

A Study on Factors Influencing the Mental Health of the Elderly in China

-- Taking Chengdu as an Example

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Abstract. Mental health of elderly people is an important research field of social sciences. Based on the original data of questionnaire, this paper, using variance analysis method, has empirically tested different factors influencing the mental health of the elderly in Chengdu. The results show that gender, education level, personality, marital status and number of children have a significant impact on the mental health of the elderly. They tend to be psychologically healthier if they are females or if they have higher education and extroverted personality, or are accompanied by their partners and children.

Keywords: senior people; mental health; variance analysis.

1. Introduction

Aging of population is a global social phenomenon. With the decline of fertility and death rates, the amount and proportion of aging population in China is in a rapid growth. In 2017, Chinese people aged 60 and older are 240.9 million, accounting for 17.3% of total population, in which people of 65 and above accounts for 11.4%. According to the data published by National Committee Office for Aging People Services, by 2020, Chinese aging people will be 248 million, and the aging level will be 17%. Due to family planning policy and the change of people's attitude toward life, the family structure in China has also become different in recent years, showing the features of miniaturization and centralization. There is a trend of sharp decrease of household size in modern family structures. The status of seniors has declined in their families and the proportion of seniors living on their own has increased a lot. These phenomena have a great impact on mental health of the Chinese elderly.

Mental health state relates to the overall evaluation of personal life, involving self-concepts of cognition and emotions as well as the subjective fields of mental hygiene. Researches on the mental health of the elderly by scholars at home and abroad have shown that the unhealthy mental state of the elderly can cause various diseases which affect health and longevity. Instead, favourable living environment and spiritual life will make them delightful and satisfied, increasing their immunity and delaying senescence. Yunming etc. (2012) estimated the depressive state of seniors and found that 27% of the aged in Chinese cities were depressed. Braam etc. (2013) discovered that there was a widespread depression and anxiety in the elderly and it probably might cause trouble for their lives. Chatters etc. (2014) studied the influence of social support based on churches and families on mental illness and depression of elder African-Americans and found this support had a significant effect on alleviating depression symptoms and psychological distress of these people. Lawton believed that mental health of the aged should be analyzed in a relatively broad theoretical framework. He proposed a model named "good life", which could reflect the old people's psychological health level in an all-round way. Therefore, based on this theory, this study aims to analyze the mental health state of the elderly in Chengdu and provide suggestions and plans for improving their living qualities.

2. Participants and Research Methods

2.1 Participants

Participants are people aged 60 and above in Chengdu. In order to obtain the initial data, a total of 200 questionnaires were distributed. Among them, 190 were collected and a total of 180 samples with complete data were obtained. All the 180 old people (77 male and 103 female) are over 60, including

125 people aged 60-70, 55 people aged 71 and over. 12 of them have accepted primary education or below, 95 are in middle school, and 73 are college graduate. In terms of personality, 84 are introverted and 96 extroverted. In marital status, 158 have partners and 22 have not. For the number of children, one person has no child, 77 have one child and 102 have more than one.

2.2 Research Methods

Based on the existing researches on the mental health status of the elderly, a prediction questionnaire with 49 items was formed with each item collected through interviews. After the test, a formal questionnaire with 32 items were finally obtained through the factor analysis method. The questionnaire includes four dimensions: subjective life satisfaction, negative life experience, support utilization and pro-sociality. Subjective life satisfaction refers to the overall evaluation of the quality of life of individuals based on their own set criteria, and belongs to the cognitive category of subjective well-being. Negative life experience means the negative emotional feelings and experiences of anxiety, depression and loneliness in life. Support utilization refers to the individual's active utilization of social support and assistance. Pro-sociality means the emotions and behaviors that contribute to social harmony, such as sympathy, humility, assistance, cooperation and sharing. The questionnaire is a 5-point scoring. The negative life experience is reverse scoring, and the other dimensions are positive scoring. The higher the scores are, the higher the mental health level of the elderly will be.

The questionnaire is divided into four first-level indicators, namely, subjective life satisfaction, negative life experience, support utilization and pro-sociality. There are 7 secondary indicators in subjective life satisfaction, 8 in negative life experience, 9 in support of utilization, and 8 in pro-sociality. Each secondary indicator is divided into five selection levels according to the degree of fit with the actual situation, including strong non-conformity, non-conformity, generality, conformity and strong conformity. Among them, the value of the corresponding degree is assigned to 1, 2, 3, 4 and 5. In each of the primary indicators, the secondary indicators they contain are equal in weight. Taking subjective life satisfaction as an example, it has 7 secondary indicators and the weight of each secondary indicator is 1/7. The weighted average of every primary indicator is calculated according to the scores of the secondary indicators.

2.3 Statistical Analysis

This paper uses variance analysis to empirically test the significance of difference in mental health of the elderly under different states.

3. Empirical Results

3.1 Analysis of Differences in Mental Status of the Elders between Different Genders

The test results of the effects of genders on the mental health of the elderly are shown in Table 1.

Table 1. significance test of gender differences in mental status of the elderly

Variables	Male sample mean	Female sample mean	Mean difference	F-value	probability
subjective life satisfaction	3.4286	4.1429	-0.7143	38.49	0.0000
negative life experience	3.6250	2.8750	0.7500	45.13	0.0000
support utilization	2.7778	3.8889	-1.1111	65.13	0.0000
Pro-sociality	4.1250	4.2500	-0.1250	1.35	0.53

As can be seen from Table 1, except for the prosocial indicators, the other three indicators have significant gender differences in the elderly. Specifically, in terms of subjective life satisfaction, the mean score of male elderly is 3.4286, and that of female elderly is 4.1429. The difference between the mean of the two is -0.7143. The F value of the variance analysis statistic is 38.49 and the accompanying probability is 0.0000, which indicates that the difference in subjective life satisfaction

between male and female elderly is statistically significant. On average, the male elders' subjective satisfaction with life is significantly lower than that of female elderly; In terms of negative life experience, the average score of male and female elderly is 3.625 and 2.875 respectively. The former is 0.75 higher than the latter and the difference is statistically significant, which means that female elderly are more positive and optimistic than male elderly. As for support utilization, the average score of female elders is 1.1111 higher than that of male elders, which is still statistically significant. With reference to pro-sociality, the difference between male and female elderly is not significant.

3.2 The Impact of Educational Level on the Mental Health Status of the Elderly

In the design of the questionnaire, the paper divides the education level into three grades, namely, primary school and below, middle school and college and above. Among them, in the questionnaires collected, very few individuals accepted the primary education and below. Therefore, in the analysis of variance in this paper, empirical research is conducted only on individuals in secondary schools and colleges and above. The results are shown in Table 2.

Table 2 .significance test of the impact of educational level on the mental health status of the elderly

Variable	Middle school sample mean	College and above sample mean	Mean difference	F-value	probability
subjective life satisfaction	3.5309	4.2011	-0.6702	44.02	0.0000
negative life experience	3.4430	2.6630	0.7800	47.41	0.0000
support utilization	3.8018	4.0332	-0.2314	1.65	0.25
Pro-sociality	3.7705	3.8093	-0.0388	0.28	0.76

From the results in Table 2, the mean difference between subjective life satisfaction and negative life experience is statistically significant for the educational level of middle school and college and above, while the difference of mean value in support utilization and pro-sociality is not significant. The test results in Table 2 indicate that an increase in education level can significantly improve the subjective experience of the elderly in life satisfaction, and well-educated elders are more positive and optimistic about life. However, the difference in educational level does not significantly affect the interaction between the elderly and society.

3.3 The Effect of Personality Differences on the Mental State of the Elderly

The test results of the differences in mental status of the elderly under different personalities are shown in Table 3.

Table 3. Significance test of the effects of personalities on mental status of the elderly

Variable	sample mean of introverted elders	sample mean of extroverted elders	Mean difference	F-value	probability
subjective life satisfaction	3.7729	3.8026	-0.0297	0.22	0.77
negative life experience	3.2003	2.8990	0.3013	10.21	0.08
support utilization	3.5118	4.2556	-0.7438	50.33	0.0000
Pro-sociality	3.6017	4.1902	-0.5885	36.62	0.0000

As can be seen from Table 3, personality differences have a significant impact on the mental health status of the elderly. Specifically, the introverted and extroverted characters significantly effects the negative life experience, support utilization and pro-sociality of the elderly. Compared with those introverted, the extroverted elderly tend to have a lower probabilities of being anxious, depressed and lonely, a more frequent interaction with other individuals in the society, and put more emotions in social lives.

3.4 The Effects of Marital Status on the Mental State of the Elderly

The test results of the effects of marital status on the mental state of the elderly are shown in Table 4.

Table 4 .Significance test of the effects of different marital status on mental status of the elderly

Variable	sample mean of elders with partners	sample mean of elders without partners	Mean difference	F-value	probability
subjective life satisfaction	4.0817	3.5713	0.5104	35.77	0.0000
negative life experience	2.7819	3.5192	-0.7373	46.17	0.0000
support utilization	3.7622	3.8156	-0.0534	1.26	0.35
Pro-sociality	3.6588	3.7011	-0.0423	0.89	0.56

It can be seen from Table 4 that marital status affects the subjective life satisfaction and the negative life experience of the elderly. Specifically, compared with the unaccompanied elderly, the elderly with healthy partners have a higher subjective evaluation of life satisfaction and a lower probability of having a negative attitude. However, the impact of marital status is not significant in terms of support utilization and pro-sociality.

3.5 The Effects of Children on the Mental State of the Elderly

The questionnaire in this paper divides the number of children of the elderly into three grades, that is, the number of children is 0, 1, and 2 or more. In the questionnaire collected, only one person has no child. Thus, when performing analysis of variance, this paper only conducts empirical analysis on samples with 1 child and 2 children or above. The test results are shown in Table 5.

Table 5. Significance test of the effects of number of children on the mental status of the elderly

Variable	Sample mean with one child	Sample mean with two or more children	Mean difference	F-value	probability
subjective life satisfaction	3.4671	4.1127	0.6546	46.14	0.0000
negative life experience	3.6558	3.0162	0.6396	39.88	0.0000
support utilization	3.6633	3.6892	-0.0259	0.32	0.80
Pro-sociality	3.7016	3.7355	-0.0339	0.56	0.62

As can be seen from Table 5, the number of children has a significant impact on the mental health of the elderly. Specifically, compared with the elderly with one child, the elderly with two or more children have higher subjective life satisfaction and lower negative life experience. However, the number of children not significantly effects the support utilization and pro-sociality.

4. Conclusion

Mental health of the elderly is one of the important research areas in the social sciences. In this paper, 180 samples were obtained from the questionnaires of the elderly in Chengdu, and the empirical test was carried out by means of analysis of variance. The test results show that the mental health status of the elderly is affected by factors such as gender, education level, personality, marital status and number of children. In general, women, high-educated and extroverted elders, and elders with partners and children have a healthier psychological state. They have a good interaction with the society and a better affinity for other individuals or groups in the society.

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