

# Does Early Parental Conflict Impact Current Depression Among Older Adults in Rural China? A Chain-Mediated Model Analysis

Yuanping Deng<sup>1</sup>, Jianchao Ni<sup>2</sup>, Huapei Mao<sup>3</sup>

<sup>1</sup>Normal College, Jimei University, Xiamen, Fujian Province, People's Republic of China; <sup>2</sup>School of Aerospace Engineering, Xiamen University, Xiamen, Fujian Province, People's Republic of China; <sup>3</sup>School of Business, Wenzhou University, Wenzhou, Zhejiang Province, People's Republic of China

Correspondence: Huapei Mao, School of Business, Wenzhou University, Wenzhou, Zhejiang Province, 325035, People's Republic of China, Email huapeimao@163.com

**Purpose:** The study aimed to investigate the relationships between early parental conflict, marital and parent-child relationships, and current depression among rural older adults, and to examine its gender differences.

**Methods:** Using data obtained from the China Health and Retirement Longitudinal Study (CHARLS) conducted in 2018, we selected 2347 adults aged 60 years and older in rural China and used a structural equation model to evaluate the mechanisms behind early parental conflict and current depression among such adults.

**Results:** Early parental conflict impacted current depression among rural older adults, and marital and parent-child relationships played mediating roles in the mechanism. However, there were gender differences in the paths: early parental conflict directly impacted older males' depression, but not among females; marital relationships acted as a mediator between early parental conflict and current depression among older females, but not among males.

**Conclusion:** Among older adults in rural China, early parental conflict can affect current depression through the indirect path of marital relationships as well as the chain mediating path between marital and parent-child relationships.

**Keywords:** early parental conflict, rural older adults, depression, marital relationships, parent-child relationships

## Introduction

Depression is one of the most common mental disorders affecting older adults.<sup>1,2</sup> Based on data obtained from China's seventh census, approximately 23.81% of rural residents are older adults, which is 7.99% higher than for residents living in cities and towns.<sup>3</sup> Compared to the older adults living in urban areas, the prevalence of depression is significantly higher among the older adults living in rural areas.<sup>4-6</sup> Depression can worsen the physical and mental health of older adults, increase their rate of disability, and even result in suicide.<sup>7,8</sup> The risk factors for mental disorders among older adults in rural areas have been issues of significant concern among scholars specializing in different disciplines across China.

The health conditions of older adults not only result from their current environments but also from a combination of various experiences as well as the accumulation and explosion of their health potential since early life.<sup>9</sup> However, current studies examining the risk factors for depression among older adults are rarely based on life-course perspectives. Early parental conflict is one of the adverse events in an individual's early life that can have short- and long-term negative effects on mental health.<sup>10</sup> Among children, early parental conflict has a significantly negative impact on the development of personality traits, such as low self-esteem, susceptibility to self-condemnation, and negative self-concept.<sup>11-13</sup> Some of these traits, such as low self-esteem, are considered traits associated with depression. The vulnerability model highlights low self-esteem as a stable personality factor and a sensitive predictor of depression among individuals.<sup>14</sup> People with low self-esteem are highly sensitive to rejection by others, less likely to feel attached, and less socially

satisfied in social relationships. When facing daily stressors, they are more likely to develop depressive symptoms.<sup>15</sup> Older adults in rural areas face a higher incidence of negative life events due to their lower levels of education and income, worse health status, less social interaction, and lower quality medical care and social security.<sup>16</sup> Hence, this study proposes the following hypothesis:

H1: Early parental conflict predicts current depression in older adults living in rural areas.

Owing to rapid advancements in urbanization in China, nuclear families with at least one child have become the norm in rural China, and parent-child as well as marital relationships have become the core components of family relationships. Parents' marital relationship is the basis for the stable operation of the whole family system, and marriage quality directly affects other family relationships. Previous studies have established that individuals who grow up experiencing high levels of parental conflict are highly likely to experience conflict and violence throughout their marriages. In other words, intimate relationships are characterized by intergenerational transmission.<sup>17</sup> A 17-year-long follow-up study also determined that adults who experienced increased levels of early parental conflict during childhood had decreased levels of satisfaction in their marital relationships.<sup>18</sup> Existing studies have shown that poor marital relationships are a critical risk factor of depression among older adults.<sup>19–21</sup> Hence, this study proposes:

H2: Marital relationships play a mediating role between early parental conflict and current depression in older adults living in rural areas.

How does parental marital relationships affect parent-child relationships? Currently, two theories explore this subject: the spillover hypothesis and the compensation hypothesis. These hypotheses present different explanations.<sup>22</sup> The spillover hypothesis holds that marital conflicts result in both spouses generating many negative emotions. These emotions spill over into the parent-child relationships, and parents are highly likely to adopt angry and hostile attitudes when their children make mistakes, thereby causing such children to alienate and distrust their parents. This attribute results in tension in parent-child relationships. The compensation hypothesis holds that there is a negative correlation between marital and parent-child relationships. In strained marital relationships, a couple cannot obtain emotional support from each other, and thus, they seek compensation from the parent-child relationships. In such relationships, both partners devote additional attention to their children and attempt to maintain an intimate relationship with them. The spillover hypothesis is supported by many empirical studies, and there is little evidence to support the compensation hypothesis.<sup>14</sup> This indicates that the spillover hypothesis is more reasonable, and strained marital relationships can easily result in the deterioration of parent-child relationships. Children are a crucial source of social support for older adults living in rural China. The Chinese concept of filial piety asserts that “you raise me young; I raise you old”. Even if a parent-child relationship is poor, the material support from children should not be interrupted. Otherwise, the public will condemn children who do not support their parents. However, poor parent-child relationships can result in reduced emotional communication between the parties involved, which is a crucial factor for alleviating depression among older adults living in rural areas.<sup>23,24</sup> In conjunction with the intergenerational transmission of marital conflict discussed above, this study proposes:

H3: Marital and parent-child relationships play a chain mediating role between early parental conflict and current depression in older adults living in rural areas.

Older adults living in rural areas are deeply influenced by Chinese gender-based cultural traditions asserting, “Men's work centers around outside, women's work centers around the home.” In other words, the husband earns money to support the family, and the wife is responsible for household chores and taking care of the children and older adults. Women's housework does not produce economic benefits directly. Therefore, males' family economic status is generally higher than female. Once marital relationships deteriorate, females experience more stress than males. Therefore, we expect to find gender differences in the impact of deteriorating marital relationships on depression in older adults living in rural areas. Additionally, in Chinese traditional culture, father adopts a harsh attitude and punishes the children,

whereas mother adopts a loving and tolerant attitude to the children. When marital relationships deteriorate, according to the spillover hypothesis, father-child relationship deteriorates more than the mother-child relationship. Therefore, we believe there are gender differences in the impact of deteriorating marital relationships on parent-child relationships. Summarizing the above, this study proposes:

H4: There are gender differences in the mechanisms behind the association between early parental conflicts and current depression in older adults living in rural areas.

We conducted an empirical study on the hypotheses mentioned above based on data obtained from the China Health and Retirement Longitudinal Study (CHARLS) to clarify the mechanisms behind the association between early parental conflict and depression among Chinese older adults living in rural areas. The results of this study help in improving the understanding of depression among older adults in rural areas, improve their quality of life, and provide inspiration for the prevention and treatment of depression among such individuals.

## Materials and Methods

### Data Sources

The data used in this study were obtained from the fourth phase (2018) of the CHARLS, which was released in September 2020. The China Health and Pension Tracking Survey Project is hosted and operated by the National Development Research Institute of Peking University. A scientific sampling method was adopted to collect basic information, family status, health status, physical measurements, utilization of medical services and medical insurance, work, retirement and pension, income, consumption, assets, and the basic information of communities on behalf of the middle-aged and older adults aged 45 years and above across the country. The inclusion criteria of older adults involved in this study were those with rural household registration, those aged 60 years and above, and those with a spouse and at least one child. The exclusion criterion was that at least one variable had missing data. A total of 2,234 effective samples were obtained, including 1,322 older male adults (59.18%) and 912 older female adults (40.82%).

### Measuring Tools

#### Early Parental Conflict Scale

The early parental conflict scale was obtained from the Life Course Questionnaire of the CHARLS (2014), and it comprises three questions for evaluating parental conflict levels among the individuals involved when they were minors as follows: (1) Do your parents often quarrel? (2) Did your father beat your mother? (3) Did your mother beat your father? The options were scored on four levels: 1 = never, 2 = rarely, 3 = sometimes, and 4 = often. The overall score represented the intensity of parental conflict, and the higher the score, the higher the conflict level. The Cronbach's  $\alpha$  coefficient for this measure was 0.73.

#### Depression Scale

The CHARLS used a simplified version of the Center for Epidemiologic Studies Depression Scale (CES-D), which is the scale most commonly used for assessing depression levels in household-related questionnaires. The ten items in the simplified version involved ten scenarios, and the interviewer asked about the frequency of these ten scenarios within a week. The frequency was divided into four levels: rarely (less than one day), sometimes (1–2 days), often (3–4 days), and most of the time (5–7 days), which was scored as 0, 1, 2, or 3. The total score ranged from 0 to 30, with a higher score indicating a higher level of depression. The Cronbach's  $\alpha$  coefficient for the scale was 0.80.

#### Marital Relationships Measurement

In the CHARLS (2018) questionnaire, the following question was asked: "Are you satisfied with the relationship between you and your spouse?" The interviewer recorded the grades of older adults as follows: 1 = Not satisfied at all, 2 = Not very satisfied, 3 = Somewhat satisfied, 4 = Very satisfied, and 5 = Extremely satisfied. The higher the score, the better the quality of marriage among the older adults.

## Parent-Child Relationships Measurement

In the CHARLS (2018) questionnaire, parent-child relationships levels were measured using the following question: “Are you satisfied with the relationship between you and your children?” The interviewer recorded the grades of older adults as follows: 1 = Not satisfied at all, 2 = Not very satisfied, 3 = Somewhat satisfied, 4 = Very satisfied, and 5 = Extremely satisfied. The higher the score, the better the parent-child relationships.

## Covariates

In this study, age, health status, and family economic levels were used as covariates, and the health status was measured based on self-assessment, as follows: “What do you think of your health status?” There were five options: 1 = very good, 2 = good, 3 = general, 4 = bad, and 5 = very bad. The higher the level, the worse the health was. There were two categories of family economic levels: 0 = non-low-income households, 1 = low-income households. The criteria for classifying low-income households was whether the annual per capita household income is less than the local minimum living security standard and whether local governments provide a subsistence allowance for these households.

## Data Analysis

SPSS software was used to analyze the correlation coefficients, mean, and deviation for the seven variables, including age, family economic level, health status, early parental conflict, depression, marital relationships, and parent-child relationships of the older adults involved. Second, AMOS software was used to analyze the impact of early parental conflict on current depression among older adults living in rural areas as well as the paths involved. Finally, we used a multi-group structural equation model to compare the gender differences in the path involving early parental conflict and depression among older adults living in rural areas.

## Results

### Correlation and Descriptive Statistics of the Main Variables and Covariates

The mean scores/percentage, standard deviations, and correlation coefficients of the main variables and covariates are listed in Table 1.

There were significant correlations among the main variables, including early parental conflict, marital relationships, parent-child relationships, and depression. Early parental conflict was significantly positively correlated with depression and significantly negatively correlated with marital and parent-child relationships. Depression was significantly negatively correlated with marital and parent-child relationships. Age, family economic level, and health status were significantly correlated with depression.

**Table 1** Descriptive Statistics for the Main Variables and Covariates

	1	2	3	4	5	6	7
1. Age	1						
2. Family economic level	0.036	1					
3. Health status	0.040	0.110***	1				
4. Early parental conflict	-0.027	0.064**	0.066**	1			
5. Current depression	-0.044*	0.154***	0.393***	0.095***	1		
6. Parent-child relationships	-0.015	-0.034	-0.184***	-0.092***	-0.246***	1	
7. Marital relationships	0.012	-0.039	-0.179***	-0.137***	-0.297***	0.402***	1
Mean / %	67.266	9.311% <sup>a</sup>	3.054	4.171	19.032	3.590	3.396
SD	5.577	—	1.033	1.528	6.661	0.712	0.811

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; <sup>a</sup>Percentage of low-income households.

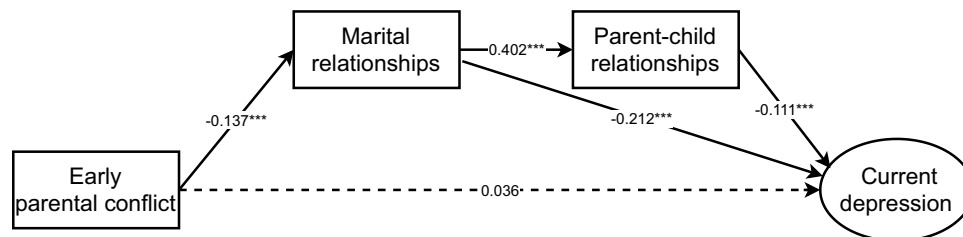
**Table 2** Model Fitting Indices Based on Three Samples

Fit indexes	$\chi^2$	df	p	RMSEA	NFI	CFI	EVCI
Older adults	295.215	42	0.000	0.051	0.939	0.950	0.152
Older males	501.643	102	0.000	0.060	0.912	0.914	0.242
Older females	439.786	102	0.000	0.064	0.906	0.908	0.321

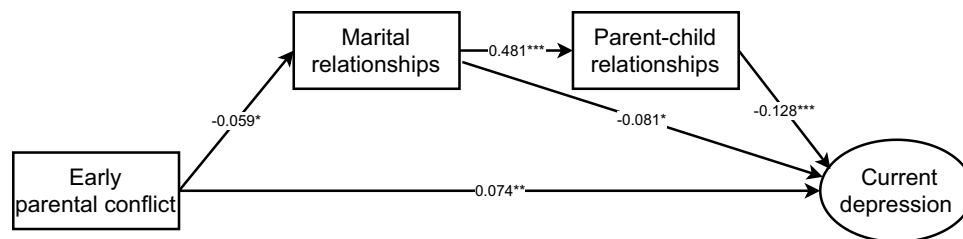
## Impact of Early Parental Conflict on Current Depression in Rural Older Adults and Its Path

We constructed a structural equation model, with early parental conflict as the independent variable, depression as the dependent variable, marital and parent-child relationships as the mediator variables, and age, family economic level, and health status as the covariates. Three samples of older adults, older males, and older females living in rural areas were analyzed separately. The model fitting indices of the three different samples are listed in Table 2.

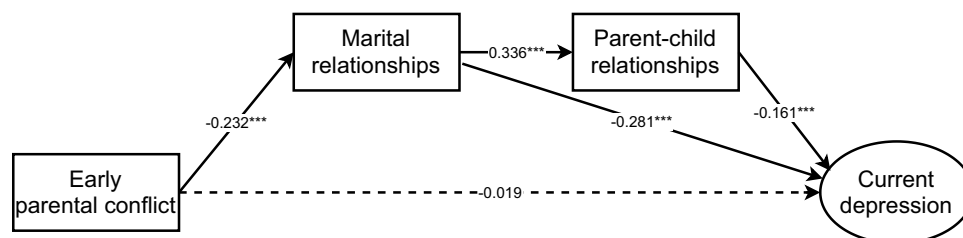
The fitting indices of the three models were good, thereby indicating that the models met the theoretical expectations. The path coefficients of the models are presented in Figures 1–3. The Bootstrap method was used to evaluate the significance of the direct and indirect paths of the model, and the results are listed in Table 3.

**Figure 1** Mediation model of the path from early parental conflict to depression among older adults.

Note: \*\*\* $p < 0.001$ .

**Figure 2** Mediation model of the path from early parental conflict to depression among older males.

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

**Figure 3** Mediation model of the path from early parental conflict to depression among older females.

Note: \*\*\* $p < 0.001$ .

**Table 3** Bootstrap Confidence Intervals and Effect Sizes of the Direct and Indirect Effects

Effects	Total			Male			Female		
	Estimate	95% CI	P	Estimate	95% CI	P	Estimate	95% CI	P
Direct effects									
1. EPC-CD	0.036	[0.000, 0.072]	0.085	0.074	[0.024, 0.123]	0.009	-0.019	[-0.068, 0.034]	0.547
Indirect effects									
1. EPC-MR-CD	0.029	[0.019, 0.039]	0.001	0.005	[0.000, 0.011]	0.075	0.065	[0.046, 0.086]	0.001
2. EPC-MR-PR-CD	0.006	[0.003, 0.009]	0.001	0.004	[0.001, 0.008]	0.043	0.013	[0.007, 0.019]	0.001

**Abbreviations:** EPC, early parental conflict; CD, current depression; MR, marital relationships; PR, parent-child relationships.

In the model for both genders, early parental conflict affected the aging effect through two indirect paths, but the effect of direct path 1 was not significant. In the model for males, early parental conflict affected depression through direct path 1 and indirect path 2. In the model for females, early parental conflict affected depression through indirect paths 1 and 2, but the effect of direct path 1 was not significant.

## Multi-Group Comparison of the Effects of Early Parental Conflict on Current Depression Among Rural Older Adults Based on Gender

To determine whether there were differences between older males and females in the path coefficients of the model, we conducted multi-group (male VS female) structural equation model analysis. First, we defined three nested models: Model M1 (baseline model) – the same model structure was defined in both models, and each parameter in the model was not limited. In model M2 (measurement model) – based on model M1, the corresponding measurement path coefficients in both models are equal. In model M3 (structural model) – according to the assumptions based on model M2, we assumed that all path coefficients from early parental conflict to depression were equal in both groups. The results of the analysis are listed in Table 4.

There was no significant difference between models 1 and 2,  $\chi^2(4) = 4.211$ ,  $p = 0.378$ . There was a significant difference between models 1 and 3,  $\Delta\chi^2(17) = 209.722$ ,  $p = 0.000$ . There was also a significant difference between models 2 and 3,  $\Delta\chi^2(13) = 205.511$ ,  $p = 0.000$ . Additionally, the difference values of NFI and TLI between models 2 and 3 were greater than 0.01. These results showed that there were significant differences in the effects of early parental conflict on depression among the older male and female groups. Table 5 shows the significant test results of the path coefficients in both groups.

**Table 4** Fitting Indices of the Multiple-Group Analysis Model

Fit indexes	$\chi^2$	df	p	RMSEA	NFI	CFI	EVCI
M1	340.540	84	0.000	0.037	0.928	0.945	0.215
M2	344.752	88	0.000	0.036	0.927	0.945	0.214
M3	550.263	101	0.000	0.045	0.901	0.913	0.294

**Table 5** Critical Ratios of Path Coefficients in the Multiple-Group Analysis Model

Path	Male	Female	CRD
1. EPC-CD	0.074**	-0.019	2.195*
2. EPC-MR	-0.059*	-0.232***	4.526***
3. MR-PR	0.481***	0.336***	5.802***
4. MR-CD	-0.081*	-0.281**	3.534***
5. PR-CD	-0.128***	-0.161***	0.756

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

**Abbreviations:** EPC, early parental conflict; CD, current depression; MR, marital relationships; PR, parent-child relationships.



The older male and female groups differed significantly in all path coefficients, except for path 5. Coefficients of paths 2 and 4 in male model were significantly lower than in female model, which also resulted in the insignificance of the mediation path: “early parental conflict–marital relationships–current depression” in male model. Coefficient of paths 1 and 3 in male model was significantly higher than in female model.

## Discussion

Many previous studies have focused on the factors influencing depression among older adults living in rural areas. However, these factors are limited to aspects related to old age,<sup>25–27</sup> such as health status, children’s support, and marital quality. Based on a life course perspective, this study examined the impact of early parental conflict on current depression among older adults living in rural areas by establishing a structural equation model.

The direct effect of early parental conflict on current depression was not significant, and it acted through two mediating pathways. The first one was “early parental conflict–marital relationships–current depression.” Specifically, the more parental conflict there was throughout early life, the lower the quality of marital relationships among the rural-dwelling older adults, which resulted in increased levels of current depression. According to the cognitive-developmental model, individuals develop cognitive representations based on their experiences and are activated by similar situations.<sup>28</sup> In other words, children perceive early parental conflicts, and such cognitive representations are retained in memory in that intimate relationships are full of conflict and dissatisfaction and are unstable. When such individuals enter marital relationships, this cognitive representation is easily activated, and it disrupts the intimacy between couples. Poor marital relationships are a crucial risk factor for depression among older adults living in rural areas. Owing to advancements in urbanization, new changes in rural intergenerational relationships have emerged. Parents give unlimited responsibilities and obligations to their children, and family resources are gradually tilted toward children.<sup>29</sup> To enhance the competitiveness of their children in the city, older adults living in rural areas often spare no effort to help and support their children in reducing pressure and cost while they remain in the countryside.<sup>30</sup> Compared to older adults living in urban areas, older adults living in rural areas have poorer material and spiritual resources, and they lack social pension resources. When older adults living in rural areas suffer from diseases or other negative life events, their spouses are their main confidants and their source of social support. A wealth of evidence shows that social support is a powerful resource that provides physical and psychological advantages for individuals facing challenging situations, and reduces psychological disturbances.<sup>31</sup> Effective support from spouses can relieve depression resulting from perceived stress among older adults.<sup>32</sup>

The second pathway was “early parental conflict–marital relationships–parent-child relationships–current depression.” Specifically, the more early parental conflicts, the worse the marital relationships among older adults. Poor marital relationships might destroy parent-child relationships, and poor parent-child relationships might aggravate current depression levels among older adults. The spillover hypothesis explains the reason poor marital relationships result in poor parent-child relationships. Parental conflicts result in many emotional problems between couples, thereby depleting parents’ resources and causing them to provide their children with significantly reduced emotional resources, and even vent their negative emotions on their children. Ultimately, this affects their children’s emotional health, while also harming the parent-child relationships.<sup>14</sup> Influenced by family ethics, family pension is still the main pension mode for older adults living in rural areas, and parent-child relationships are a critical factor affecting current depression among older adults living in rural areas. On the one hand, financial support from children can effectively meet the needs of daily life and medical expenses among older adults, thus reducing the risk of depression caused by economic pressure. On the other hand, emotional support from children can alleviate the feeling of loneliness and depression resulting from reduced social interaction activities, thereby decreasing the levels of depression among older adults.<sup>16</sup>

Using a multi-group structural equation model, we found there were significant gender differences in the four path coefficients of the impact of early parental conflict on current depression among older adults living in rural areas. In the first path, “early parental conflict–current depression”, early parental conflict had a direct impact on depression among older males but not among older females. This might be related to the tradition of support in rural China, where it is usually considered the responsibility of sons, not daughters, to support their parents. Therefore, male children usually live with or next to their parents, and the negative emotional memories resulting from early parental conflicts might be

frequently awakened by parents. The second path is “early parental conflict–marital relationships”, whereby early parental conflict has fewer negative impacts on couples’ relationships among older males than among older females. Parents who are often in conflict are prone to strict and coercive parenting behaviors, and such behaviors vary based on their children’s gender because the majority of older adults’ parents living in rural areas have a view of son preference, and thus, parental conflict is less harmful to the parent-child relationships among sons than to that among daughters. Parent-child relationships provide a vital environmental basis for individuals to establish and maintain their intimate relationships.<sup>33</sup> Individuals with good parent-child relationships show increased levels of trust and warmth as well as reduced hostility in their intimate relationships.<sup>34,35</sup> Therefore, early parental conflict has fewer negative impacts on marital relationships among older males than among older females. The third path is the “marital relationships–parent-child relationships.” Among older males living in rural areas, marital relationships have a greater impact on parent-child relationships than among older females in rural areas. In rural China, females are the main caregivers and emotional comforters of children in rural families, and children are generally more emotionally intimate with their mothers than with their fathers.<sup>36</sup> Therefore, the spillover effect of couples’ conflicts on mother-child relationships is less negative than that of father-child relationships. The fourth path is “marital relationships–current depression.” Marital relationships have a greater impact on current depression among older females than older males living in rural areas. Deeply influenced by Confucian ethics, older adults in rural China follow the “husband guides the wife” tradition in marital relationships, whereby the wife’s role is to raise the children in the home while the husband is out earning money to support the family. In case of conflict between husband and wife, the socio-economically disadvantaged wife is more likely to be in a state of physical and mental stress and to become depressed.

## Implication

China is one of the fastest-aging countries in the world. There is an inevitable trend associated with the prevention or reduction of all types of mental health problems at the source, and studying the long-term effects of early parent conflict on current depression among older adults living in rural areas follows this trend. Previous studies have mainly explored the causes of depression in the context of current life situations, ignoring their experiences throughout early life.

This study explores how early parental conflict affects current depression among older adults living in rural areas through family relationships and establishes that the mechanisms of action differ across gender among such older adults. Empirical findings are enlightening, and they provide a multi-faceted perspective on the prevention and treatment of depression among the elderly in rural areas. From the perspective of family, parents should be aware of the long-term negative impacts of marital conflicts on their children’s mental health, and good marital relationships ensures that children build good family relationships in the future, thereby decreasing the risk of depression resulting from marital problems. From the perspective of the community, communities can enhance the relationship skills among rural couples through various activities, such as marriage seminars. For couples in conflict, it is necessary to mediate and bridge the gap between them, and this approach can help reduce the risk of depression throughout the entire life cycle of their children. From a personal perspective, rural older adults that have experienced early parental conflict should be aware of the negative impact of their experiences on their marital and parent-child relationships. Changing their irrational perceptions of intimacy can help improve marital and parent-child relationships, which in turn can decrease their depression levels.

## Limitations and Future Research

This study has some limitations. First, there might be a certain degree of bias in the measurement of the variable associated with early parental conflict. This study used retrospective survey indicators of cross-sectional data to ask older adults to recall impressions of parental conflict during their preadolescence stages, and older adults may have biased recall accuracy owing to their declining cognitive abilities. In follow-up studies, the sample size should be expanded further to reduce the influence of recall bias on the research results. Second, the data obtained from CHARLS are second-hand survey data, which are inevitably limited in terms of variable selection. Specific scales for marital and parent-child relationships should be developed in future studies. Third, the covariates used in this study might not cover all the important confounding factors between early parental conflict and depression, such as drug use, life satisfaction, and



intelligence level. The investigation of these factors could be a key direction for future research. Finally, the older adults in this study grew up before China's reform and opening up, and the cohort was somewhat homogeneous. In their early life stages, traditional gender-based cultures prevailed in rural areas, the country had not yet established a socialist market economy system, and productivity was underdeveloped, all of which were environmental factors affecting marital relationships among rural families. Data covering a wider range of birth cohorts and periods should be collected for further exploration in future studies.

## Conclusion

In this study, the relationship between parental conflict, marital relationships, parent-child relationships, and current depression during the early years of older adults living in rural areas was analyzed in depth. The results indicate that, first, there is a association between early parental conflict and current depression among older adults living in rural areas. Second, marital and parent-child relationships play a mediating role in the association between early parental conflict and depression among older adults living in rural areas, and the mediating roles include two paths. Marital relationships play a separate mediating role, and the mediating role comprises two pathways: early parental conflict–current depression, and early parental conflict–marital relationships–parent-child relationships–current depression. Third, except for the pathway named “parent-child relationships–current depression”, gender differences in the coefficients of all the pathways were significant in the model involving the effect of early parental conflict on current depression. Fourth, the chain of marital and parent-child relationships partially mediates the association between early parental conflict and current depression among older males living in rural areas but fully mediates it among older females living in such areas.

## Data Sharing Statement

Data are available from the China Health and Retirement Longitudinal Study (CHARLS) (<http://charls.pku.edu.cn/>) for researchers who meet the criteria for access to CHARLS data.

## Ethics Statement

The data for this study came from the China Health and Retirement Longitudinal Study (CHARLS). CHARLS was reviewed and approved by the Ethics Review Committee of Peking University, and all the participants provided signed informed consent at the time of participation. Thus, the Institutional Review Board of Jimei University Normal College waived the need for ethical approval.

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## Disclosure

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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