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Relationship Between Cross-Generational Coalitions and Depression Among Chinese College Students: The Chain Mediating Roles of Self-Differentiation and Interpersonal Adaptation

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Background: Research has demonstrated a significant association between cross-generational coalitions and children's emotional well-being. However, the mechanisms underlying this relationship remain unclear, and prior studies have predominantly treated cross-generational coalitions as a singular construct, neglecting the varied impacts and pathways of different types of cross-generational coalitions on college students' depression.

Purpose: Grounded in family systems theory, this study investigates the relationships and distinct underlying mechanisms linking three forms of cross-generational coalitions (coalition with fathers, coalition with mothers, and unstable coalition) to depression among college students, focusing on the chain mediating roles of self-differentiation and interpersonal adaptation.

Methods: A total of 493 Chinese college students aged 17–25 years (55.2% male) completed anonymous questionnaires. The PROCESS macro Model 6 and bootstrap methods were employed to analyze the chain mediating effects of self-differentiation and interpersonal adaptation between cross-generational coalitions and college students' depression.

Results: Each type of cross-generational coalition exhibited a significant indirect association with depression via the chain mediation of self-differentiation and interpersonal adaptation. Moreover, while all coalition types impacted college students' depression through the mediating effect of self-differentiation, only stable coalition with fathers influenced depression through the mediating effect of interpersonal adaptation.

Conclusion: This study highlights that three types of cross-generational coalitions can affect college students' depression through the chain mediation of self-differentiation and interpersonal adaptation. Notably, in comparison to coalition with mothers and unstable coalitions, coalition with fathers reveal distinct indirect pathways influencing depression. The study revealed the differential impacts of father-child and mother-child coalitions in a collectivist society, which significantly extend Bowenian family systems theory and attachment theory by elucidating the nuanced pathways through which cross-generational coalitions influence depression in college students. These findings deepen our understanding of how various forms of cross-generational coalitions serve as familial factors impacting the emotional well-being of Chinese college students.

Keywords: cross-generational coalitions, depression, self-differentiation, interpersonal adaptation, college students, chain mediation effect

Introduction

Depression is a psychological state characterized by persistent low mood, which adversely affects an individual's cognition, thought patterns, and behavioral patterns, leading to heightened negative affect, maladaptive cognitive schemas, and loss of interest in daily activities.[1] A recent meta-analysis revealed a 25% prevalence rate of depressive

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symptoms among college students worldwide.[2] According to the National Mental Health Development Report of China (2021–2022), emerging adults constitute a high-risk population for depression, with the 18–24 age group demonstrating a 24.1% detection rate of depressive symptoms.[3] As one of the most prevalent psychological issues among Chinese college students, depression exerts significant impacts on academic achievement,[4] social avoidance,[5] and internet addiction,[6] while being strongly associated with elevated suicidal ideation and risk.[7,8] To safeguard college students' mental health development, it is imperative to investigate the determinants of depressive symptoms and implement targeted interventions.

From the perspective of ecological systems theory,[9] family environment serves as a crucial determinant of offspring's mental health and social adaptation. As a key predictor of family dynamics, parent-child relationships significantly influence college students' depression. Substantial empirical evidence has identified parent-child attachment, intergenerational conflict, and parental rejection as critical familial risk factors for college students' depression.[10–12] However, existing research predominantly examines dyadic parent-child relationships through singular dimensions of influence, neglecting comprehensive investigation of other critical relational patterns within the family system.[13] Recent theoretical advancements have shifted focus from unidirectional parent-child effects to interactive relational dynamics. This paradigm shift has increased scholarly attention to family triangulation (a relational configuration capturing triadic interactions among the father, the mother, and the child), which provides a holistic framework for understanding how patterns of family systems influence offspring's psychological development.[14]

Based on family systems theory, when parents experience marital tension or conflict, children may become actively or passively involved in an attempt to alleviate the conflict or tension, forming a negative triadic relationship pattern involving "father-mother-child".[15] Triangulation in parent-child relationships is typically categorized into three types: cross-generational coalitions, scapegoating, and parentification.[16] Previous research on Western populations has demonstrated that parent-child triangulation exerts profound negative effects on children's emotional well-being, including increased depression and anxiety.[17] However, the impact of triangulation on child development exhibits cross-cultural variations. Within the Chinese cultural context, not all forms of triangulation negatively affect psychological development. For instance, highly involved scapegoating (parents redirect their focus to the child to avoid interpersonal conflict) and cross-generational coalitions (children align with one parent against the other during parental conflict) show significant positive correlations with adolescent depression, whereas parentification (children neglect their own needs and emotions to mediate parental tension, assuming conflict resolution or family caregiving roles) demonstrates a negative correlation with depression and enhances adaptive functioning.[18] Consequently, scholars have emphasized the need for nuanced differentiation and separate investigation of distinct dimensions of triangulated relationships.[19]

Existing research has identified that 41–48% of Chinese college students in Taiwan experience cross-generational coalitions with their parents,[20] indicating a remarkably high prevalence. Chinese collectivist culture is deeply rooted in Confucian ideology, particularly the concept of "filial piety".[21] Filial piety is one of the core ideas of Confucian ethics, emphasizing moral norms governing both material and emotional dimensions of parent-child relationships.[22] Confucianism stresses "kindly parents and filial children" where children's respect, support, and care for their parents are regarded as moral obligations.[23] This ethical framework establishes close intergenerational ties as a fundamental social structure, fostering long-term alliances between parents and children in economic, emotional, and social support. In contrast, western individualistic cultures place greater emphasis on personal autonomy,[24] with adult children tending to separate from their families of origin and form independent households. Parents with individualistic cultural values are also described as less likely to adopt authoritarian parenting styles and exert control over their children compared to those adhering to collectivist values.[25] Consequently, cross-generational coalitions may be more prevalent in collectivist societies. Previous studies have confirmed the significant impact of cross-generational coalitions on depression among Chinese adolescents.[26] However, the psychological mechanisms underlying the relationship between cross-generational coalitions and college students' depression remain unclear. Therefore, drawing on both theoretical and empirical evidence, this study aims to examine the prominent phenomenon of cross-generational coalitions in Chinese families, specifically analyzing potential pathways through which cross-generational coalitions influence depression among college students.

Cross-Generational Coalitions and Depression: Self-Differentiation as a Mediator

Self-differentiation refers to an individual's capacity to maintain both intimacy and independence while balancing rationality and emotionality.[27] A higher degree of self-differentiation is linked to the capacity to remain composed, redirect attention, and employ logical reasoning in the face of stressful situations.[15] Conversely, individuals with low self-differentiation tend to operate primarily on an emotional level, where their thoughts are often dominated or influenced by their feelings.[15] Research has demonstrated a significant negative correlation between self-differentiation levels and depression among college students,[28,29] with greater self-differentiation being associated with enhanced psychosocial development in this population.[30] Emotional cutoff, a common reaction of poorly differentiated individuals to relational stress, often leads to emotional isolation from others or the suppression of emotions.[15] Those who engage in emotional cutoff are particularly susceptible to experiencing depression.[31]

Children's active or passive participation in parent-child triangulation can hinder the process of self-differentiation. Cross-generational coalitions represent a type of emotional triangulation, where children become embroiled in parental disputes and are compelled to take on emotional responsibilities that exceed their developmental capacities.[32] According to Bowen's family systems theory, these coalitions blur the boundaries of family subsystems, making it challenging for children to cultivate an autonomous sense of self.[31] For example, as children strive to balance their loyalty to their fathers with their emotional attachment to their mothers, they end up with fragmented self-concepts. This internal struggle drives them to adopt strategies of emotional detachment, which further erodes their self-differentiation.[33]

Grounded in cognitive-contextual theory, cross-generational coalitions within the family setting draw children into parental conflicts, highlighting the indirect link between parental discord and their own experiences. This situation often leads to self-blame and diminished coping ability, which in turn exacerbates internalizing issues.[34] Concurrently, individuals with lower levels of self-differentiation face greater challenges than their more differentiated peers in balancing rationality and emotionality during social interactions.[27] They tend to exhibit heightened emotional reactivity and stress in their interpersonal relationships, and the accumulation of such negative emotions significantly elevates the risk of depression.[35] In light of this, the current study posits Research Hypothesis 1: Self-differentiation serves as a mediator in the relationship between cross-generational coalitions and depression among college students.

Cross-Generational Coalitions and Depression: Interpersonal Adaptation as a Mediator

Cross-generational coalitions may exert an indirect influence on depression among college students by affecting their interpersonal adaptation. First, drawing from attachment theory, such coalitions can foster the development of insecure attachment styles, which hinder an individual's emotional regulation and their ability to adapt in close relationships.[36] When a child aligns with one parent, it may signify the presence of an ambivalent attachment pattern within the family dynamic. As children internalize this pattern, they are likely to adopt ambivalent attachment behaviors in their own relationships, such as desiring intimacy while simultaneously fearing abandonment, which exacerbates challenges in interpersonal adaptation. Moreover, individuals with insecure attachments often manage interpersonal stress through either emotional suppression or heightened emotional reactivity.[37] These maladaptive coping mechanisms frequently impede college students' capacity to forge friendships, resolve conflicts, and seek assistance. Additionally, difficulties in interpersonal adaptation can deplete emotional regulation resources, ultimately leading to depressive symptoms.

Social support theory posits that healthy interpersonal relationships contribute positively to psychological well-being, while ineffective interpersonal adaptation can result in a deficiency of social support, thereby impairing an individual's ability to cope with stress.[38] Research shows that low levels of social support are significantly associated with increased severity of depression.[39] Consequently, college students who struggle with interpersonal adaptation often find it challenging to develop stable social support networks, leaving them without the emotional support and resources needed to buffer against stress, which makes them more vulnerable to depression. In light of this, the current study proposes Research Hypothesis 2: Interpersonal adaptation acts as a mediator in the relationship between cross-generational coalitions and depression among college students.

The Chain Mediation Roles of Self-Differentiation and Interpersonal Adaptation

Grounded in ecological systems theory, imbalances within microsystems can initiate corresponding chain reactions.[9] For instance, disruptions in family subsystems, such as cross-generational coalitions, can first undermine an individual's psychological framework (eg, self-differentiation), subsequently impacting external microsystems (eg, relationships with peers or teachers), and ultimately contributing to depression influenced by macrosystem factors (eg, societal pressures).

Research has shown that individuals with high levels of self-differentiation are more adept at forming and sustaining stable interpersonal relationships,[40] improving their social problem-solving skills,[41] and fostering positive mental health outcome.[30] Conversely, those with low self-differentiation are likely to resort to maladaptive coping mechanisms, such as competition, avoidance, and compliance, to address problems or alleviate stress.[42] In interpersonal situations, they tend to respond with emotional fusion or emotional cutoff.[43] These regulatory shortcomings render them susceptible to emotional overwhelm during conflicts, hindering their ability to effectively manage stress and adversely affecting their interpersonal adaptation. Cross-generational coalitions may lead children to internalize a relational template characterized by "high-control, low-trust" resulting in an overinterpretation of neutral behaviors as threatening.[44] This cognitive distortion obstructs their capacity to form healthy social relationships.

Moreover, studies indicate that college students exhibiting low self-differentiation often experience elevated levels of social avoidance and distress.[45] As they transition from their family environments to college settings, these individuals, lacking immediate emotional feedback from their families, tend to excessively rely on external relationships. However, their rigid cognitive patterns in interpreting social interactions frequently result in maladaptive behaviors, complicating their efforts to establish stable social support networks. According to social support theory, insufficient social support is a significant risk factor for depression.[46] After departing from their family environments, the fragility of college students' social support networks further heightens their vulnerability to depression. Therefore, the current study posits Research Hypothesis 3: Self-differentiation and interpersonal adaptation function as chain mediators in the relationship between cross-generational coalitions and depression among college students.

Previous research has predominantly treated cross-generational coalitions as a singular construct. However, recent studies have differentiated these coalitions into stable and unstable types. Stable coalitions denote a stable and long-term alliance between a child and one parent (such as "when my parents argue, I only speak up for one of them"), whereas unstable coalitions refer to situations where children fluctuate their alignment between parents or align with either parent at different times (such as "when my parents argue, sometimes I take my mother's side, and sometimes I take my father's side").[19] In recent years, influenced by traditional Chinese cultural norms that designate men as breadwinners and women as homemakers, Chinese families have embraced a model of "intensive motherhood".[47] In this context, the quality of mother-child relationships often surpasses that of father-child relationships,[48] leading to a higher prevalence of cross-generational coalitions with mothers compared to fathers. Thus, cross-generational coalitions can be further categorized into three types: coalitions with fathers, coalitions with mothers, and unstable coalitions. Recent studies also underscore the importance of considering both parents' roles within family dynamics.[49] These three types of cross-generational coalitions are likely to exert differential impacts on college students' depression, potentially operating through distinct mechanisms. Therefore, a more nuanced classification of cross-generational coalitions, coupled with a thorough examination of their varying effects on college students' depression, can aid clinical counselors in devising more targeted intervention strategies aimed at preventing and alleviating depression in this demographic.

The Present Study

In conclusion, the interplay between cross-generational coalitions, depression, self-differentiation, and interpersonal adaptation is significant and complex. However, there remains a notable gap in research exploring the specific mechanisms by which cross-generational coalitions influence depression among college students. To address this gap, the present study proposes a chain mediation model aimed at examining how self-differentiation and interpersonal adaptation mediate the relationship between various types of cross-generational coalitions and depression. The proposed research models are illustrated in Figure 1. The following hypotheses are proposed:

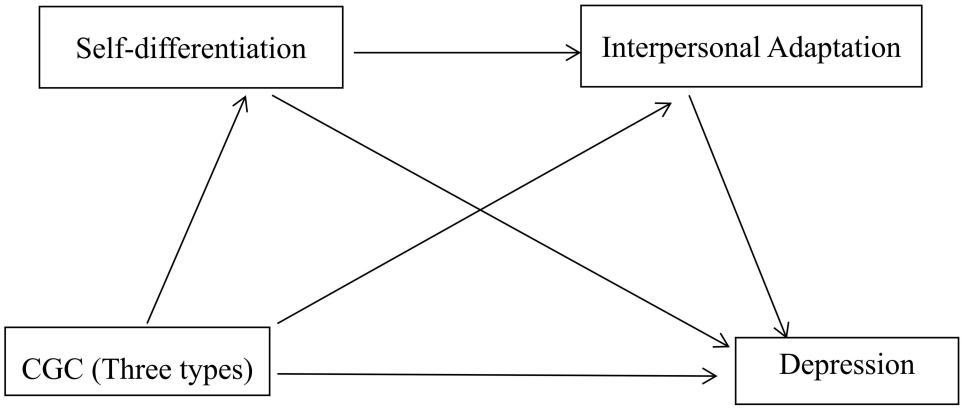

Figure 1 The proposed chain mediating model.
Abbreviation: CGC, Cross-generational Coalitions.

H1: Self-differentiation serves as a mediator in the relationship between cross-generational coalitions and depression among college students.

H2: Interpersonal adaptation acts as a mediator in the relationship between cross-generational coalitions and depression among college students.

H3: Self-differentiation and interpersonal adaptation function as chain mediators in the relationship between cross-generational coalitions and depression among college students.

Materials and Method

Participants

The sample comprised 493 students recruited between October 13 and November 1, 2024, from three universities in Hubei Province, China. A convenience sampling method was employed, utilizing a group testing approach, and a total of 514 anonymous questionnaires were distributed.

From these, 493 valid responses were collected, resulting in an effective response rate of 95.9%. A power analysis (*G*Power 3.1) for detecting a Pearson correlation of ρ=0.3 (α=0.05, power=0.95, two-tailed) indicated a required sample size of N=138. The final sample included 493 participants, exceeding this requirement. Participants' ages ranged from 17 to 25 years, with a mean age of 19.15 years (SD = 1.21 years). The sample included 272 male students (55.2%) and 221 female students (44.8%). Participants were categorized by academic year, with 209 (42.4%) in their first year, 154 (31.2%) in their second year, and 130 (26.4%) in their third year. Additionally, 416 students came from intact families (84.4%), 44 from single-parent families (8.9%), 27 from reconstituted families (5.5%), and 6 from other family structures (1.2%).

Measures

Cross-Generational Coalitions Scale

The assessment of cross-generational coalitions was conducted using the relevant subscales of the Parent-Child Triangulation Scale.[50] This scale encompasses two dimensions pertaining to cross-generational coalitions: stable coalition (4 items) and unstable coalition (4 items). To align with the objectives of this research, the stable cross-generational coalition was further divided into two sub-dimensions: coalition with fathers (4 items; eg, "When my parents argue, I only take my father's side".) and coalition with mothers (4 items; eg, "When my parents argue, I tend to listen to my mother's complaints".). Confirmatory factor analysis (CFA) indicated that both subscale of coalition with fathers (χ^2/df = 2.973, CFI = 0.945, TLI = 0.834, SRMR = 0.035, and RMSEA = 0.024) and subscale of coalition with mothers (χ^2/df = 1.478, CFI = 0.980, TLI = 0.939, SRMR = 0.019, and RMSEA = 0.017) have accepted constructive validity. The unstable coalition dimension also consists of 4 items (eg, "When my parents argue, I feel uncertain about whose side to

take".). Participants rated their responses on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). Higher total scores indicated a greater level of coalition with fathers, mothers, or unstable coalitions. Confirmatory factor analysis (CFA) indicated that the subscale of unstable coalition has accepted constructive validity (χ^2/df = 1.778, CFI = 0.993, TLI = 0.978, SRMR = 0.040, and RMSEA = 0.017). The Cronbach's α coefficients for the three components were 0.908 (coalition with fathers), 0.876 (coalition with mothers), and 0.616 (unstable coalition), respectively.

Self-Differentiation Scale

The Chinese version of the Differentiation of Self Inventory (DSI), translated and adapted by Wu et al (2010) from the original version by Skowron and Schmitt (2003),[51,52] was utilized in this study. This scale consists of 27 items organized into four dimensions: emotional fusion, self-positioning, emotional response, and emotional cutoff, primarily aimed at assessing the degree of self-differentiation in adults. Participants evaluated each item on a 6-point Likert scale, with responses ranging from 1 (very unlike me) to 6 (very like me). Higher scores reflect a greater level of self-differentiation. Confirmatory factor analysis (CFA) indicated that the scale has accepted constructive validity (χ^2/df = 3.137, CFI = 0.873, TLI = 0.859, SRMR = 0.061, and RMSEA = 0.066). The Cronbach's α coefficient for this scale was 0.896.

Interpersonal Adaptation Scale

The Interpersonal Adaptation Subscale from the College Student Adaptability Scale (CSAI), developed by Lu (2003),[53] was employed to measure anxiety related to interpersonal adaptation. This subscale comprises 11 items (eg, "I have successfully made friends during my time in college".). Participants responded on a 5-point Likert scale, with options ranging from 1 (very unlike me) to 5 (very like me). In this study, Confirmatory factor analysis (CFA) indicated that the scale has accepted constructive validity (χ^2/df = 1.207, CFI = 0.945, TLI = 0.982, SRMR = 0.089, and RMSEA = 0.015), and the Cronbach's α coefficient for this subscale was 0.852.

Depression Subscale of HADS

The HADS (Hospital Anxiety and Depression Scale) was originally developed and validated by Zigmond and Snaith (1983) with the intention to detect states of depression and anxiety in adults.[54] It contains an anxiety (HADS-A) and a depression (HADS-D) subscale. Depression subscale of HADS was utilized to evaluate depressive mood states in Chinese samples and young athletes and showed good internal consistency.[55,56] The depression subscale consists of 7 items (eg, "I have lost interest in my appearance".). Participants rated each item on a 4-point scale, ranging from 0 = rarely or none of the time to 3 = most or all of the time. In this study, confirmatory factor analysis (CFA) indicated that the scale has accepted constructive validity (χ^2/df = 4.657, CFI = 0.935, TLI = 0.903, SRMR = 0.048, and RMSEA = 0.086). The Cronbach's α coefficient for this scale in this study was 0.747.

Control Variables

In addition to the primary variables of interest, gender, age, academic grade, and family structure were included as control variables to account for their potential influence. The effects of family relationships on children may vary based on their gender, age, and developmental stage.[57] Likewise, the association between the quality of family relationships and individual emotional outcomes can differ according to family structures.[58]

Procedure

Data collection occurred in university classrooms in the absence of instructors. Participants provided written informed consent, and the study was conducted in alignment with the Declaration of Helsinki, receiving approval from the Ethical Committee of the School of Education and Psychology at Hubei Engineering University. Prior to the survey, students were informed about the voluntary nature of their participation and their right to withdraw at any point. Trained postgraduate students adhered to standardized protocols for distributing and collecting questionnaires and were available to address any questions raised by the participants. This study recruited a total of six undergraduate students to assist with data collection. Their responsibilities included providing reading guidance, distributing questionnaires, addressing

participants' questions during completion, and ensuring timely collection of the surveys. The entire questionnaire process took approximately 15–20 minutes to complete.

Data Analysis

Descriptive statistics and correlation analyses were executed using SPSS version 23.0. The Pearson correlation coefficient was employed to evaluate the relationships among the variables. Significant associations were found among the independent variables, mediators, and the dependent variable, meeting the criteria necessary for testing mediation effects. Consequently, the PROCESS macro was utilized to assess the chain mediation effects.[59] Specifically, Model 6 within the PROCESS macro was applied to explore the chain mediation effect of self-differentiation and interpersonal adaptation on the relationship between cross-generational coalition and depression among college students. To estimate the chain mediation effect, the bias-adjusted percentile bootstrap method was utilized, drawing 5000 samples to calculate the 95% confidence interval.

Common-Method Bias Test

Considering that data for this study were exclusively obtained from self-report measures completed by adolescents, common-method bias was given careful consideration. To assess this potential bias, Harman's single factor test was performed. The non-rotating principal component factor analysis yielded 13 factors with eigenvalues exceeding 1. Notably, the first factor explained only 13.98% of the variance, which is below the critical threshold of 40%. This outcome suggests that significant common-method bias is not present in this study.[60]

Results

Preliminary Analysis

Table 1 presents the means and standard deviations for the three types of cross-generational coalitions, self-differentiation, interpersonal adaptation, and depression. The findings indicate that the coalition with mothers is more pronounced than that with fathers. All three types of cross-generational coalitions exhibited significant negative correlations with both self-differentiation and interpersonal adaptation ($Ps < 0.01$), while demonstrating positive correlations with college students' depression ($P < 0.05$; $P < 0.01$). Furthermore, self-differentiation was positively correlated with interpersonal adaptation ($P < 0.01$) and negatively correlated with depression ($P < 0.01$). Interpersonal adaptation also showed a negative correlation with depression ($P < 0.01$).

Testing for the Chain Mediating Effect

Initially, we assessed the chain mediating effects of self-differentiation and interpersonal adaptation on the relationship between stable coalition with fathers and depression among college students. As shown in Table 1, coalition with fathers, self-differentiation, interpersonal adaptation, and depression are significantly interrelated. The independent variables exhibited significant associations with the mediators, fulfilling the criteria for testing mediation effects. In this study, the bias-adjusted percentile bootstrap method was employed to evaluate the mediating effect, utilizing 5000 samples to estimate the 95% confidence interval. Model 6, a chain mediating model, was utilized within the SPSS macro for analysis.

Table 1 The Correlation of the Main Study Variables (N=493)

Variables	*M±SD*	1	2	3	4	5	6	7
1 Coalition with Fathers	1.76±0.81	1						
2 Coalition with Mothers	2.32±1.13	0.628**	1					
3 Unstable Coalition	2.92±1.03	0.209**	0.192**	1				
4 Self-differentiation	3.79±0.77	−0.233**	−0.272**	−0.441**	1			
5 Interpersonal Adaptation	3.60±0.68	−0.203**	−0.198**	−0.251**	0.566**	1		
6 Depression	1.06±0.57	0.115*	0.118**	0.232**	−0.513**	−0.544**	1	
7 Age	19.1±1.44	0.066	−0.016	0.001	0.035	0.044	0.033	1

Notes: *p<0.05; **p<0.01.

Table 2 Testing for the Chain Mediating Effects of Variables Between CWF and Depression

Regression Equation (N=493)		Fitting Indicators			Coefficient Significance	
Outcomes	**Predictors**	***R***	***R^2***	***F***	***β***	**t**
Self-differentiation		0.32	0.10	11.38***		
	Gender				−0.27	−4.01**
	Age				0.04	1.26
	Grade				−0.04	−1.09
	Family structure				−0.15	−2.78**
	Coalition with Fathers				−0.21	−5.07***
Interpersonal Adaptation		0.58	0.34	41.06***		
	Gender				0.06	14.54***
	Age				−0.01	−0.26
	Grade				0.04	1.45
	Family structure				0.08	1.91
	Self-differentiation				0.50	14.54***
	Coalition with Fathers				−0.06	−2.00*
Depression		0.61	0.37	41.06***		
	Gender				−0.10	−2.44*
	Age				0.02	1.30
	Grade				−0.01	−0.26
	Family structure				−0.04	−1.07
	Self-differentiation				−0.25	−7.44***
	Interpersonal Adaptation				−0.31	−8.32***
	Coalition with Fathers				−0.02	−0.88

Notes: *p<0.05, **p<0.01, ***p<0.001.

Controlling for gender, age, grade, and family structure, the results of the chain mediating regression analysis (refer to Table 2 and Figure 2) indicated that coalition with fathers significantly predicted self-differentiation ($B = -0.21$, $t = -5.07$, $P < 0.001$). Both self-differentiation ($B = 0.50$, $t = 14.54$, $P < 0.001$) and coalition with fathers ($B = -0.06$, $t = -2.00$, $P < 0.05$) showed significant predictive power for interpersonal adaptation. Furthermore, self-differentiation ($B = -0.25$, $t = -7.44$, $P < 0.001$) and interpersonal adaptation ($B = -0.31$, $t = -8.32$, $P < 0.001$) were significant predictors of depression among college students. After incorporating self-differentiation and interpersonal adaptation as mediators, the direct path from coalition with fathers to depression was found to be non-significant ($B = -0.02$, $t = -0.88$, $P > 0.05$).

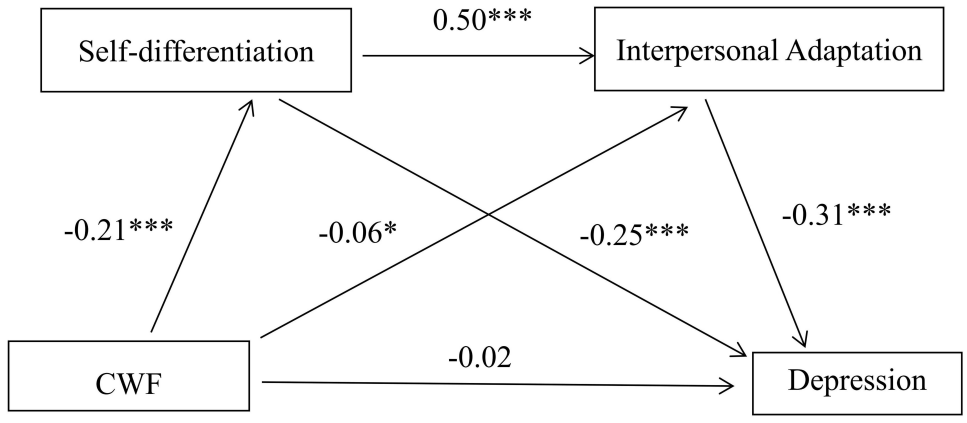

Figure 2 The chain mediating effects of variables between CWF and Depression.
Notes: *p<0.05, ***p<0.001.
Abbreviation: CWF, Coalition with Fathers.

The total effect of coalition with fathers on college students' depression was calculated at 0.081 ($t = 2.54$, $P < 0.05$, LLCI = 0.018, ULCI = 0.144), while the total indirect effect through self-differentiation and interpersonal adaptation between coalition with fathers and depression was 0.105 (LLCI = 0.065, ULCI = 0.152), representing 129.6% of the total effect (see Table 3). The mediating effect of self-differentiation in the relationship between coalition with fathers and depression was 0.053, with a 95% confidence interval of [0.028, 0.085], accounting for 65.4% of the total effect (0.081). The mediating effect of interpersonal adaptation on the same relationship was 0.020, with a 95% confidence interval of [−0.001, 0.054], constituting 24.7% of the total effect (0.081). The chain mediating effect of self-differentiation and interpersonal adaptation between coalition with fathers and depression was 0.032, with a 95% confidence interval of [0.019, 0.050], which accounted for 39.5% of the total effect (0.081). The Bootstrap 95% confidence intervals for the three indirect effects did not encompass zero, indicating that the standardized effects were statistically significant. This suggests that self-differentiation and interpersonal adaptation operate as chain mediators between coalition with fathers and depression.

In our second analysis, we explored the chain mediating effects of self-differentiation and interpersonal adaptation on the relationship between coalition with mothers and depression among college students. We employed Model 6, a chain mediating model, using the SPSS macro this analysis. Controlling for gender, age, grade, and family structure, the results from the chain mediating regression analysis (refer to Table 4 and Figure 3) demonstrated that coalition with mothers significantly predicted self-differentiation ($B = -0.17$, $t = -5.66$, $P < 0.001$). Moreover, self-differentiation was found to be a significant predictor of interpersonal adaptation ($B = 0.51$, $t = 14.53$, $P < 0.001$). Both self-differentiation ($B = -0.25$,

Table 3 The Estimates of Total, Direct and Indirect Effects of the Model of CWF on Depression

	Indirect Effect	Boot SE	Boot LLCI	Boot ULCI
Total effect of CWF on Depression	0.081	0.032	0.018	0.144
Direct effect of CWF on Depression	−0.023	0.026	−0.075	0.029
Total indirect effects of CWF on Depression	0.105	0.022	0.065	0.152
CWF→Self-differentiation→Depression	0.053	0.015	0.028	0.085
CWF→Interpersonal Adaptation→Depression	0.020	0.012	−0.001	0.045
CWF→Self-differentiation →Interpersonal Adaptation→Depression	0.032	0.008	0.019	0.050

Abbreviation: CWF, Coalition with Fathers.

Table 4 Testing for the Chain Mediating Effect of Variables Between CWM and Depression

Regression Equation (N=493)		Fitting Indicators			Coefficient Significance	
Outcomes	**Predictors**	***R***	***R^2***	***F***	***β***	***t***
Self-differentiation		0.34	0.12	12.74***		
	Gender				−0.25	−3.71**
	Age				0.02	0.80
	Grade				−0.03	−0.83
	Family structure				−0.15	−2.68**
	Coalition with mothers				−0.17	−5.66***
Interpersonal Adaptation		0.58	0.34	41.06***		
	Gender				0.06	1.21
	Age				−0.01	−0.43
	Grade				0.04	1.51
	Family structure				0.08	1.97*
	Self-differentiation				0.51	14.53***
	Coalition with mothers				−0.03	−1.34

(*Continued*)

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Table 4 (Continued).

Regression Equation (N=493)		Fitting Indicators			Coefficient Significance	
Outcomes	**Predictors**	***R***	***R^2***	***F***	***β***	**t**
Depression		0.61	0.37	41.04***		
	Gender				−0.10	−2.40*
	Age				0.02	1.22
	Grade				−0.01	−0.22
	Family structure				−0.04	−1.05
	Self-differentiation				−0.25	−7.42***
	Interpersonal Adaptation				−0.31	−8.31***
	Coalition with mothers				−0.02	−0.85

Notes: *p<0.05, **p<0.01, ***p<0.001.

$t = -7.42$, $P < 0.001$) and interpersonal adaptation ($B = -0.31$, $t = -8.31$, $P < 0.001$) significantly predicted depression in college students. Notably, coalition with mothers did not significantly predict interpersonal adaptation ($B = -0.03$, $t = -1.34$, $P > 0.05$). Following the inclusion of self-differentiation and interpersonal adaptation as mediators, the direct path from the coalition with mothers to depression was not significant ($B = -0.02$, $t = -0.85$, $P > 0.05$).

The total effect of coalition with mothers on college students' depression was calculated at 0.061 ($t = 2.67$, $P < 0.01$, LLCI = 0.016, ULCI = 0.107). The total indirect effect of self-differentiation and interpersonal adaptation on the relationship between coalition with mothers and depression was 0.077 (LLCI = 0.048, ULCI = 0.110), accounting for 126.2% of the total effect (refer to Table 5). The mediating effect of self-differentiation in this context was 0.042, with a 95% confidence interval of [0.023, 0.064], representing 68.9% of the total effect (0.061). The chain mediating effect of self-differentiation and interpersonal adaptation was found to be 0.026, with a 95% confidence interval of [0.015, 0.039], which accounted for 42.6% of the total effect (0.061). The Bootstrap 95% confidence intervals for all three indirect effects did not include zero, indicating that the standardized effects were statistically significant. This suggests that both self-differentiation and interpersonal adaptation play a chain mediating role between coalition with mothers and depression.

Next, we evaluated the chain mediating effects of self-differentiation and interpersonal adaptation in the context of unstable coalition and their relationship with college students' depression. Again, we utilized Model 6 in the SPSS macro

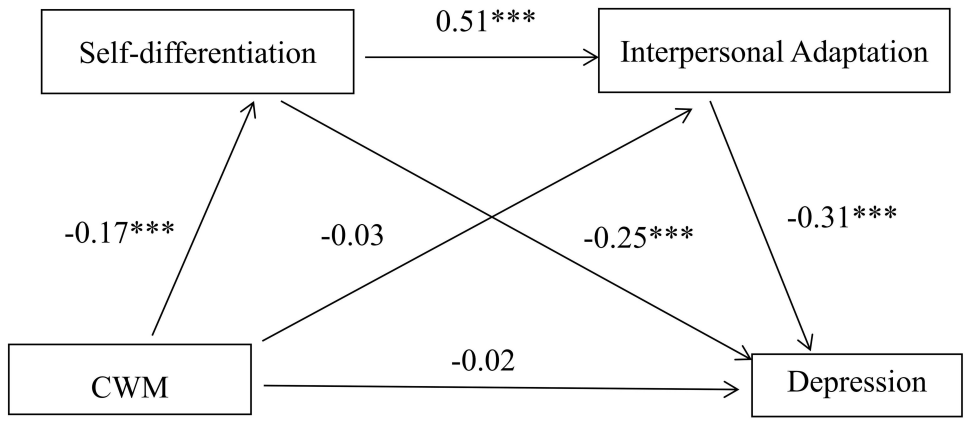

Figure 3 The chain mediating effects of variables between CWM and Depression.
Note: ***p<0.001.
Abbreviation: CWM, Coalition with Mothers.

Table 5 The Estimates of Total, Direct and Indirect Effects of the Model of CWM on Depression

	Indirect Effect	Boot SE	Boot LLCI	Boot ULCI
Total effect of CWM on Depression	0.061	0.023	0.016	0.107
Direct effect of CWM on Depression	−0.016	0.019	−0.054	0.021
Total indirect effects of CWM on Depression	0.077	0.016	0.048	0.110
CWM→Self-differentiation→Depression	0.042	0.010	0.023	0.064
CWM→Interpersonal Adaptation→Depression	0.010	0.008	−0.005	0.027
CWM→Self-differentiation →Interpersonal Adaptation→Depression	0.026	0.006	0.015	0.039

Abbreviation: CWM, Coalition with Mothers.

for the mediating effect analysis. Controlling for gender, age, grade, and family structure, the regression analysis results (see Table 6 and Figure 4) revealed unstable coalition significantly predicted self-differentiation ($B = -0.32$, $t = -10.93$, $P < 0.001$). Self-differentiation also significantly predicted interpersonal adaptation ($B = 0.52$, $t = 13.74$, $P < 0.001$). Both self-differentiation ($B = -0.25$, $t = -6.86$, $P < 0.001$) and interpersonal adaptation ($B = -0.31$, $t = -8.26$, $P < 0.001$) significantly predicted depression in college students. However, unstable coalition did not significantly predict interpersonal adaptation ($B = 0.001$, $t = 0.04$, $P > 0.05$). Once self-differentiation and interpersonal adaptation were incorporated as mediators, the direct path from unstable coalition to depression was found to be non-significant ($B = -0.001$, $t = -0.06$, $P > 0.05$).

The total effect of unstable alliance on college students' depression was calculated at 0.130 ($t = 5.29$, $P < 0.001$, LLCI = 0.082, ULCI = 0.178). The total indirect effect of self-differentiation and interpersonal adaptation in the context of unstable coalition and depression was 0.131 (LLCI = 0.095, ULCI = 0.169), constituting 100.8% of the total effect (see Table 7). The mediating effect of self-differentiation was 0.080, with a 95% confidence interval of [0.051, 0.110], accounting for 61.5% of the total effect (0.130). The chain mediating effect of self-differentiation and interpersonal

Table 6 Testing for the Chain Mediating Effect of Variables Between UC and Depression

Regression Equation (N=493)		Fitting Indicators			Coefficient Significance	
Outcomes	**Predictors**	***R***	***R^2***	***F***	***β***	***t***
Self-differentiation		0.49	0.24	31.26***		
	Gender				−0.30	−4.86***
	Age				0.03	0.99
	Grade				−0.04	−1.08
	Family structure				−0.11	−2.13*
	Unstable coalition				−0.32	−10.93***
Interpersonal Adaptation		0.58	0.33	40.06***		
	Gender				0.06	1.07
	Age				−0.01	−0.40
	Grade				0.04	1.46
	Family structure				0.09	2.03*
	Self-differentiation				0.52	13.74***
	Unstable coalition				0.001	0.04
Depression		0.61	0.37	40.88***		
	Gender				−0.11	−2.52
	Age				0.02	1.24
	Grade				−0.01	−0.26
	Family structure				−0.04	−1.02
	Self-differentiation				−0.25	−6.86***
	Interpersonal Adaptation				−0.31	−8.26***
	Unstable coalition				*−0.001*	*−0.06*

Notes: *p<0.05, ***p<0.001.

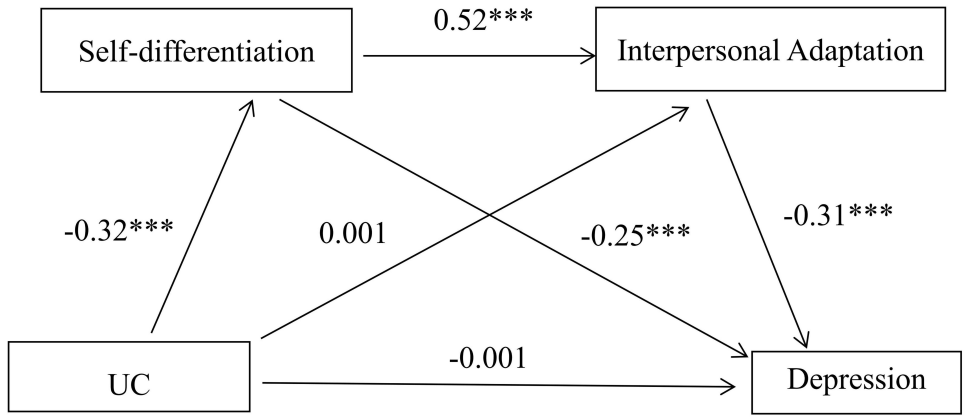

Figure 4 The chain mediating effects of variables between UC and Depression.
Note: ***p<0.001.
Abbreviation: UC, unstable coalition.

adaptation was found to be 0.051, with a 95% confidence interval of [0.035, 0.070], representing 39.2% of the total effect (0.130). The Bootstrap 95% confidence intervals for the three indirect effects did not include zero, confirming the statistical significance of the standardized effects. This indicates that self-differentiation and interpersonal adaptation exert a sequential mediating effect between unstable coalition and depression.

Comparative Analysis of the Three Chain Mediation Models

A comparative analysis of the three chain mediation models revealed several key insights. First, all three models were fully saturated. Second, each model demonstrated a suppression effect, where the direction of the direct effect (a negative value) contrasts with that of the indirect effect (a positive value). This suggests that while the overall effect of cross-generational coalitions on depression is positive, there are pathways not captured by the mediating variables that may slightly alleviate depression (as evidenced by the negative direct effect). The confidence intervals for the direct effects in all three models included zero, indicating non-significance and suggesting that this negative effect may be attributed to random fluctuations. Third, in terms of total indirect effects, unstable coalitions exhibited a greater overall indirect effect on college students' depression compared to coalitions with fathers, while coalitions with mothers yielded the lowest total indirect effect. Lastly, only the coalition with fathers significantly and independently affected college students' interpersonal adaptation, which in turn impacted their depression levels.

Table 7 The Estimates of Total, Direct and Indirect Effects of the Model

	Indirect Effect	Boot SE	Boot LLCI	Boot ULCI
Total effect of UC on Depression	0.130	0.025	0.082	0.178
Direct effect of UC on Depression	−0.001	0.022	−0.045	0.043
Total indirect effects of UC on Depression	0.131	0.019	0.095	0.169
UC→Self-differentiation→Depression	0.080	0.015	0.051	0.110
UC→Interpersonal Adaptation→Depression	−0.0003	0.009	−0.017	0.018
UC→Self-differentiation →Interpersonal Adaptation→Depression	0.051	0.009	0.035	0.070

Abbreviation: UC, unstable coalition.

Discussion

This research sought to validate the relationship between cross-generational coalitions and depression, while also examining the chain-mediated roles of self-differentiation and interpersonal adaptation within this context. Our findings highlight the intricate nature of this interplay, demonstrating that various forms of cross-generational coalitions are closely connected to depression through distinct and indirect mediated pathways.

Cross-Generational Coalitions and Depression: The Mediating Role of Self-Differentiation

The results of this study support Research Hypothesis 1, indicating that self-differentiation mediates the relationship between three types of cross-generational coalitions and depression among college students. As a family dynamic, cross-generational coalitions primarily influence an individual's level of self-differentiation rather than directly causing depressive symptoms. This aligns with the fundamental principle of Bowen's family systems theory, which asserts that the effective functioning of a family relies on the self-differentiation capabilities of its members.[61] Individuals with high levels of self-differentiation are better equipped to maintain their identity while engaging in close relationships, achieving a healthy balance between autonomy and intimacy.[15] However, cross-generational coalitions can disrupt the boundaries of family subsystems, forcing children to take on emotional responsibilities that exceed their roles. This confusion can hinder an individual's self-differentiation, particularly their capacity to separate emotions from rational thought.[31]

Moreover, cross-generational coalitions may prompt parents to project unresolved emotional challenges, such as marital dissatisfaction, onto their children.[62] When children internalize these issues, they become overly entangled in the family's emotional dynamics. Whether in a stable coalition with fathers or mothers, or in an unstable coalition, children involved in cross-generational coalitions often grapple with loyalty issues.[63,64] This struggle makes it difficult for them to maintain an independent sense of self both within and outside the family, further complicating the establishment of clear self-boundaries and weakening their self-differentiation capabilities.[65]

Individuals with low levels of self-differentiation may exhibit extreme patterns of "over-involvement" or "emotional cutoff" in their emotional regulation.[43] Those who lack self-differentiation may become emotionally dependent on their families, rendering them more susceptible to stress and challenges, which can heighten the risk of depression. Alternatively, low self-differentiators might avoid family conflict through "emotional cutoff",[66] a strategy that creates only superficial emotional separation without addressing underlying contradictions. Once they leave the family environment, these undifferentiated emotional patterns can persist in their interpersonal relationships, leading to difficulties in adaptation.

In summary, the influence of cross-generational coalitions on depression among college students is entirely mediated by self-differentiation. This finding suggests that self-differentiation acts as a crucial link between family dynamics and individual psychological well-being. Individuals with low self-differentiation struggle to effectively navigate the emotional pressures stemming from cross-generational coalitions, ultimately resulting in depressive feelings.

Cross-Generational Coalitions (Fathers Only) and Depression: The Mediating Role of Interpersonal Adaptation

This study revealed that stable coalitions with both fathers and mothers, along with unstable coalitions, exhibit significant negative correlations with interpersonal adaptation among college students. However, only stable coalitions with fathers influence levels of depression in college students through their effects on interpersonal adaptation. In contrast, interpersonal adaptation do not mediate the relationship between stable coalitions with mothers and unstable coalitions and depression, which partially supports Research Hypothesis 2 of this research. These findings uncover differentiated pathways through which various types of coalitions affect depression levels among Chinese college students.

From a family role perspective, the enduring influence of patriarchal beliefs in China positions fathers as the "authority figure",[67] which significantly impacts adult children's interpersonal relationships outside the family. The father-child coalition often encompasses elements of family power dynamics, such as adherence to rules and distribution of responsibilities, which directly shape children's understanding of and adaptability to social norms. Moreover, filial

piety is a cornerstone of Confucian ethics in China, encompassing moral norms that regulate both material and emotional aspects of parent-child relationships.[22] Rooted in the Confucian principle of "kindly parents and filial children", it obligates children to respect, support, and care for their parents as a fundamental moral duty.[23] Therefore, patriarchal authority structures and filial piety ethics in Chinese families position fathers as primary transmitters of social norms and external-world competencies. Interpersonal adaptation, characterized as an externally oriented skill (eg, conflict resolution and building social support), is particularly susceptible to the modeling effects of the father's role. Furthermore, fathers are frequently seen as "connectors to the external world" and guides for their children navigating broader societal contexts.[68] Qualitative research suggests that fathers have a substantial influence on adult children's interpersonal adaptation.[69] Grounded in attachment theory, fathers are often perceived as secure bases, encouraging children to explore their surroundings.[70] A strong father-child relationship can enhance a child's trust in their external environment, thereby fostering interpersonal adaptation and reducing the likelihood of depression resulting from poor social integration.

Conversely, stable coalitions with fathers might undermine trust within the father-child relationship. Fathers who are overly controlling or excessively rational could diminish their children's emotional intelligence and hinder their capacity for independent exploration of the outside world. Such coalitions may create role confusion for adult children, particularly during college—a critical period when students are tasked with solidifying their identities, expanding their social networks, and defining their life goals. A stable coalition with fathers could compel children to adopt a "pseudo-adult" role, where they act as emotional partners to their fathers, resulting in confusion in authentic social relationships (eg, manifesting as excessive compliance or rebellion toward authority), thereby impairing interpersonal adaptation. In contrast, based on attachment theory, mother-child attachments are often perceived as "safe havens", enabling children to effectively manage negative emotions,[71] although they may not directly facilitate the development of interpersonal skills. The adverse effects of mother-child coalitions on college students' development may more directly impact emotional regulation—such as feelings of security and self-worth—rather than external social skills. As a result, the quality of the mother-child relationship may influence depression through mediators like "self-perception" or "emotional regulation strategies", rather than through interpersonal adaptation. Hence, mother-child coalitions do not significantly impact college students' depression levels through the mediation of interpersonal adaptation.

From the perspective of cultural scripting, Chinese family culture is characterized by interdependence, emphasizing the maintenance of mutual reliance between the self and significant others.[24] Shaped by parenting styles that typically feature strict fathers and nurturing mothers,[67] mothers often bear the primary responsibility for children's daily care and upbringing, leading to closer relationships with their children compared to the relatively distant relationships found with fathers.[72] Mother-child coalitions are frequently perceived as an inherent emotional bond, and their negative implications —such as overprotection and excessive control—may become normalized within societal culture, resulting in no direct effect on interpersonal adaptation among college students.

Cross-Generational Coalitions and Depression: The Chain Mediating Roles of Self-Differentiation and Interpersonal Adaptation

The findings of this study indicate that both stable and unstable coalitions can significantly impact children's levels of depression through the chain mediation of self-differentiation and interpersonal adaptation, thereby validating Research Hypothesis 3.

Firstly, drawing upon intergenerational transmission theory, it can be observed that cross-generational coalitions between parents and children often replicate unresolved intergenerational trauma faced by parents, such as their alliance patterns with grandparents in their original families.[73] This phenomenon, termed "intergenerational emotional cutoff", can adversely affect children's self-differentiation abilities due to the internalization of relational templates. A child's alliance with one parent may result in diminished self-differentiation, fostering excessive emotional reliance on the family and hindering the individual's ability to independently manage external pressures. Cross-generational coalitions form emotional triangles within the family dynamic, increasing emotional stress and adversely impacting children's emotional regulation capabilities.[74] Consequently, this affects their interpersonal adaptation and emotional well-being. Such coalitions can lead to insecure attachment styles, which compromise children's trust and sense of security in

interpersonal connections, thereby influencing their ability to adapt socially.[75] Individuals with insecure attachments often struggle with emotional regulation, making them more vulnerable to depressive feelings.

Secondly, those with self-differentiation challenges may lack effective coping strategies and find it difficult to navigate interpersonal conflicts and stress. As a result, they might resort to immature defense mechanisms, such as repression and projection, to manage stress and conflicts, thus heightening the risk of depression. Inadequate emotional regulation may lead them to feel overwhelmed during interpersonal conflicts, diminishing their capacity to respond to stress effectively, which further escalates the risk of depression. Low self-differentiators can easily absorb interpersonal stress, displaying reactive and suppressive coping styles in social interactions,[76] which can hinder their interpersonal adaptation, manifesting as conflict sensitivity and social avoidance. This maladaptation may also create a lack of social support, cultivating an environment conducive to depression. Thus, cross-generational coalitions with parents can influence children's depression levels through the chain mediation of self-differentiation and interpersonal adaptation. This finding aligns with the fundamental premise of Bowen's theory, which asserts that the effective functioning of a family system is contingent upon individuals' self-differentiation and interpersonal adaptation.

Finally, all three models exhibit a suppression effect, where the direct (negative) and indirect (positive) effects operate in opposing directions. The various forms of cross-generational coalitions primarily exacerbate college students' depression by undermining self-differentiation and interpersonal adaptation (with the indirect effect being significant and positive). Cross-generational coalitions notably elevate the risk of depression by impeding the development of individuals' psychological capacities (self-differentiation and interpersonal adaptation). However, the direct effect is negative, suggesting that the immediate negative impact of stable or unstable parent-child coalitions on alleviating depression may reflect mechanisms not captured within the current models. For instance, cross-generational coalitions may serve as a double-edged sword, offering a sense of security, belonging, or emotional dependence in the short term, thus providing direct relief from depressive emotions. This duality is deeply rooted in traditional Chinese Confucian values that emphasize "familial harmony through benevolent parenting and filial piety".[77] These culturally-sanctioned obligations establish enduring intergenerational bonds that manifest through comprehensive support systems encompassing financial, emotional, and social dimensions. Filial obligation can be seen as a psychological buffer, particularly through the lens of Confucian "role-based duty" in moderating distress among college students. Nevertheless, the confidence intervals for the direct effects in all three models include zero (indicating non-significance), implying that this negative effect may result from potential collinearity between coalition types and self-differentiation and interpersonal adaptation measures. Due to the minor magnitude of the direct effect or its being overshadowed by the indirect effects, the overall effect remains positive. To advance understanding of these phenomena, future studies could employ cross-cultural comparisons of suppression effects, experimental manipulations of filial obligation salience, and advanced statistical techniques such as latent variable modeling to resolve measurement issues.

Implications and Limitations

Cross-generational coalitions, as a family dynamic, primarily shape individuals' self-differentiation and interpersonal adaptation rather than directly inducing depression. The pathways through which different forms of cross-generational coalitions impact college students' mental health may vary, particularly in how alliances with fathers and mothers influence depression levels. In clinical settings, practitioners should clarify the nature of the cross-generational coalitions involving the individuals and devise targeted intervention strategies accordingly.

Initially, in addressing depression among college students, it is crucial to assess family interaction patterns rather than focusing solely on individual symptoms. Techniques such as role-playing and genogram analysis can assist students in recognizing the effects of cross-generational coalitions on their self-differentiation. Integrating interpersonal adaptation training—such as social skills development and boundary-setting—into treatment plans can bolster protective factors. Secondly, for families experiencing cross-generational coalitions, intervention programs should focus on two key components: strengthening appropriate parent-child boundaries and improving interpersonal adaptation skills. Such dual-focused approaches may prove effective in both preventing and alleviating depression among college students. Particularly in Chinese cultural contexts, implementing Confucian-value-informed boundary setting strategies is crucial - these should carefully balance collectivist family harmony with individual psychological autonomy, thereby providing

clinicians with culturally-sensitive therapeutic tools. On campuses, group counseling sessions aimed at improving students' self-differentiation skills, including emotion management and conflict resolution, should be established. Raising awareness of family dysfunction through mental health education can mitigate tendencies for self-blame. Furthermore, during clinical psychological interventions, it is vital to clarify the types of cross-generational coalitions between children and their fathers and mothers. For those involved in father-child coalitions, enhancing self-differentiation levels while also improving interpersonal adaptation is essential. This can be achieved through authority-reframing interventions that maintain core Confucian values of filial piety while gradually transforming traditionally authoritarian father-child dynamics into more egalitarian relationships. Such culturally-adapted approaches may be particularly beneficial for Chinese college students navigating these complex family dynamics. Lastly, cultural sensitivity must be considered in clinical practice, as cross-generational coalitions may be rationalized for individuals raised in collectivist cultures.

Despite these insights, this study has limitations. Firstly, the reliance on self-reported data from college students may introduce both social desirability bias and recall bias. Future studies could incorporate multi-informant data (eg, parent and clinician reports), employ advanced statistical approaches to address measurement concerns, and benefit from incorporating experimental designs and behavioral measures to validate these findings. Secondly, factors such as the number and gender composition of children within the family may have a moderating effect. Traditional gender roles may result in a more pronounced influence of father-son coalitions on sons' self-differentiation and interpersonal adaptation, while the effects on daughters may follow different trajectories. Thirdly, the current study has several sampling limitations, such as a relatively small sample size and the inability to compare populations across diverse geographical regions, ethnic groups, and family structures. As such, the findings should be interpreted with caution and may not be generalizable to broader populations and cross-cultural contexts. Specifically, the cultural distinctiveness of Eastern family systems suggests that these findings may not readily generalize to Western family contexts. When interpreting these results, researchers should carefully consider the fundamental cultural differences between Eastern and Western societies. Future investigations should systematically examine how cultural variations influence family relationship dynamics and explore the psychological mechanisms underlying these cross-cultural differences. Fourthly, given that this study is cross-sectional, it cannot establish causal relationships among the variables. Future investigations could employ longitudinal or qualitative designs to further examine causal relationships among the variables presented in this study. Given the rapid societal changes in China (such as evolving gender roles), traditional roles within families may shift as societal norms evolve, leading to variations in how parents and children interact and form coalitions. Longitudinal data may be beneficial to capture the shifting nature of these relationships over time, and help to differentiate between short-term protective effects and long-term risks, while qualitative interviews could provide insights into specific contexts and evidence regarding whether parent-child coalitions can alleviate depression (eg, where the father serves as the sole confidant). Finally, the influence of cross-generational coalitions on peer relationships or intimate relationships, and its subsequent effect on depression in college students, is also an important mediating factor worthy of analysis.

Conclusions

This study explored the mechanisms linking various forms of cross-generational coalitions to depression among college students. The findings confirmed that cross-generational coalitions can influence college students' levels of depression through indirect pathways involving self-differentiation and interpersonal adaptation. All three types of cross-generational coalitions impact college students' depression solely through the complete mediating effect of self-differentiation. Each of the three forms of cross-generational coalitions affects college students' depression through a chain mediating effect involving both self-differentiation and interpersonal adaptation. Only stable coalitions with fathers influence depression through the complete mediating effect of interpersonal adaptation. In Chinese families, mothers often form closer bonds with children due to their nurturing role, while distant father-child relationships stem from patriarchal norms. Though mother-child coalitions are seen as natural, their direct effects on college students' social adaptation are minimal. However, fathers' authoritarian role significantly impacts adult children's external relationships.

This study's findings significantly extend Bowenian family systems theory and attachment theory by elucidating the nuanced pathways through which cross-generational coalitions influence depression in college students. From a Bowenian perspective, the results highlight the critical role of self-differentiation as a mediator between cross-generational coalitions and depression, aligning with Bowen's emphasis on emotional autonomy as a buffer against family enmeshment. Notably, the chain mediation involving interpersonal adaptation further refines Bowen's framework by demonstrating how undifferentiated selfhood disrupts relational competence, exacerbating depressive symptoms—a mechanistic insight previously underexplored in family systems research. From an attachment theory lens, the findings reveal asymmetrical parental impacts: while maternal coalitions which are often rooted in caregiving proximity exert minimal direct effects, paternal coalitions significantly shape external relational patterns. This resonates with attachment theory's proposition that fathers traditionally influence exploratory behaviors and social adaptation, whereas mothers secure emotional bases. The exclusive mediation of interpersonal adaptation in stable father-child coalitions suggests that paternal authoritarianism, a cultural artifact of Chinese patriarchy, may impair offspring's social coping strategies, intensifying depression—a novel contribution to attachment literature in collectivist contexts.

In clinical practice, it is crucial for practitioners to identify the specific forms of cross-generational coalitions present in the individuals they work with and to devise targeted intervention strategies accordingly. By providing new insights into the pathways connecting cross-generational coalitions and mental health outcomes, this study enriches the existing literature and aims to inspire further research in this domain.

Data Sharing Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author (Cong Peng) upon reasonable request.

Informed Consent Statement

Informed consent was obtained from all individual participants included in the study.

Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and received approval from the Scientific Research Ethics Committee of the School of Education and Psychology, Hubei Engineering University on 20 September 2024.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

On behalf of all authors, the corresponding author states that there are no conflicts of interest. This manuscript was approved by all authors for submission and publication.

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