

Exploring the connection between adverse childhood experiences and individual well-being: the influence of repetitive thinking

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Abstract. The objective of this research is to investigate how childhood traumatic events impact the overall well-being of college students, aiming to improve their sense of well-being. A quantitative approach was employed to gather data, resulting in 214 completed questionnaires from college students. The findings indicated a significant inverse relationship between childhood trauma and perceived well-being, with rumination and its three subcomponents serving as mediators in this connection. The results of this study not only shed light on how childhood trauma affects college students but also suggest significant avenues for enhancing the mental well-being of individuals in higher education.

Keywords: early life adversity, subjective well-being, reflective thinking

1. Introduction

1.1. Subjective well-being of college students

A person's well-being suggested by researchers including Diener, this evaluation method gauges how an individual perceives their life satisfaction through personal criteria. It encompasses three key aspects: positive emotions, Negative impact, and mental processing. The concept of subjective well-being serves as a crucial metric for evaluating the quality of an individual's life in relation to their mental health. It plays a significant role in gauging college students' psychological wellness, the focus on individuals' subjective well-being has increased significantly lately [1]. Improving the overall subjective well-being among university students could lower the likelihood of developing mental health issues. At present, scholars from both within the country and abroad have examined various elements that affect subjective well-being, investigating not just factual elements such as sex, age, residence economic situation [2], but also personal elements like community backing, mental health, academic stress, self-esteem, and connections with others. Furthermore, they explore the processes through which detrimental elements impact an individual's sense of well-being. Experiences of trauma during childhood can not only hinder the immediate growth of one's social abilities, but also shape how individuals express emotions and behave in their adult years, ultimately leading to a negative impact on the development of psychological well-being [3, 4]. As a result, this research will investigate how experiences of trauma during childhood affect the perceived happiness and overall well-being of college students in adulthood, as well as delve into the mechanisms that underlie these effects.

1.2. The connection between early life adversities and subjective well-being

Childhood adversity refers to the significant and distressing negative events that occur during the formative years of an individual, which may encompass forms such as emotional and physical maltreatment, sexual exploitation, as well as various types of neglect, both emotional and physical [5]. Studies indicate that the impact of traumatic experiences during childhood is intricately linked to the emergence of psychological difficulties in later life. The impact of early traumatic experiences, including both physical mistreatment and emotional deprivation, plays a crucial role in influencing well-being in later life [14]. Research conducted by Kwan [6], involving 1,710 adolescents in middle school across Hong Kong, revealed a notable negative association between experiences of emotional maltreatment in childhood and the subjective well-being of teenagers. Furthermore, it was determined that emotional abuse exerts a more pronounced detrimental effect on an individual's life quality compared to experiences of physical abuse and neglect. Research conducted by Zhou [7] indicated that childhood experiences of emotional neglect and abuse

significantly influence adult well-being, self-esteem, and the ability to manage emotions effectively [8]. Consequently, this research puts forward Hypothesis 1: early life adversity is likely to have a detrimental impact on the subjective well-being of college students.

1.3. The intermediary function of reflective thinking

Reflective thinking involves an individual's ongoing, cyclical thoughts focused on distressing experiences and their repercussions, and is perceived as an ineffective method of coping [6]. The theory surrounding the rumination pattern indicates that this cognitive style tends to be a consistent trait, which might even have a genetic basis. The concept of reflective thinking encompasses three distinct dimensions: reflective contemplation, persistent thought, and ruminative indicators [8, 9]. Reflective thinking describes the phenomenon in which an individual, when confronted with dilemmas or obstacles, endeavors to find resolutions or gain insights into their thoughts and feelings through intensive contemplation and introspection. Compulsive reflective thinking involves the persistent return of specific thoughts, often of a negative nature, that an individual finds difficult to control. This uninvited mental activity can impose emotional strain and psychological discomfort, thus hindering one's ability to effectively resolve issues and maintain a stable emotional state. Studies indicate a notable positive relationship between experiences of trauma in childhood and the tendency to ruminate, with such traumatic experiences being predictive of rumination, especially those involving neglect, which significantly affects adults' perceptions of their well-being. A study by Cui et al, the study involving 314 adults with early psychosis indicated that experiences of trauma during childhood are predictive of ruminative thought patterns [7]. The process of rumination involves a unique mode of reflective thinking focused on past experiences, which can lead individuals to cultivate negative emotional perceptions, this can subsequently influence their emotional responses and mental health, ultimately resulting in alterations to their overall sense of well-being.

Research indicates that there is a connection between repetitive thought and overall life satisfaction, with the findings suggesting that those whose life adversity in their early years are inclined to have difficulties in managing their thoughts and emotions [8]. Research by Liu indicated a significant inverse relationship between rumination in cancer sufferers and their sense of subjective well-being. The tendency to dwell on negative thoughts leads individuals to incessantly revisit and contemplate unpleasant experiences, which perpetuates feelings of sadness and worry, ultimately diminishing overall life satisfaction. To summarize, while earlier research has largely validated the influence of early life adversity on adult rumination, the precise effects of various early life adversities and distinct rumination patterns on adult subjective well-being have yet to be thoroughly explored, leaving the interplay among these three elements somewhat ambiguous [13]. Consequently, this research proposes that rumination plays a mediating role in the connection between early traumatic experiences and an individual's overall well-being. In detail, the elements of reflective contemplation, persistent thought patterns, and symptoms of rumination each function as distinct mediators.

Methods

2. Methods

2.1. Participants

A sampling approach based on convenience was employed in this research, focusing on university students as the participants. The data collection for the survey was conducted using the platform 'Wen juan xing'. Out of a total of 254 distributed questionnaires, 38 were deemed invalid due to incomplete answers or lack of attention from respondents. Consequently, 216 valid responses were obtained, yielding an effective response rate of roughly 84.6%. The mean age of the participants was 21.25 ($SD = 1.489$). Regarding demographic characteristics: 154 were males (71.3%) and 62 were females (28.7%); 138 participants had children (63.9%) and 78 did not (36.1%); of the total participants, 42.6% resided in urban areas, and 57.4% were from rural areas.

2.2. Measurement

2.2.1. The childhood trauma questionnaire

This measurement tool was created by Bernstein and colleagues and was later adapted and translated by Chinese researchers, including Zhao and others. It encompasses five aspects: emotional mistreatment, physical maltreatment, sexual mistreatment, emotional neglect, and physical neglect. The instrument comprises 28 questions and employs a 5-point Likert scale, where the numbers 1 to 5 correspond to 'never' through 'always.' Questions 2, 5, 7, 13, 19, 26, and 28 are scored in reverse. In this investigation, the Cronbach's α reliability coefficient for this tool was found to be 0.957.

2.2.2. The reflective thinking scale

This measurement tool was created by Nolen-Hoeksema and subsequently adapted and refined by Chinese researchers Han and Yang [13]. It encompasses three aspects: symptom rumination, reflective thinking as well as persistent thought patterns,

comprising 22 distinct items. This instrument employs a Likert scale with four scoring options, where scores ranging from 1 to 4 correspond to "never" through to "always". An increase in the score indicates the greater the intensity of the ruminative thoughts. In this investigation, the internal consistency metrics for the rumination symptoms subscale, the self-reflective rumination dimension, and the subscale for persistent thought exhibited a reliability score of 0.953, 0.770, 0.811 in order.

2.2.3. The scale for evaluating subjective well-being

The concept of subjective well-being encompasses both emotional and cognitive dimensions. Among these, cognitive well-being specifically pertains to an individual's assessment of their life satisfaction. Whereas affective well-being pertains to the feelings and emotions experienced by an individual, which encompasses both uplifting and distressing emotional situations. The Life Satisfaction Scale was created by Pavot, Diener, and their colleagues, comprising five components and utilizing a seven-point rating system, where the scale ranges from 1 to 7, indicating 'strongly disagree' to 'strongly agree.' A higher score reflects the higher the contentment with one's current circumstances. The Positive and Negative Affect Scale was created by Watson et al., which consists of two distinct categories: positive feelings and negative feelings. Each of these categories contains 10 items, comprising a total of 20 items. An elevated score indicates a higher level of satisfaction, the greater the prevalence of the associated feelings. In this research, the reliability coefficients evaluated via Cronbach's α for the Life Satisfaction Scale and the Positive and Negative Affect Scale were found to be 0.765 and 0.961.

2.3. Data analysis

Data were analyzed using SPSS 27.0 and PROCESS v3.0 to assess common method bias, conduct correlation analyses, and perform hierarchical regression analyses. Model 6 was used to examine chain mediating effects.

3. Finding

3.1. An analysis for common method bias was conducted

The analysis of common method bias was conducted through Harman's single-factor test. The findings indicated the presence of 10 distinct factors that had eigenvalues exceeding 1. The primary factor accounted for 29. The analysis revealed that 89% of the variance falls below the 40% benchmark, suggesting that the common method bias present in this research is minimal.

3.2. Relationship analysis

Table 1 illustrates the findings from the correlation analysis. Childhood trauma was significantly positively correlated with rumination ($r = 0.65, p < 0.001$). Subjective well-being was significantly negatively correlated with childhood trauma ($r = -0.23, p < 0.01$), and rumination was significantly negatively correlated with subjective well-being ($r = -0.38, p < 0.001$). Given the observed relationships between gender, age, and the primary variables, these factors were accounted for as control variables in the following analyses.

Table 1. The correlation analysis

Variable	M	SD	1	2	3	4	5
1. Gender	—	—	1				
2. Age	21.25	1.49	2.56***	1			
3. Childhood Trauma	2.94	0.97	-0.09	0.133	1		
4. Rumination Thinking	2.29	0.70	0.19**	0.25***	0.65***	1	
5. Subjective Well-Being	5.35	0.88	-0.35***	-0.21**	-0.23**	-0.38***	1

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

3.3. Regression analysis

A hierarchical regression analysis was conducted to examine how experiences of trauma during childhood influence personal well-being, as indicated in Table 2. Initially, Equation 1 shows that childhood trauma significantly negatively predicts subjective well-being ($\beta = -0.29, SE = 0.07, t = -3.88, p < 0.001$). Then, incorporating rumination as a mediating factor into Equation 2 yields additional insights, rumination significantly negatively predicts subjective well-being ($\beta = -0.39, SE = 0.12, t = -3.36, p < 0.01$), but childhood trauma no longer significantly predicts subjective well-being ($\beta = -0.08, SE = 0.09, t = -0.91, p > 0.05$).

Table 2. The regression results

Predictor Variable	Equation 1			Equation 2		
	β	SE	t	β	SE	t
Gender	-0.68	0.13	-5.45***	-0.57	0.13	-4.47***
Age	-0.05	0.04	-1.37	0.04	0.04	-0.94
Childhood Trauma	-0.25	0.06	-3.92***	-0.08	0.09	-0.91
Rumination				-0.33	0.11	-3.07**
R^2		0.20			0.23	
F		17.26***			15.79***	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

3.4. Analysis of the mediation effects

A model was constructed with childhood trauma as the independent variable, subjective well-being as the dependent variable, and rumination as the mediating variable (see Figure 1). The mediation effect analysis using PROCESS showed that childhood trauma significantly positively predicted rumination ($\beta = 0.69$, $SE = 0.05$, $t = 13.21$, $p < 0.001$); rumination significantly negatively predicted subjective well-being ($\beta = -0.26$, $SE = 0.85$, $t = -3.06$, $p < 0.01$); childhood trauma did not significantly predict subjective well-being ($\beta = -0.08$, $SE = 0.09$, $t = -0.91$, $p > 0.05$). Rumination played a mediating role between childhood trauma and subjective well-being, demonstrating an effect size of -0.18 along with a 95% confidence interval ranging from [-0.32, -0.05]. The results of the mediation effect assessment, as detailed in Table 3, indicate that rumination acts as a distinct mediating factor impacting the relationship between experiences of childhood trauma and an individual's perception of subjective well-being. Demonstrating an effect size of -0.18 along with a 95% confidence interval ranging from [-0.32, -0.05], which has no 0.

In order to elucidate the mediating impact of rumination, the investigation focused on the distinct mediating influences of three aspects of rumination—symptomatic rumination, the dominant idea, and contemplative reflection—on the association between experiences of childhood trauma and individual well-being. Table 3 illustrates the mediation outcomes regarding the dimensions of rumination thinking. In this context, symptom rumination was identified as a mediating factor that influences the connection between childhood trauma and subjective well-being, demonstrating an effect size of -0.61 with a 95% confidence interval ranging from [-1.221, -0.013]. The presence of compulsive thoughts served as a mediator between experiences of early trauma and perceived levels of well-being, yielding an effect size of 0.63 along with a 95% confidence interval ranging from [0.132, 1.164], which explicitly excludes the value of 0. The role of reflective contemplation served as an intermediary influence between experiences of trauma in childhood and overall life satisfaction, demonstrating an effect size of -0.28, accompanied by a 95% confidence interval ranging from [-0.659, 0.076]. There is a 0 inside.

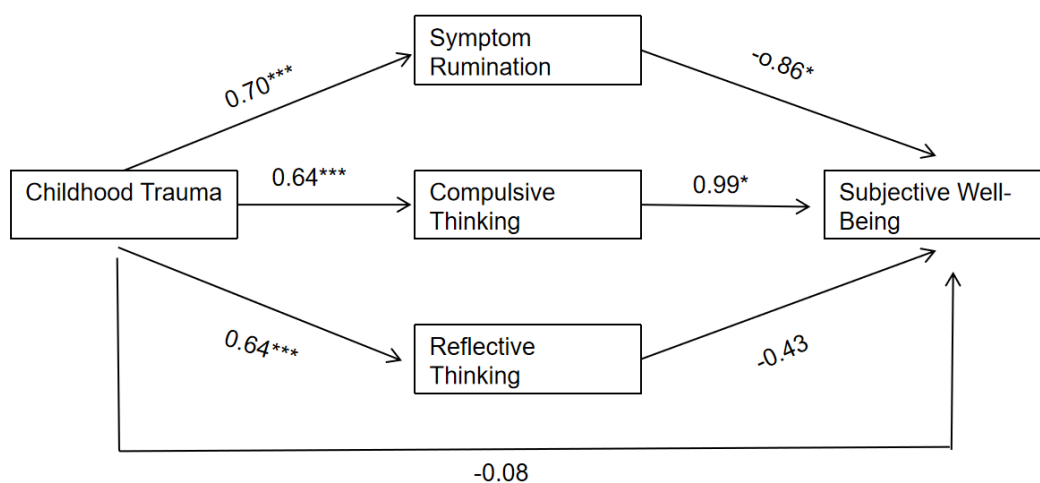
**Figure 1.** The model results

Table 3. The chain mediation effect

Path	Effect Size	Standard Error	95% CI	
			Lower Limit	Upper Limit
Childhood Trauma→Symptom Rumination→ Subjective Well-Being	-0.61	0.31	-1.221	-0.013
Childhood Trauma→ Compulsive Thinking→ Subjective Well-Being	0.63	0.26	0.132	1.164
Childhood Trauma→Reflective Thinking→ Subjective Well-Being	-0.28	0.19	-0.659	0.076
Total Mediation Effect	-0.26	0.08	-0.431	-0.110

4. Discussion

Findings from the study reveal a connection between early life adversity and subjective well-being, including the influence of reflective thinking on this association. The various aspects of reflective thinking—particularly those related to symptom-focused contemplation, the dominant idea, including symptom-focused rumination and reflective contemplation—serve distinct mediatory functions between early life adversity and an individual's subjective well-being. There exists a notable negative association between early life adversity and subjective well-being, and a notable link exists between early life adversity and the emergence of psychological difficulties in later life [9]. Early life adversity such as physical maltreatment or emotional abandonment during childhood can profoundly affect a subjective well-being in adulthood. The principles of attachment theory indicate that experiences of early life adversity shape how a person develops their attachment styles, resulting in a lack of secure attachment, which can hinder the ability of individuals to establish consistent and nurturing relationships as adults, influencing their overall sense of happiness [10]. The theory of self-worth suggests that those who have experienced trauma during their youth, particularly those who have experienced emotional distress, frequently struggle with feelings of worthlessness and disregard for their own needs [11], which significantly impacts their overall emotional health. According to the theory of stress coping mechanisms, individuals who have endured trauma in their early years are likely to confront heightened stress during distressing incidents. Such individuals might resort to strategies characterized by avoidance and emotional suppression, which can temporarily alleviate stress levels, but in the long run, these conditions can contribute to feelings of anxiety and bouts of depression, influencing individual happiness [12]. Based on the principles of emotional management theory, those who have gone through traumatic experiences during childhood frequently struggle to utilize effective strategies for managing their emotional responses when confronted with negativity, resulting in a tendency to dwell on instances that elicit negative feelings [16]. According to cognitive bias theory, those who have undergone childhood trauma may demonstrate a greater inclination to concentrate on adverse experiences, which can give rise to persistent negative thought patterns. This tendency often leads to rumination when faced with adverse experiences. Research by Wan et al. [15] indicated that experiences of early life adversity can significantly predict the likelihood of developing rumination habits [17]. There is a notable positive correlation between reflective thinking and negative emotional states. Rumination can be observed through three dimensions: reflective contemplation, the dominant idea, and symptom-focused rumination—intensify negative emotional responses in varying degrees, leading to an increased susceptibility to feelings of anxiety and depression. Based on the principles of cognitive resource theory [11], the act of repetitive contemplation depletes mental resources, diminishing the uptake of uplifting feelings, and thereby diminishing individuals' perceived quality of life.

The findings of this research have significant consequences for enhancing the overall happiness and life satisfaction of students at universities. In particular, within the framework of mental health initiatives for university populations, it is essential to consider whether students have a history of reflective thinking. Strategies aimed at addressing repetitive thought patterns—concentrating on the management of introspective thinking, Forced thinking, and repetitive thought cycles may enable students to cultivate healthier coping mechanisms, thus improving their subjective well-being. Subsequent investigations may examine the influence of various forms of childhood adversity or the consequences of such experiences during different developmental phases, along with reflective thinking, regarding personal happiness and life satisfaction, and take a thoughtful and impartial approach to early life adversity in order to enhance support for those who have gone through it.

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