styles are the core influencing factors.

1.4 The relationships among three variables

Subjective well-being is shaped by both objective and subjective factors: Objectively, parenting styles influence well-being development by shaping children's psychological tendencies and emotional regulation abilities [11]; Subjectively, explanatory styles are closely linked to subjective well-being—positive explanatory styles enhance well-being levels, while individual differences in subjective perceptions of happiness reciprocally influence the formation of explanatory styles [12]. Based on this, the present study hypothesizes that subjective well-being mediates the relationship between parental parenting styles and explanatory styles among college students.

1.5 Research Question

Consequently, this study focuses on exploring the mediating relationship among these three variables, with the core objectives being: First, to overcome the limitations of previous analyses that examined only binary relationships, revealing the complete causal chain of "influence-transmission-outcome" among variables and filling the theoretical gap in understanding the "interrelated mechanisms" among the three. Second, by testing the significance

of the mediating effect, to clarify the strength and direction of the "bridge" role played by the mediating variable, providing a more refined empirical explanation for understanding the influence pathway of variable X on variable Z; Third, to further refine the theoretical model in this field, offering more targeted theoretical grounds for subsequent intervention practices. Therefore, based on a sample of college students, this study constructs a theoretical model of the influence mechanism of parental parenting styles on individual explanatory styles, focusing on examining the mediating effect of subjective well-being in the relationship between the two, as shown in Figure 1.

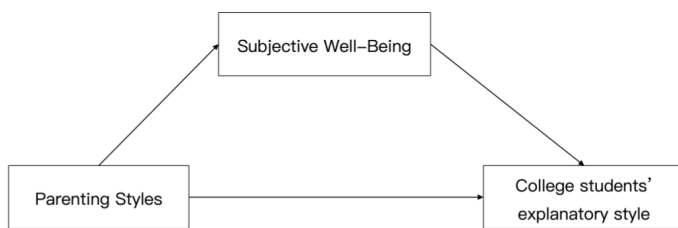


Figure 1. Hypothesis Model of Parental Parenting Styles Influencing College Students' Explanatory Styles.

2 Methodology

2.1 Objectives

Existing research has preliminarily confirmed bidirectional associations among parental parenting styles, subjective well-being, and explanatory styles. However, systematic exploration of the underlying complex mechanisms—particularly mediation pathways—remains limited, especially lacking focused analysis on college students as a critical group in cognitive development, creating a research gap.

Given this, the present study focuses on college students to address these limitations: First, it aims to clarify the specific pathways through which each dimension of parental parenting styles influences college students' explanatory styles. Specifically, it seeks to determine whether positive parenting positively predicts optimistic explanatory styles and whether negative parenting positively predicts pessimistic explanatory styles, thereby revealing the differential effects of these two parenting styles on explanatory styles. Second, it further examines the mediating effect of subjective well-being between parental parenting styles and college students' explanatory styles, verifying whether the chained pathway "Parenting Styles → Subjective Well-Being → Explanatory Style" holds true—that is, whether

parental parenting styles indirectly shape explanatory style characteristics by altering college students' subjective well-being levels. Ultimately, through the above analyses, this study systematically reveals the intrinsic mechanisms linking these three factors, providing more targeted theoretical foundations for mental health interventions among college students and family education guidance.

2.2 Hypotheses

Hypothesis 1: Parental styles predict college students' explanatory styles, with emotionally warm parenting positively predicting explanatory styles, while rejecting and overprotective parenting negatively predicting them.

Hypothesis 2: Significant correlations exist among parenting styles, subjective well-being, and college students' explanatory styles.

Hypothesis 3: Subjective well-being mediates the relationship between parenting styles and explanatory styles among college students.

2.3 Participants

A questionnaire survey was conducted among 350 college students at a university in North China, with data collected online via Wenjuanxing. After excluding invalid questionnaires with missing responses or systematic errors, 303 valid questionnaires were obtained, yielding an effective response rate of 86.57%. Among them, 133 were male (43.9%) and 170 were female (56.1%); 167 were only children (55.2%) and 136 were non-only children (44.8%).

2.4 Research Tools

2.4.1 Simplified Parental Style Scale

This study utilized the Chinese version of the Simplified Parental Style Questionnaire developed by Jiang Jiang and Lu Zhengrong. The self-report s-EMBU scale underwent preliminary revision, ultimately forming a 21-item measurement tool. The scale employs a three-dimensional structure: Rejection Dimension, Emotional Warmth Dimension, and Overprotection Dimension. Higher scores on each dimension indicate a greater tendency among the respondent's parents to adopt that particular parenting style. The scale employs a 4-point Likert scoring method. Reliability testing revealed an overall Cronbach's α coefficient of 0.953, demonstrating excellent internal consistency reliability. Expert assessment ($S-CVI = 0.92$) and confirmatory factor analysis ($\chi^2/df = 2.36$, $RMSEA = 0.068$, $CFI =$

Table 1. Parenting Style Scores by Gender.

	Male (<i>n</i> = 133)		Female (<i>n</i> = 170)		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Reject	2.66	0.589	2.56	0.714	-1.899
Emotional warmth	20.428	5.523	19.952	5.115	0.776
Overprotection	15.180	3.876	15.835	4.318	-1.370

Table 2. Parenting Style Scores Across Grade Levels.

	Freshman (<i>n</i> = 27)		Sophomore (<i>n</i> = 54)		Junior Year (<i>n</i> = 59)		Senior Year (<i>n</i> = 149)		Fifth Year (<i>n</i> = 14)		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Reject	11.814	5.038	11.240	5.083	12.508	6.137	10.476	5.477	11.500	4.536	0.177
Emotional warmth	18.925	5.790	19.981	5.468	19.254	4.894	20.926	5.237	18.928	5.254	0.128
Overprotection	15.407	4.106	15.481	3.898	15.813	4.183	15.463	4.272	15.857	3.919	0.980

0.94, TLI = 0.93) together indicated good content and construct validity.

2.4.2 College Students' Attribution Style Scale

This study employed the Chinese revised version of the 32-item Attributional Styles Questionnaire developed by American psychologist Seligman as the measurement tool. This self-report scale assesses individuals' explanatory style tendencies across four dimensions: persistent and universal attributions for negative events, and persistent and universal attributions for positive events. Each dimension comprises eight measurement items. Reliability testing yielded an overall Cronbach's α coefficient of 0.821 for the scale, indicating good internal consistency. Through content review, confirmatory factor analysis ($\chi^2/\text{df} = 2.61$, RMSEA = 0.075, CFI = 0.91, TLI = 0.90), and criterion-related validity testing (significantly correlated with SDS scores, $p < 0.01$), the scale meets measurement validity requirements (see Appendix Table A2).

2.4.3 Subjective Well-Being Scale

Based on Fazio's 1977 revised scale [13], this study employed the General Well-Being Scale developed by Duan [10]. The 48-item scale is scored from 1 to 7. Instructions directed participants to rate their feelings over the past six months, with higher total scores indicating greater subjective well-being. The Cronbach's α coefficient was 0.824. Validity was confirmed through expert assessment ($S\text{-CVI} = 0.90$), confirmatory factor analysis ($\chi^2/\text{df} = 2.45$, RMSEA = 0.071, CFI = 0.92, TLI = 0.91), and criterion-related correlation tests ($r = 0.63$, $p < 0.001$ with SWLS scores; see Appendix Table A3).

2.5 Data Processing

Using convenience sampling, 350 questionnaires were distributed and all 350 were returned. After sorting and excluding invalid questionnaires, 303 valid questionnaires were obtained, yielding a response rate of 86.57%. Data from the questionnaire survey were analyzed using SPSS 27.0 for qualitative analysis, including descriptive statistics, independent samples *t*-tests, one-way ANOVA, simple effect analysis, correlation analysis, regression analysis, and mediation effect testing via bootstrap sampling using the product coefficient method in the PROCESS plugin.

3 Results and Analysis

3.1 Common Method Bias Test

The Harman single-factor test revealed that the first indicator explained 15.80% of the variance, well below the 40% critical threshold. This indicates reliable data quality with measurement bias within an acceptable range.

3.2 Demographic Variable Analysis

Regarding gender, male participants scored significantly higher than females ($p < 0.05$) on the Rejection and Emotional Warmth dimensions of parental parenting styles, with no significant differences observed on other dimensions. By grade level, no significant differences were found across dimensions of parental parenting styles; however, significant differences existed in Explanatory Style ($p < 0.05$), particularly on the "Bad Persistence" dimension. Regarding only-child status, only children scored significantly higher than non-only children on the emotional warmth dimension of parental parenting styles ($p < 0.05$). Significant differences

Table 3. Scores on parenting style by only-child status.

	Only Children		Non-only Children		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Reject	10.664	5.318	11.801	5.657	-1.798
Overprotection	20.814	5.696	19.360	4.650	2.446
Emotional Warmth	15.293	4.089	15.860	4.186	-1.187

were also found in the health, satisfaction, energy, and mood dimensions of subjective well-being ($p < 0.05$).

3.2.1 Demographic Variables Analysis of Parental Child-Rearing Styles

(1) Gender Differences in Parental Child-Rearing Styles

Independent samples *t*-tests revealed no statistically significant gender differences in overall parenting styles ($t = -1.206, p > 0.05$). When examining specific dimensions, no significant gender differences were found in the rejection ($t = -1.899, p > 0.05$), emotional warmth ($t = 0.776, p > 0.05$), or overprotection ($t = -1.370, p > 0.05$) dimensions (Table 1).

(2) Grade Differences in Parental Child-Rearing Styles

A one-way ANOVA was conducted to examine differences in parental parenting styles among college students across grade levels. The results indicate that across all three dimensions—rejection, emotional warmth, and overprotection—no statistically significant differences in parental parenting styles were found among students of different grade levels (Table 2).

(3) Differences in Parental Child-Rearing Styles Among Only Children

An independent samples *t*-test was conducted to examine differences in parenting styles between only children and non-only children. The overall difference was not statistically significant ($t = -0.168, p > 0.05$). When examining specific dimensions, significant differences were found only in the overprotection dimension ($t = 2.446, p < 0.05$), indicating that non-only children scored significantly higher than only children on overprotection. No significant differences were found in the rejection ($t = -1.798, p > 0.05$) or emotional warmth ($t = -1.187, p > 0.05$) dimensions (Table 3).

3.2.2 Demographic Variables Analysis of Subjective Well-Being

(1) Gender Differences in Subjective Well-Being

Regarding subjective well-being, gender differences were not statistically significant at the overall level ($t = 0.563, p > 0.05$). Examining gender differences across the six dimensions of subjective well-being:

- **Health dimension:** Male (12.631 ± 2.460), Female (12.535 ± 2.200)
- **Energy dimension:** Male (17.300 ± 2.037), Female (17.152 ± 2.289)
- **Fulfillment dimension:** Male (4.985 ± 1.882), Female (5.358 ± 2.022)
- **Mood dimension:** Male (16.782 ± 3.438), Female (16.058 ± 3.380)
- **Situation control dimension:** Male (8.007 ± 2.207), Female (8.464 ± 2.165)
- **Tension dimension:** Male (17.150 ± 2.720), Female (16.817 ± 2.217)

Gender differences in all dimensions were not statistically significant ($p > 0.05$) (Table 4).

(2) Grade Differences in Subjective Well-Being

A one-way ANOVA was conducted to analyze differences in subjective well-being across grade levels. No significant differences were found in the total subjective well-being scores or scores across its dimensions among students of different grades ($p > 0.05$) (Table 5).

(3) Testing for differences in subjective well-being based on only-child status

Significant differences were found in the health ($t = 2.959, p < 0.05$), satisfaction ($t = -3.685, p < 0.001$), energy ($t = 2.057, p < 0.05$), and mood ($t = 3.823, p < 0.001$) dimensions of subjective well-being based on only-child status. No significant differences were found in the situation control ($t = 0.553, p > 0.05$) or tension ($t = 0.148, p > 0.05$) dimensions (Table 6).

Table 4. Subjective Well-Being Scores by Gender.

	Male ($n = 133$)		Female ($n = 170$)		t
	M	SD	M	SD	
Health	12.631	2.460	12.535	2.200	0.359
Energy	17.300	2.037	17.152	2.289	1.646
Fulfillment	4.985	1.882	5.358	2.022	0.585
Mood	16.782	3.438	16.058	3.380	1.834
Situation Control	8.007	2.207	8.464	2.165	-1.809
Tension	17.150	2.720	16.817	2.217	1.173

Table 5. Scores of Subjective Well-Being Across Grade Levels.

	Freshman		Sophomore		Junior		Senior		Fifth Year		F
	M	SD	M	SD	M	SD	M	SD	M	SD	
Health	12.185	2.787	12.185	2.488	12.203	2.302	12.919	2.170	12.785	1.847	0.123
Energy	16.740	2.346	17.018	1.858	17.339	2.367	17.322	2.188	17.285	2.233	0.687
Satisfied	4.888	2.407	5.314	5.457	1.784	1.931	5.040	1.992	5.857	1.561	0.355
Mood	15.666	3.573	16.333	3.539	15.898	3.632	16.785	3.317	15.571	2.471	0.265
Scenario Control	8.296	2.493	8.111	1.829	8.169	2.214	8.349	2.318	8.285	1.489	0.963
Tension	16.518	2.242	17.555	2.237	16.406	2.429	17.020	2.483	17.285	3.049	0.116

Table 6. Subjective Well-Being Scores by Only-Child Status.

	Only Children ($n = 167$)		Non-Only Children ($n = 136$)		t
	M	SD	M	SD	
Health	12.928	2.396	12.147	2.141	2.959*
Satisfied	4.826	1.923	5.647	1.934	-3.685***
Energy	17.449	2.232	16.933	2.087	2.057*
Mood	17.029	3.552	15.573	3.075	3.823***
Scenario Control	7.976	2.139	8.617	2.211	0.553
Elasticity	17.209	2.597	16.661	2.235	0.148

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

3.2.3 Demographic Variables Analysis of College Students' Explanatory Styles

(1) Gender Differences in College Students' Explanatory Styles

An independent samples t -test was conducted to analyze gender differences in college students' explanatory styles. Male students scored 49.646 ± 5.039 , while female students scored 49.994 ± 4.394 . The gender difference was not statistically significant at the psychological resilience level ($t = -0.630$, $p > 0.05$) (Table 7).

(2) Grade Differences in College Students' Explanation Styles

Significant differences exist in college students' explanatory styles across grade levels ($p < 0.05$), as

detailed in Table 8.

(3) Differences in college students' explanatory styles by only-child status

Significant differences were found only in the good general dimension of college students' explanatory styles based on only-child status, as detailed in Table 9.

3.3 Correlation Analysis

The integrated correlation analysis results (Table 10) indicate that the emotional warmth dimension of parental parenting styles showed significant positive correlations with both subjective well-being and explanatory styles. The rejection dimension exhibited significant negative correlations with both subjective well-being and explanatory styles.

Table 7. Gender differences in college students' explanatory style scores.

	Male		Females		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Bad Persistence	12.766	1.594	12.923	1.617	-0.842
Long-lasting	12.090	1.611	12.211	1.650	-0.643
Bad General	12.443	1.611	12.241	1.424	1.158
Good General	12.345	1.771	12.617	1.747	-1.335

Table 8. Grade-Level Differences in College Students' Explanatory Styles.

	Freshman (<i>n</i> = 27)	Sophomore (<i>n</i> = 54)	Junior (<i>n</i> = 59)	Senior (<i>n</i> = 149)	Fifth Year (<i>n</i> = 14)	<i>p</i>
	<i>M</i> ± <i>SD</i>					
Bad Persistence	13.037 ± 1.849	12.037 ± 1.345	12.983 ± 1.624	12.080 ± 1.566	12.714 ± 1.589	0.001
Pervasiveness (Bad)	12.037 ± 1.828	11.888 ± 1.609	12.169 ± 1.641	12.281 ± 1.594	12.071 ± 1.774	0.644
Bad General	11.851 ± 1.769	12.018 ± 1.460	12.406 ± 1.353	12.463 ± 1.513	12.714 ± 1.589	0.124
Good General	12.333 ± 2.019	12.222 ± 1.655	12.898 ± 1.668	12.510 ± 1.780	12.071 ± 1.685	0.245

Table 9. Scores on Explanatory Styles Among College Students by Only-Child Status.

	Only Child (<i>n</i> = 167)		Non-only Child (<i>n</i> = 136)		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Bad Persistence	12.928	1.466	12.764	1.764	0.864
Pervasiveness (Bad)	11.994	1.662	12.360	1.576	-1.952
Bad General	12.431	1.420	12.205	1.610	1.293
Good General	12.251	1.762	12.801	1.716	-2.734**

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

The overprotection dimension showed a significant negative correlation with subjective well-being but no significant correlation with explanatory styles. Subjective well-being itself demonstrated a significant positive correlation with explanatory styles.

3.4 Regression Analysis

Multivariate regression analysis revealed (Table 11) that after controlling for gender, only-child status, and grade level, parental parenting styles exerted a significant direct effect on college students' explanatory styles ($B = 0.154$, $p = 0.000$, $\beta = 0.546$), with the model explaining 31.1% of variance. After adding subjective well-being, its influence on explanatory style became significant ($B = 0.060$, $p = 0.001$, $\beta = 0.164$), increasing the model's explanatory power to 33.6%.

3.5 Mediating Effect Analysis

Table 12 employed the Bootstrap method to examine the mediating role of subjective well-being between parental parenting styles and college students' explanatory styles. The results revealed distinct dimensional specificity: at the overall level, the

mediating effect of "parental parenting styles → subjective well-being → explanatory styles" was not significant, indicating that the indirect influence of parental parenting styles on college students' explanatory styles did not form a unified pathway through subjective well-being. When examining specific parenting dimensions:

- The "rejection → subjective well-being → explanatory style" mediation effect was significant and negative. This psychological mechanism can be understood as rejection-based parenting weakening students' subjective well-being through prolonged negative feedback, while low well-being further reinforces their tendency toward pessimistic attributions of events.
- Regarding the mediation effect of "overprotection → subjective well-being → explanatory style," although this study conducted analyses and results showed a significant negative effect (consistent with the logic that "overprotection restricts individual autonomy and reduces life satisfaction"—overprotection reduces subjective well-being, leading college students to adopt

Table 10. Correlation Analysis.

	Rejection	Emotional Warmth	Overprotection	Subjective Well-Being	College Students' Explanatory Styles
Rejection	1	−0.232**	0.631**	−0.240*	−0.386**
Emotional Warmth	−0.232**	1	0.096	0.356**	0.421**
Overprotection	0.631**	0.096	1	−0.120*	−0.089
Subjective Well-Being	−0.240*	0.356**	−0.120*	1	0.210**
College Students' Explanatory Styles	−0.386**	0.421**	−0.089	0.210**	1

Note: * $p < 0.05$, ** $p < 0.01$

Table 11. Regression Analysis.

	β	t	R^2
Parental Parenting Styles	0.546	11.605	0.336
Subjective Well-Being	0.164	3.476	

Note: Overall model $F = 77.353^{**}$, * $p < 0.05$, ** $p < 0.01$

more negative explanatory styles), it should be noted that the overprotection dimension itself showed no significant correlation with college students' explanatory styles. Further research is needed to clarify the validity and interpretive boundaries of conducting mediation analyses for this dimension.

- The mediating effect of "emotional warmth → subjective well-being → explanatory style" did not reach statistical significance. This aligns with existing theoretical expectations, suggesting that emotional warmth's positive influence on explanatory style primarily occurs through direct shaping of positive self-perception, without requiring subjective well-being as a mediating variable.

4 Discussion

4.1 Analysis of the Current Situation

Experimental data analysis indicates a significant correlation between parenting styles and college students' attribution tendencies. Specifically, caregivers' educational strategies shape individuals' early cognitive frameworks and core beliefs, subsequently solidifying into stable explanatory thinking patterns. Empirical research confirms that family educational approaches play a crucial foundational role in the formation of college students' psychological mechanisms [2, 5]. Among these, positive educational strategies—particularly emotional support and empathetic understanding—effectively enhance students' psychological resilience. This enables them to accumulate a sense of "controllability"

and "worth" during development, making them more likely to adopt proactive coping strategies when facing stress and thereby maintain sound psychological functioning. Conversely, negative parenting behaviors (such as harsh punishment, emotional detachment, and excessive control) undermine psychological safety and reduce individuals' subjective well-being. Perceived parental rejection and restriction of behavioral freedom have been shown to lower self-esteem and happiness levels [14], thereby increasing susceptibility to pessimistic explanatory styles and psychological maladjustment. From a developmental psychology perspective, appropriate family education builds psychological protective barriers, while inappropriate parenting styles may shape long-term cognitive patterns, forming irreversible negative attribution habits that become latent risk factors for psychological crises.

Research findings indicate that parental parenting styles and subjective well-being do not exhibit a significant overall direct correlation. However, dimensional analysis reveals: the emotional warmth dimension shows a significant positive correlation with subjective well-being, while the overprotection dimension exhibits a significant negative correlation. This suggests these two dimensions play more critical and specific roles in individuals' perception and assessment of well-being. Regression analysis further confirms that parental parenting styles exert a significant direct predictive effect on college students' explanatory styles.

4.2 The Relationship Among Parental Parenting Styles, Subjective Well-Being, and Explanatory Styles Among College Students

Currently, mental health issues among the younger generation have become a core concern across society, with academic attention focused on the developmental mechanisms of their cognitive patterns and psychological adaptation abilities. As a stable cognitive tendency toward causal attribution of

Table 12. Mediating effect analysis.

Model Path	Effect Size	Boot SE	Boot CI	Conclusion
Overall Mediation	-0.011	0.011	[-0.033, 0.009]	Not significant
Rejection → Subjective Well-Being → Explanatory Style	-0.087	0.052	[-0.192, -0.003]	Significant
Emotional Warmth → Subjective Well-Being → Explanatory Style	0.077	0.051	[-0.021, 0.182]	Not significant
Overprotection → Subjective Well-Being → Explanatory Style	-0.109	0.040	[-0.190, -0.031]	Significant

Note: Bootstrap resampling = 5000; CI = 95% confidence interval; * $p < 0.05$, ** $p < 0.01$

life events, explanatory style is a key cognitive variable influencing mental health. Its formation and development result from the interaction of internal and external factors—the external growth environment and internal cognitive traits jointly constitute the core influences shaping explanatory style [1].

This study empirically examines the associative mechanisms between parental parenting styles and explanatory styles among young adults, yielding the following core conclusions:

First, childhood parental "rejecting" parenting styles exert a significant negative predictive effect on adult explanatory styles, while the direct predictive effects of "overprotective" and "emotionally warm" parenting styles are insignificant. From a cognitive theory perspective, this finding can be explained through learned helplessness theory [3] and cognitive schema theory [15]: Rejecting parenting, by continuously conveying negative feedback, gradually erodes an individual's self-efficacy and attribution flexibility. Trapped in a prolonged "effort-rejection" feedback loop, individuals are prone to develop negative cognitive schemas: "failure stems from unchangeable personal flaws, persists indefinitely (permanent attribution), and impacts all life domains." This schema automatically dominates event interpretation in adulthood, ultimately solidifying into a pessimistic explanatory style. Conversely, the early environmental stability provided by overprotection or emotional warmth is gradually replaced by autonomous cognitive evaluation and real-world experience as college students develop greater cognitive autonomy and accumulate social experience. This aligns with the cognitive developmental principle of "de-contextualization," thereby diminishing the direct constraining effect on explanatory style.

Second, the mediating effect of subjective well-being exhibits dimensional specificity: neither the

"overprotection" nor the "emotional warmth" dimensions significantly mediate the relationship between subjective well-being and explanatory style. Moreover, the emotional warmth dimension directly and positively predicts optimistic explanatory style. This mechanism can be logically grounded through Self-Determination Theory [16] and Social Cognitive Theory [17]: The core of emotionally warm parenting lies in fulfilling the individual's relational needs and autonomy needs. Under this parenting model, individuals repeatedly experience "recognition of their self-worth and support for their behavioral choices" during development. This directly shapes positive self-cognitive schemas—forming core beliefs such as "I have the ability to cope with challenges" and "positive events occur because of my own efforts." Simultaneously, parental empathy and positive feedback serve as observational learning models, enabling individuals to acquire cognitive strategies of "objective attribution and focusing on controllable factors." This positive cognitive foundation, directly shaped by emotional warmth, bypasses the emotional mediation of subjective well-being and directly translates into an optimistic attribution pattern toward events. This aligns with previous research concluding that "emotional support directly predicts cognitive attribution tendencies by building positive self-perception" [12].

Third, From a practical intervention perspective, while enhancing college students' subjective well-being can serve as a supplementary pathway to optimize explanatory styles, fundamentally improving parental nurturing practices—particularly reducing rejecting interactions and strengthening emotionally warm communication—remains the core strategy for cultivating positive explanatory styles. After all, early cognitive schemas exert a "lifelong imprinting" effect on shaping explanatory styles, and the positive cognitive foundation fostered by emotional warmth

constitutes vital psychological capital for individuals to cope with subsequent real-world pressures.

4.3 Mediating Role of Subjective Well-Being

Controlling for demographic variables, subjective well-being exhibited a significant mediating effect between rejection and overprotection dimensions and interpretive style, while no significant effect was found for the emotional warmth dimension. Rejection-oriented parenting indirectly reinforces negative interpretive styles by reducing subjective well-being; similarly, overprotective parenting indirectly influences interpretive styles by suppressing well-being. In contrast, the influence of emotional warmth parenting on explanatory style relies more on direct pathways. This may be because the cognitive positive effects of emotional warmth are more immediate, requiring no intermediary route through well-being.

4.4 Research Limitations and Future Directions

This study employed convenience sampling, with participants drawn exclusively from a single institution and uneven grade distribution. While this reduced implementation complexity, it may introduce homogeneity bias, limiting the generalizability of findings. Future research should expand sampling scope to enhance reliability.

Furthermore, the university students' explanatory style scale employed a self-report measure, potentially introducing subjective biases during evaluation—such as false reporting or self-presentation—leading to positive self-assessments. Future studies could integrate objective peer evaluations with self-assessments for comprehensive assessment, thereby enhancing the objectivity of findings.

5 Conclusion

Using a comprehensive measurement approach incorporating the Brief Parental Style Scale, the College Student Explanatory Style Scale, and the Subjective Well-Being Scale, this study systematically examined the mechanisms linking parental styles to college students' explanatory styles and delved into the potential mediating role of subjective well-being. Through rigorous questionnaire surveys and statistical analysis, the findings reveal the following key insights:

(1) Parental styles influence students' explanatory styles. Specifically, emotionally warm parenting positively affects students' explanatory styles, while

both rejecting and overprotective parenting styles negatively impact explanatory styles.

(2) Significant positive correlations exist among parental parenting styles, subjective well-being, and college students' explanatory styles.

(3) Subjective well-being mediates the influence of parental parenting styles on college students' explanatory styles. Within a certain range, individuals receiving parenting styles characterized by rejection exhibit lower subjective well-being, leading to more negative explanatory styles.

Data Availability Statement

Data will be made available on request.

Funding

This work was supported without any funding.

Conflicts of Interest

The authors declare no conflicts of interest.

AI Use Statement

The authors declare that no generative AI was used in the preparation of this manuscript.

Ethical Approval and Consent to Participate

This study was conducted in accordance with the ethical standards of the Declaration of Helsinki and its later amendments. The research protocol was reviewed and approved by the Institutional Review Board (IRB) of North China University of Science and Technology (Approval No. NCST-2024-078). All participants were informed of the purpose and procedures of the study and provided their informed consent prior to participation. Participation was entirely voluntary, and all participants had the right to withdraw at any time without any consequences. To ensure confidentiality, all data were collected anonymously and used solely for academic research purposes. The study posed no foreseeable risks to participants.

References

- [1] Baldwin, D. R., McIntyre, A., & Hardaway, E. (2007). Perceived parenting styles on college students' optimism. *College Student Journal*, 41(3), 550–557. Available at: <https://eric.ed.gov/?id=EJ777966>

- [2] Tiggemann, M., Winefield, H. R., Goldney, R. D., & Winefield, A. H. (1992). Attributional style and parental rearing as predictors of psychological distress. *Personality and Individual Differences*, 13(7), 835–841. [CrossRef]
- [3] Maier, S. F., & Seligman, M. E. P. (1976). Learned helplessness: Theory and evidence. *Journal of Experimental Psychology: General*, 105(1), 3–46. [CrossRef]
- [4] Stavroulaki, E., Li, M., & Gupta, J. (2021). Perceived parenting styles, academic achievement, and life satisfaction of college students: the mediating role of motivation orientation. *European Journal of Psychology of Education*, 36(3), 693–717. [CrossRef]
- [5] Hu, J., Ji, T. S., & Feng, F. L. (2002). A correlational study between parental rearing patterns and general well-being of college students. *Chinese Journal of Health Psychology*, 10(1), 16–17. [CrossRef]
- [6] Zhang, J., Miao, D., Sun, Y., Xiao, R., Ren, L., Xiao, W., & Peng, J. (2014). The impacts of attributional styles and dispositional optimism on subject well-being: A structural equation modelling analysis. *Social Indicators Research*, 119(2), 757–769. [CrossRef]
- [7] Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*, 96(2), 358–372. [CrossRef]
- [8] Seligman, M. E., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life insurance sales agents. *Journal of Personality and Social Psychology*, 50(4), 832–838. [CrossRef]
- [9] Li, X. G., Dong, S. H., & Wu, P. (2022). Revision of the Chinese version of the Attributional Style Questionnaire for college students. *Chinese Journal of Clinical Psychology*, 30(6), 1334–1338. [CrossRef]
- [10] Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575. [CrossRef]
- [11] Hu, Y., Zeng, Z., Peng, L., & Yang, Q. (2023). The effect of parenting styles on depressive symptoms among Chinese college students: The role of subjective well-being and Taq1A polymorphism. *Current Psychology*, 42(23), 19573–19583. [CrossRef]
- [12] Cheng, H., & Furnham, A. (2001). Attributional style and personality as predictors of happiness and mental health. *Journal of Happiness Studies*, 2(3), 307–327. [CrossRef]
- [13] Fazio, A. F. (1977). *A concurrent validation study of the NCHS General Well-Being Schedule* (Vital and Health Statistics, Series 2, No. 73; DHEW Publication No. (HRA) 78-1347). Hyattsville, MD: National Center for Health Statistics. Available at: https://stacks.cdc.gov/view/cdc/13079/cdc_13079_DS1.pdf
- [14] Cheng, H., & Furnham, A. (2004). Perceived parental rearing style, self-esteem and self-criticism as predictors of happiness. *Journal of Happiness Studies*, 5(1), 1–21. [CrossRef]
- [15] Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press. https://archive.org/details/cognitivetherapy0000beck_e3y7
- [16] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. [CrossRef]
- [17] Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall. <https://archive.org/details/socialfoundation0000band/page/n17/mode/2up>

Table A1. Short-Form Parenting Style Scale.

Please try to recall how your parents disciplined and raised you during your growth. Read each statement carefully and select the option that best describes you.	Never	Rarely	Often	Always
1. My parent(s) often lost their temper with me without me knowing the reason.				
2. My parent(s) praised me.				
3. I wished my parent(s) would not worry excessively about what I was doing.				
4. The punishment my parent(s) gave me was often more severe than I deserved.				
5. My parent(s) required me to tell them what I had done outside when I got home.				
6. I felt that my parent(s) tried their best to make my adolescent life more meaningful and colorful.				
7. My parent(s) often criticized me in front of others for being lazy and useless.				
8. My parent(s) did not allow me to do things that other children could do because they were afraid something would happen to me.				
9. My parent(s) always tried to encourage me to become an outstanding person.				
10. I felt that my parent(s)' worry about me possibly getting into trouble was exaggerated and excessive.				
11. When I encountered unpleasant things, I could feel that my parent(s) tried their best to encourage and comfort me.				
12. I was often treated as the "scapegoat" or "black sheep" at home.				
13. I could feel that my parent(s) liked me very much through their words and expressions.				
14. My parent(s) often treated me in a way that embarrassed me a lot.				
15. My parent(s) often allowed me to go to places I liked without excessive worry.				
16. I felt that my parent(s) interfered in every single thing I did.				
17. I felt a warm, considerate and intimate feeling with my parent(s).				
18. My parent(s) had strict restrictions on what I should and should not do, and never made concessions.				
19. My parent(s) punished me even for minor mistakes.				
20. My parent(s) always dictated what clothes I should wear or how I should dress up.				
21. When I succeeded in something I did, I felt that my parent(s) were very proud of me.				

Table A2. College Students' Explanatory Style Scale.

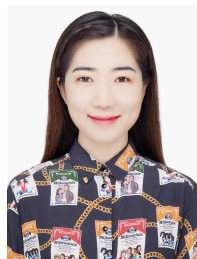
Please read each statement carefully and imagine that these situations could happen to you. Each statement has two options: A and B. Please quickly select the option that best describes you (follow your first instinct and do not think for too long). Choose one answer for each statement.	
1. If you made up with a friend after a quarrel, you think it is because	A I forgave him/her first this time B I am a generous and forgiving person
2. If you forgot a good friend's birthday, you think it is because	A I'm not good at remembering birthdays B I've been busy with other things recently and forgot his/her birthday
3. If you received an anonymous gift, you think it is because	A I am very attractive to the person who sent the gift B I am a person who is very popular with everyone
4. If you ran for a student leader position and succeeded, you think it is because	A I spent a lot of time and energy on the campaign B I do my best in everything I do
5. If you missed an important date, you think it is because	A Sometimes my memory fails me B I forgot to check my appointment book
6. If you successfully held a New Year's Eve party as the monitor, you think it is because	A I was particularly confident and easy-going on the day of the party, and I mobilized the on-site atmosphere well B I am a monitor with comprehensive abilities
7. If you owed the library 10 yuan due to overdue books, you think it is because	A I was too immersed in that book, so I forgot the return date B I have been busy with other things recently, so I forgot to return the book
8. If you and your partner made a small profit from your first investment in starting a business, you think it is because	A My partner wanted to try his luck on a new gadget B My partner is an entrepreneur with a good business sense
9. If you won an athletics competition, you think it is because	A I have great talent in sports B I trained very hard
10. If you failed an important exam, you think it is because	A I was not as smart and flexible as others during the exam B I did not prepare well for this exam
11. If you carefully prepared a lunch for a friend, but he/she ate almost nothing, you think it is because	A I am not a good cook B The food I prepared did not suit his/her taste
12. Even though you have trained for a long time, you still lost the sports competition. You think it is because	A I still lack sports skills B I am not good at sports
13. If you lost your temper with a friend, you think it is because	A He/she always nags at me, which makes me very annoyed B He/she deliberately targeted me at that time
14. If your dormitory had its power cut because you did not pay the electricity bill on time, you think it is because	A I always delay paying the electricity bill B I have been too lazy to pay the electricity bill recently
15. If you invited someone out on a date and he/she rejected you, you feel	A I was severely hit by this B I only asked him/her out casually; it is no big deal
16. If you were often invited to dance at parties, you think it is because	A I stand out at all parties B I dressed very charmingly that night
17. If you performed exceptionally well in a job interview, you think it is because	A I felt very confident during the interview B I responded very well
18. If your teacher gave you almost no time to complete an assignment, but you still finished it, you think it is because	A This assignment is something I am very good at B I am an efficient person
19. If you have been feeling exhausted recently, you think it is because	A I never get a chance to rest B I have been particularly busy this week
20. If you saved someone who was about to suffocate, you think it is because	A I know the techniques to help someone get rid of suffocation B I know what to do in dangerous situations
21. If your romantic partner wants to take a break from your relationship, you think it is because	A I am too self-centered B I have spent too little time on him/her recently
22. If a friend said something that hurt your feelings, you think it is because	A He/she always says things without considering others' feelings B He/she was in a bad mood that day and took it out on me
23. If a friend comes to you for advice, you think it is because	A I am an expert in the field he asked about B I am always good at giving useful advice
24. If your friend thanks you for helping him/her get through a difficult time, you think it is because	A I like helping him/her get through difficult times B I care deeply about others
25. If your doctor tells you that you are in good health, you think it is because	A I exercise regularly B I have a strong awareness of health care
26. If your friend wants to take you on a weekend vacation, you think it is because	A He/she wants to escape from reality for a while B He/she likes to seek new and exciting experiences
27. If you are invited to host an important event, you think it is because	A I just finished a similar event B I am a good leader
28. If you choked on water a few times while learning to swim, you think it is because	A Swimming is too difficult for me to learn B The water in the swimming pool is too deep, so choking is normal
29. If you won an influential award at school, you think it is because	A I did an influential good deed at school B I am an excellent student
30. If your grades are at an all-time low, you think it is because	A I have not yet figured out the learning methods for this major B I chose the wrong major
31. If you gained weight during the vacation and tried to diet but still could not lose weight, you think it is because	A Dieting does not help with weight loss in the long run objectively B The diet I tried did not work after a period of time
32. If a salesperson in a store tells you that your credit card cannot be used, you think it is because	A I sometimes overestimate the amount of money on my credit card B I sometimes forget to pay my credit card bill

Table A3. General Well-Being Schedule.

1. How has your overall feeling been (in the past month)?	1.Excellent	2.Very good	3.Good	4.Fluctuating	5.Poor	6.Very poor
2. Have you been troubled by your nervousness or "mental problems" (in the past month)?	1. Extremely troubled	2.Quite troubled	3. Somewhat troubled	4.Seldom troubled	5.Not troubled at all	
3. Have you been firmly in control of your behaviors, thoughts, emotions, or feelings (in the past month)?	1. Absolutely	2. Mostly	3. Generally	4.Not very well	5. Somewhat confused	6.Very confused
4. Have you doubted whether anything is worth doing due to sadness, loss of confidence, disappointment, or many troubles (in the past month)?	1. Extremely doubtful	2.Very doubtful	3.Quite doubtful	4. Somewhat doubtful	5. Slightly doubtful	6.Not doubtful at all
5. Have you been under any constraints, stimuli, or pressure (in the past month)?	1.Quite a lot	2.A lot	3.Some	4.Not much	5.None	
6. Has your life been happy, satisfying, or pleasant (in the past month)?	1.Very happy	2. Quite happy	3. Satisfied	4.Slightly dissatisfied	5.Very dissatisfied	
7. Do you have any reason to doubt that you have ever lost your mind or control over your behaviors, conversations, thoughts, or memory (in the past month)?	1. Not at all	2.Only a little	3.Not serious	4. Somewhat serious	5.Very serious	
8. Have you felt anxious, worried, or uneasy (in the past month)?	1. Extremely serious	2.Very serious	3.Quite serious	4. Somewhat	5. Seldom6. None	6.None
9. Do you feel clear-headed and energetic after waking up (in the past month)?	1.Every day	2. Almost every day	3.Quite frequently	4.Not often	5.Seldom	6.None
10. Have you been troubled by illness, physical discomfort, pain, or fear of illness (in the past month)?	1.All the time	2.Most of the time	3.A lot of the time	4. Sometimes	5. Occasionally	6.None
11. Has your daily life been full of things that interest you (in the past month)?	1.All the time	2.Most of the time	3.A lot of the time	4. Sometimes	5. Occasionally	6.None
12. Have you felt depressed and melancholy (in the past month)?	1.All the time	2.Most of the time	3.A lot of the time	4. Sometimes	5. Occasionally	6.None
13. Have you been emotionally stable and able to keep yourself in check (in the past month)?	1.All the time	2.Most of the time	3.A lot of the time	4. Sometimes	5. Occasionally	6.None
14. Have you felt tired, overworked, weak, or exhausted (in the past month)?	1.All the time	2.Most of the time	3.A lot of the time	4. Sometimes	5. Occasionally	6.None
15. To what extent have you been concerned or worried about your health (in the past month)?	Not concerned ←0 1 2 3 4 5 6 7 8 9 10→ Very concerned					
16. To what extent have you felt relaxed or tense (in the past month)?	Relaxed ←0 1 2 3 4 5 6 7 8 9 10→ Tense					
17. How would you describe your energy, spirit, and vitality (in the past month)?	Listless ←0 1 2 3 4 5 6 7 8 9 10→ Energetic					
18. To what extent have you felt depressed or happy (in the past month)?	Very depressed ←0 1 2 3 4 5 6 7 8 9 10→ Very happy					



Xintian Du received the B.S. degree in Applied Psychology from North China University of Science and Technology, Hebei Province, China, in 2025. Currently, she is a postgraduate student at Southwest Minzu University, Chengdu City, Sichuan Province, China, with research interests including psychological counseling, cognitive behavioral therapy, etc. (Email: dxt0211152021@163.com)



Yani Duan received the M.Sc. degree in psychology from the University of Lincoln, UK, in 2014. Since May 2014, she has been a faculty member at the College of Psychology and Mental Health, North China University of Science and Technology, Tangshan, Hebei Province, China. Her main research interests include industrial psychology. In recent years, she has presided over 3 municipal and department-level research projects and 1 university-level research project, and participated in 3 provincial and ministerial-level research projects, with many academic papers published. (Email: duanyani0630@163.com)