

# Your Health, My Happiness: Optimism and Socioeconomic Status as Moderators between Spousal Health and Life Satisfaction among the Elderly

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## Abstract

This study aims to investigate the relationship between spousal health and life satisfaction among the elderly as well as the boundary conditions of this relationship. We use a subsample (N = 3532) from the 2011-2012 Chinese Longitudinal Healthy Longevity Survey (CLHLS). The results show that spousal health is positively related to an individual's life satisfaction. This relationship is stronger when one is pessimistic than when he or she is optimistic. In addition, there is a three-way interaction between elderly people's socioeconomic status (SES), their optimism, and their spouse's health so that when optimism is low rather than high, the moderating effect of SES on the relationship between spousal health and life satisfaction is stronger. The theoretical and practical implications are discussed.

## Keywords

Elderly People, Optimism, Life Satisfaction, Socioeconomic Status, Spousal Health

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## 1. Introduction

The aging population of China has reached 150 million, which accounts for approximately 10.8% of the world's total population. It means that China will soon have the largest aging population in the world. In recent years, the elderly's physical and mental health as well as their life satisfaction has become popular [1]. Our research focuses on the elderly's life satisfaction.

Beginning in the 1960s, scholars have launched studies on the life satisfaction

of the elderly [2]. Cummins (1997) pointed out that life satisfaction represented a comprehensive evaluation of the mental life [3]. Based on the actual situation of Chinese social conditions and culture, the academic circles generally recognized the definitions given by Zeng and Danan (2002) [4]. Life satisfaction refers to the degree of subjective satisfaction. Individual's needs and desires need to be satisfied [4]. As an important indicator of the objective evaluation system of life quality, life satisfaction is the subjective experience and evaluation of individual's quality of life [5]. Through the literature review and summary, we found that there were three main factors affecting the life satisfaction of the elderly: individual characteristics, family, and social support [6] [7].

Individual characteristics factors include gender, location, education level, health status, and attitudes [8]. Previous research has found that, people highly educated are more satisfied with life [9], and the urban elderly are more satisfied than the suburban [10]. Some research also focused on the relationship between life satisfaction and their physical health, and the relationship between mentality and life satisfaction. It suggested that the higher physical health, the more life-satisfied, the more optimistic [11]. Family factors include marital status, living styles, and intergenerational support [12]. Most of the scholars pointed out that the elderly who live together with their spouse own higher life satisfaction than those without spouse [13]. Some scholars pointed out that the spouse has direct effect on life satisfaction [14]. Generally speaking, living with family, elderly life satisfaction will be higher. Some research pointed out that the spouse's cohabitation provided higher life satisfaction [13]. On the other hand, compared with whether living together with spouse, living style plays a more important role in single's life satisfaction [15]. Social features mainly include social network, and social security [16]. Social networks show that taking part in social activities, interpersonal communication, and the frequency range with family and friends have great influence on life satisfaction of the elderly [17]. Among the influence of the three main aspects of life satisfaction, life satisfaction effected by internal and external factors, the elderly subjective feelings are an important factor affecting the life satisfaction.

Based on the former investigations, the main research question in this paper is to study the effect of spousal health on the life satisfaction of the elderly and the boundary conditions of this relationship. And, the structure of this paper is as follows: Firstly, the introduction leads to the research questions of this paper; In the second part, three hypotheses (the main effect of spousal health on the life satisfaction of the elderly; the moderating role of elderly people's optimism; a three-way interaction between elderly people's SES, optimism, and spousal health) were proposed based on literature review.; The third part is the research method; The fourth part is the research results; The fifth part is the discussion of the article, including research significance, limitations and future prospects. The last part is the conclusion of this study.

The innovation of this paper is to study life satisfaction of the elderly from the perspective of spousal health. Previous studies have shown that spouses have a

direct impact on life satisfaction, and the elderly who live with spouse have higher life satisfaction. This paper focuses more on the impact of spousal health on life satisfaction of the elderly.

## 2. Hypothesis Development

### 2.1. Spousal Health and Elderly People's Life Satisfaction

This paper mainly considers the elderly life satisfaction in China. We find that influenced by the traditional concept and culture, the care of the elderly in China is mainly undertaken by relatives [18]. Since many elder live away from their children, the elderly always live together with their spouse and they need to take care of their spouse. The existing research focuses on the effect of taking care of your spouse and the companionship of spouse [14]. Previous research shows that, taking care of spouse always brings huge life burden and great mental pressure [19]. Moreover, with the decrease of social communication and the increase of loneliness experience, caregivers are prone to depression [20]. At the same time, since caregivers usually can't get the desired thanks from their spouse, their emotional demands can't be satisfied [21]. Therefore, some studies have pointed out that caregivers and their spouse need to maintain a certain emotional distance, which is beneficial to their own health [22]. In addition, in recent years, some studies have added individual characteristics into the discussion. Studies have shown that caregivers' psychological states moderated the relationship between taking care of spouse and owning life satisfaction [23]. With positive self-psychological adjustment, their life satisfaction was less affected by their spouse relatively [24]. This paper aims to study how their spouse's physical health influence their own life satisfaction. Considering previous study, we propose:

*Hypothesis 1: Spousal health is positively related to elderly people's life satisfaction.*

### 2.2. Moderating Role of Elderly People's Optimism

Simultaneously, optimism is often viewed as a positive mindset in terms of individual characteristics [25]. At present, there exist mainly three definitions of optimism in the academic fields: temperament orientation, explanatory style orientation, and information processing orientation [26]. The study of optimism was primarily in the field of physical health, mental health, and personal achievement [27]. In the field of mental health, optimism is considered to be the most important predictor variables, the results show that people more optimistic tend to own higher levels of life satisfaction [28]. At the same time, further research indicates that there is a strong direct relationship between optimism and positive emotions or negative emotions [29].

In recent years, many researchers became interested in the study of optimism in the field of intimate relations [30]. They have found that optimism is a stable personality trait, higher optimistic level leads to higher marital satisfaction [31].

So we wonder whether optimism has an effect on life satisfaction, and how the relationship be moderated by other variables. To sum up, we propose:

*Hypothesis 2: Elderly people's optimism moderates the relationship between spousal physical health and their life satisfaction such that this relationship is stronger when their optimism is low than when it is high.*

### **2.3. Moderating Influence of Socioeconomic Status**

In addition, the socioeconomic status (SES) plays an important role in the life satisfaction of the elderly [32], there are mainly three aspects included in elderly SES: the level of social service, the level of own economic life, and the intergenerational support of children. In terms of social support, most studies have pointed out that the more perfect social basic services for the elderly, the higher life satisfaction they will own [33]. In the standard of their own SES, the higher income levels, the higher life satisfaction [34]. But some researches also pointed out that the SES of the elderly is not directly affect the life satisfaction. Life satisfaction also affected by the emotional factors [35]. For instance, in terms of intergenerational support, most of the study pointed out that higher economic support, higher life satisfaction [36]. But there also exist some of the opposite conclusions: since the elderly incapacitated, the high support of their children will bring sense of pressure; at the same time, anxiety declines life satisfaction [1]. Therefore, we are interested in whether the economic income will affect the life satisfaction of the elderly, and what's the specific mechanism. According to the above statements, we have the following hypothesis:

*Hypothesis 3: There is a three-way interaction between elderly people's SES, optimism, and spousal health such that when optimism is low rather than high, the moderating effect of SES on the relationship between spousal physical health and life satisfaction will be stronger.*

To sum up, the existing literature for the study between spouse's health and their life satisfaction mainly focused on a direct impact. Although some studies have pointed out that the caregiver's mentality has a moderate effect, but the detail in moderating process and effecting factors has no further research. At the same time, there are different views on the influence of SES for their life satisfaction. Since life satisfaction is positively related to self-perception, we use subjective perceptions of SES as a variable to further explore the relationship between SES and life satisfaction. Based on the existing research, this article mainly starts with the subjective perception of the elderly. We try to find out the influencing factors on the life satisfaction of older people, and select spouse's health, optimism, and their socioeconomic status as three key factors for consideration. Data from the 2011-2012 Chinese Longitudinal Healthy Longevity Survey (CLHLS) are used to examine our hypotheses. We find that there is a three-way interaction effect between elderly people's SES, their optimism, and their spouse's health on their own life satisfaction. Additionally, the results show that when elderly people's optimism is low rather than high, the moderating effect of SES on the relationship between spousal physical health and life satisfaction is stronger.

### 3. Research Methods

#### 3.1. Sample

Data from the 2011-2012 Chinese Longitudinal Healthy Longevity Survey (CLHLS) are used to examine our hypotheses. This survey started with 1998 and included approximately two-thirds of the provinces in mainland China, accounting for 82% of the total population of China in 2010. Various researchers at Peking University, the Chinese Academy of Social Sciences, Duke University, the Max Planck Institute for Demographic Research, and the University of Southern Denmark coordinated the design of the study and the required fund-raising. The major aim of this survey was to investigate the life quality of elderly people in China. Thus, it is appropriate to use it to examine our framework. Because this study focused on the influence of elderly people's spouses on their own quality of life, the suitable participants were selected by the item "who lived together with their spouse." After excluding those who did not live with their spouse, we had a final sample of 3150 elderly adults (average age = 79). According to the descriptive statistical analysis results, the participants are mainly from two age groups (70 - 79 and 80 - 89), accounting for 43.9% and 27.9%, respectively. Regarding education level, 37.9% of the participants had no educational experience, 30.9% had 1 to 5 years of schooling, and 24.4% had spent 6 to 10 years in school. Regarding geographical location, the majority of the respondents were from eastern and central China. **Table 1** provides the demographic distributions in the sample used for analyses (unweighted n's, weighted percentages).

#### 3.2. Measurement

In the 2011-2012 CLHLS, the demographic items included gender, age, education, and geographic location. Several variables concerning this study were used, such as elderly people's optimism, quality of life, SES, and their spouse's physical health. The statistical package SPSS 21 for Windows was employed to examine our hypotheses.

**Elderly people's life satisfaction.** Self-reported life satisfaction was measured by the item "How do you rate your life at present?" This item was rated on a 5-point Likert scale ranging from 1 (very good) to 5 (very bad). **Table 2** provides the percentages for the different levels of participants' life satisfaction used for analyses. According to the results, most of the participants perceived their life to be good or so-so, and only 4.9% reported negative attitudes as an aspect of their life quality.

**Spousal health.** It was measured by the item "How do you rate your spouse's health at present?" The options for this item included 1 (very good), 2 (good), 3 (so-so), 4 (bad), and 5 (very bad). **Table 3** provides the percentages for spousal health in the sample used for analyses. This result showed that most of the participants' spouse's physical health was good or so-so.

**Optimism.** It was measured by the item "Do you always look on the bright

side of things?” The item included five options, which were scored as follows: 1 = always, 2 = often, 3 = sometimes, 4 = seldom, 5 = never, 8 = unable to answer, 9 = missing. Every option reflected an attitude towards life, with lower scores indicating more optimistic. **Table 4** provides the percentages for the different degrees of optimism in the sample used for analyses.

Socioeconomic status. It was assessed by the item “How do you rate your economic status compared with others in your local area?” The item was rated on a 5-point scale: 1 = very rich, 2 = rich, 3 = so-so, 4 = poor, 5 = very poor. Every option reflected the SES, with lower scores indicating higher SES. **Table 5** provides the percentages of degree of SES in the sample used for analyses.

Control variables. To exclude the effects of other exogenous variables, we controlled the participants’ demographic information in our analyses, including their age, and gender.

## 4. Results

First, we conducted the descriptive statistical analyses of the study variables. The results are shown in **Table 6**, which suggest that spousal physical health is positively related to elderly people’s life satisfaction ( $r = 0.18$ ,  $p < 0.01$ ). In addition, participants’ trait of optimism and SES are positively related to their life satisfaction ( $r = 0.64$ ,  $p < 0.01$ , and  $r = 0.34$ ,  $p < 0.01$ , respectively). These results provide preliminary support for our hypotheses.

To further examine our hypotheses, we used multiple regression to test the main effect, the two-way interaction effect, and the three-way interaction effect [37] [38]. The results of the hypotheses tests are shown in **Table 7**.

Following Aiken and West’s (1991) suggestions, we standardized all the variables to avoid multicollinearity [39]. In model 1, we included the control variables in the regression. In model 2, we included all the independent variables in our analyses. Then, we included all the two-way interactions in model 3. Finally, we included the three-way interaction in our analyses. Hypothesis 1 predicts a positive relationship between elderly people’s spousal health and their own quality of life. The results of model 2 indicate that after the control variables being accounted for, the spouse’s physical health is positively related to participants’ life satisfaction ( $\beta = 0.08$ ,  $p < 0.01$ ). Thus, hypothesis 1 is supported.

Hypothesis 2 predicts the moderating effect of participants’ optimism on the relationship between their spousal health and their life satisfaction. The results of model 3 indicate that there is an interaction effect between participants’ optimism and their spouse’s physical health on their life satisfaction ( $\beta = -0.07$ ,  $p < 0.01$ ). **Figure 1** depicts the pattern of this interaction, which is in the predicted direction. Then, we adopted Aiken and West’s (1991) method to conduct a simple slope analysis. The slope is significant (gradient = 0.16,  $p < 0.01$ ) at a low level of optimism while that is non-significant (gradient = 0.01, n.s.) at a high level of optimism. Therefore, hypothesis 2 is supported.

Hypothesis 3 predicts that there is a three-way interaction between elderly people’s SES, their optimism, and their spousal health on their life satisfaction.

Specifically, we predicted that the interaction effect of elderly people's SES and their spousal health on life satisfaction would differ depending on the level of optimism. The results of model 5 indicate the existence of a three-way interactive effect ( $\beta = -0.14$ ,  $p < 0.01$ ). As we can see in **Figure 2**, the results reveal a significant difference in the slopes of high versus low spousal health when optimism is low (slopes 2 and 4,  $t = 3.06$ ,  $p < 0.01$ ), but the slopes do not differ when optimism is high (slopes 1 and 3,  $t = 0.69$ , n.s.).

**Table 1.** Demographic characteristics of the analytic sample.

Demographic Characteristics	Unweighted n's	Weighted Percentages
Sex		
Male	2405	68.1
Female	1125	31.9
Age		
<59	16	0.5
60 - 69	556	15.7
70 - 79	1551	43.9
80 - 89	985	27.9
90 - 99	353	10.0
>100	71	2.0
Years of schooling		
0	1337	37.9
1 - 5	1093	30.9
6 - 10	863	24.4
11 - 15	195	5.5
16 - 20	44	1.2
Geographical location		
Northeast	128	3.6
North	228	6.5
East	1451	41.1
Central	660	18.7
South	704	19.9
Southwest	324	9.2
Northwest	37	1.0

**Table 2.** The percentages of degree of life satisfaction.

	Frequency	Percentage	Effective Percentage	Cumulative Percentage
Very good	612	17.3	17.3	17.3
Good	1443	40.9	40.9	58.2
So-so	1235	35.0	35.0	93.2
Bad	147	4.2	4.2	97.3
Very bad	23	0.7	0.7	98.0
Unable to answer	71	2.0	2.0	100.0
Total	3532	100.0		

**Table 3.** Spouse's degree of physical health.

	Frequency	Percentage	Effective Percentage	Cumulative Percentage
Very good	463	13.1	14.7	14.7
Good	1099	31.1	34.8	49.4
So-so	1095	31.0	34.7	84.1
Bad	419	11.9	13.3	97.4
Very bad	74	2.1	2.3	99.7
Do not know	2	0.1	0.1	99.8
Total	3532	100.0		

**Table 4.** The percentages of degree of optimism.

	Frequency	Percentage	Effective Percentage	Cumulative Percentage
Always	429	12.1	12.1	12.1
Often	2257	63.9	63.9	76.1
Sometimes	590	16.7	16.7	92.8
Seldom	135	3.8	3.8	96.6
Never	11	0.3	0.3	96.9
Unable to answer	109	3.1	3.1	100.0
Total	3532	100.0		

**Table 5.** The percentages of degree of socioeconomic status.

	Frequency	Percentage	Effective Percentage	Cumulative Percentage
Very rich	51	1.4	1.4	1.4
Rich	617	17.5	17.5	19.0
So-so	2367	67.0	67.0	86.1
Poor	393	11.1	11.1	97.3
Very poor	87	2.5	2.5	99.7
Total	3515			

**Table 6.** Mean, standard deviation and intercorrelations.

	Mean	SD	1	2	3	4	5	6
1. Age	78.85	8.83	1					
2. Sex	1.32	0.47	-0.11**	1				
3. Spousal health	2.55	1.03	0.11**	0.01	1			
4. Optimism	2.32	1.22	0.17**	0.03	0.11**	1		
5. SES	2.97	0.71	0.03	0.03	0.19**	0.23**	1	
6. Life satisfaction	2.40	1.15	0.12**	0.01	0.18**	0.64**	0.34**	1

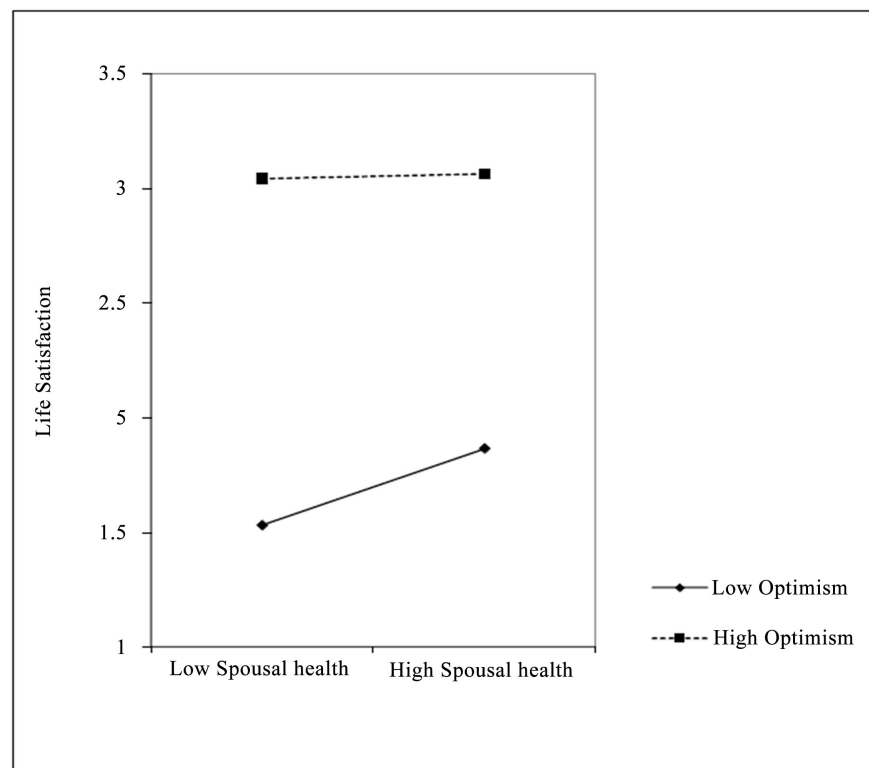
Notes: \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

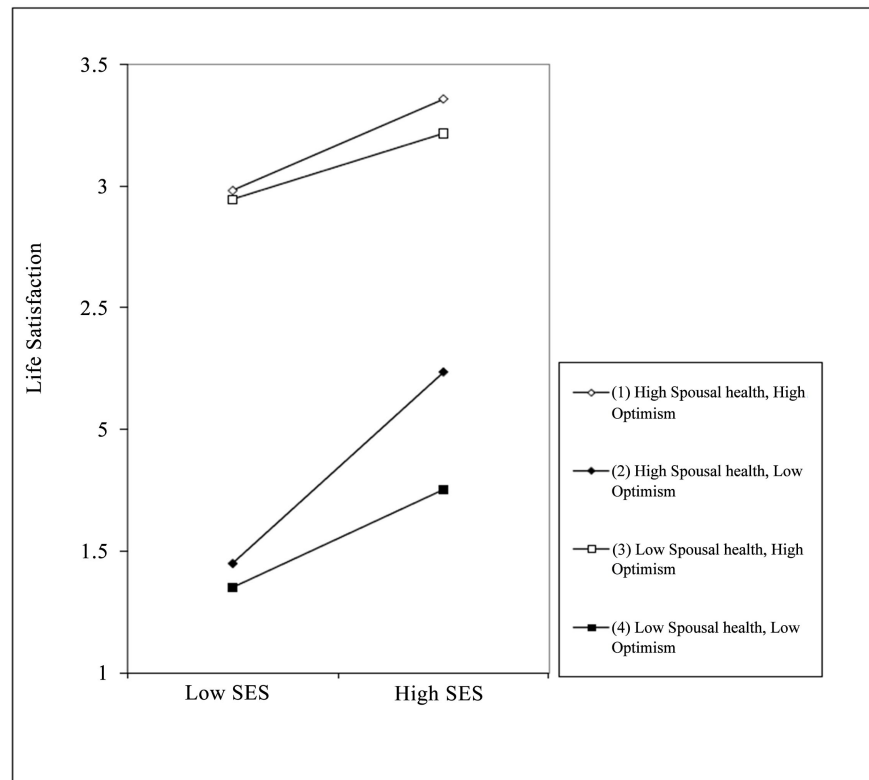


**Table 7.** Results of multiple regression analyses.

Variables	Dependent Variable: Life Satisfaction				
	Model 1	Model 2	Model 3	Model 4	Model 5
Control variables					
Age	0.13**	0.01	0.01	0.01	0.01
Sex	0.03	-0.01	-0.01	-0.02	-0.02
Independent variables					
Spousal health		0.08**	0.08**	0.07**	0.08**
Optimism		0.59**	0.59**	0.77**	0.74**
SES		0.18**	0.18**	0.09**	0.07*
Interactions					
Optimism × SES				-0.09**	0.02
Optimism × spousal health			-0.07**	-0.17**	-0.12**
SES × spousal health				0.12**	0.15**
Spousal health × optimism × SES					-0.14**
R square	0.02	0.45		0.46	0.46
Adjusted R square	0.02	0.45		0.46	0.46
F-value	27.37**	489.69**		321.90**	288.73**

Notes: Standardized regression coefficients are reported here; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

**Figure 1.** Interaction of spousal health and optimism on life satisfaction.



**Figure 2.** Three-way interaction effect of SES, spousal health, and optimism on life satisfaction.

## 5. Discussion

In this article, we investigated how spousal health influenced elderly people's life satisfaction. Moreover, we proposed that optimism and SES moderated the relationship between elderly people's spousal physical health and their own quality of life. Our results indicate that elderly people's spouse's physical health has a significant effect on their own quality of life. In addition, for those who are less optimistic, the relationship between their spouse's physical health and their life satisfaction is stronger, and the interaction between their SES and their spouse's health is stronger as well.

### 5.1. Theoretical and Practical Implications

This article contributes to the literature in several ways. First, this article further examines the association between elderly life satisfaction and their spouse physical health. The existing literature focuses on the negative effect of caring their spouse, however, this paper indicates that the optimism has an impact on their spouse health and their life satisfaction. The more optimistic, people are less affected by their spousal health. At the same time, this article calls for Carnelley & Janoff-Bulman's (1992) research about how optimism effect the intimate relationship [40]. Furthermore, the SES as a factor of life satisfaction, some studies have shown that higher levels of social economic status lead to higher life satisfaction. We further find that the optimistic people are less affected by the SES,

and the pessimistic people are easier to be affected by the economic status. We further examine how optimism plays an important role in elderly people's life satisfaction. People with a low level of optimism are more likely to be influenced by external factors. The reason may be that optimistic people have more positive attitudes toward their lives and own higher life satisfaction. The prior literature has suggested that good physical and mental health, problem-free financial status, good family support, and an active social life are major contributors to elderly people's life satisfaction [41]. Our results indicate that the effect of optimism is stronger than that of SES. Self-regulation is more important for individuals than material conditions. Therefore, we propose that good mental health makes elderly people happier.

The findings also make practical contributions. Firstly, we further demonstrate that in intimate relationships, their spousal health has an impact on their own health. Therefore, keeping healthy is not only important to themselves, but also important to their spouse. Secondly, we confirm the moderating effect of optimism on life satisfaction. We propose that it is important for elderly people to remain optimistic. So how to keep the elderly positive and optimistic is the key to improving the life satisfaction of the elderly. Thirdly, if the elderly is pessimistic, their life satisfaction is more easily to be influenced by SES. And pessimistic elder prefer to be more negative, so the life satisfaction will be lower when the SES is relatively lower. All in all, our results show that spousal physical health affects their own quality of life, and optimism and SES moderate the relationship between elderly people's spousal physical health and their own quality of life.

As mentioned above, maintaining optimism among the elderly is the key to improving their life satisfaction. So we offer the following suggestions on how to promote optimism among the elderly. Firstly, the elderly could cultivate healthy hobbies and interests. They can actively participate in recreational and sports activities, and cultivate a variety of hobbies. Secondly, they could expand social exchanges and seek comfort and support, so that bad emotions can be eliminated, achieving the goal of easing ideological contradictions and psychological conflicts. Thirdly, children should spend more time with the elderly to ease their loneliness.

## 5.2. Limitations and Future Research Directions

It is important to note several limitations of this study. First, the criteria to evaluate SES may vary across different regions. Our study attempts to address this flaw by controlling for variables that could possibly affect the participants' feelings about life quality. Second, each variable was measured by only one item, which made our measurements unreliable. However, the relatively large sample size mitigates the negative effect of this issue. Third, we conducted this research in China, an emerging country. We should expand our research to other countries to generalize the results. Finally, George and Bearon (1980) indicated that elderly people's life quality included many dimensions, such as their health sta-

tus, self-esteem, life satisfaction, and absence of financial stress [42]. To better understand elderly people's life quality, each dimension must be studied in depth in the future [43].

## 6. Conclusion

This study examined the association between elderly people's life satisfaction and their spouse's health. There is a three-way interaction effect between elderly people's SES, their optimism, and their spouse's health on their own life satisfaction. Additionally, the results show that when elderly people's optimism is low rather than high, the moderating effect of SES on the relationship between spousal physical health and life satisfaction is stronger. As the aging population grows, we encourage future research to examine the effects of social circumstances on elderly people's life satisfaction.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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