ARTICLE

The Relationship between Mental Health Literacy and Subjective Well-Being of Young and Middle-Aged Residents: Perceived the Mediating Role of Social Support and Its Urban-Rural Differences

Zhen Zhang, Suyan Chen[*], Xiaoxuan Wang, Jun Liu, Yilin Zhang, Yongxia Mei and Zhenxiang Zhang

School of Nursing and Health, Zhengzhou University, Zhengzhou, 450001, China

[*]Corresponding Author: Suyan Chen. Email: chensuyan@zzu.edu.cn

ABSTRACT

This study investigates mental health literacy among young and middle-aged urban and rural residents and the differences in mental health literacy, perceived social support and subjective well-being. From January to February 2022, 620 participants (320 rural and 300 urban residents) from three provinces of China were selected by convenience sampling. A general data questionnaire, mental health literacy scale, perceived social support scale and subjective well-being scale were administered. The mental health literacy scores of urban residents were 3.34 ± 0.57 and those of rural residents were 2.73 ± 0.79. The results of multiple regression analysis showed that the mental health literacy scores of rural residents were more significant than those of urban residents in terms of sex and age, while urban residents' mental health literacy scores were more significant than those of rural residents in terms of monthly income. Mental health literacy, perceived social support and subjective well-being of young and middle-aged urban and rural residents were all positively correlated ($P < 0.01$). While the level of mental health literacy is better among urban residents than rural residents, perceived social support plays a partial mediating role between mental health literacy and subjective well-being of both urban and rural residents, and should be the focus of researchers seeking to improve the level of well-being of residents.

KEYWORDS

Young and middle-aged people; mental health literacy; perceived social support; subjective well-being; mediating role

1 Introduction

Mental health literacy refers to the knowledge, attitudes and behaviors that individuals develop to promote their own and others' mental health and to cope with mental illnesses [1]. Previous research has found that high levels of mental health literacy help individuals identify mental illness early, reduce the stigma of mental illness, access timely and effective support and treatment, and thus improve their mental health [2] and quality of life [3]. The State Council released the "Opinions of the State Council on Implementing Health China Action" in 2019, which clearly proposes raising the mental health literacy level of the population to 20% and 30% by 2022 and 2030 [4]. Jiang's research found that in a survey of residents' mental health literacy, to make the results clearer, after conversion, the score of mental health literacy was 60 points out of 100, and the current mental health literacy level of the Chinese population

was still at a moderate to low level [5]. Young and middle-aged people are the main force in the development of contemporary society. With the development of technology and the continuous improvement of living standards, the pressure they face from life and work is gradually increasing. Mental health literacy is one of the most important factors affecting the willingness of people with mental illness to seek help [6], and without positive mental health literacy, they may be more likely to develop psychological problems or even mental illnesses. Most of the research studies on public mental health literacy at home and abroad have been conducted on three main topics: mental illness recognition and mental health knowledge, stigma attitudes and psychological help-seeking behaviors [7,8]. Currently, more than 80% of China's 173 million inhabitants with mental illnesses have not received professional psychiatric assistance, and the weighted lifetime prevalence of all types of mental illness (except dementia) in the population over 18 years of age is 16.57%. A very important reason for this is their low level of mental health literacy, their inability to identify their own mental illnesses in a timely manner, the considerable level of stigma against mental illness and subsequent hesitation to seek help [9,10]. Therefore, it is necessary to further explore the demographic factors affecting the mental health literacy of young and middle-aged people to provide a theoretical basis for the development and adoption of positive psychological interventions to promote their physical and mental health.

The theoretical model of well-being encompasses mental health, social well-being and subjective well-being [11]. Psychological well-being understands happiness as the realization of human potential and interprets happiness in terms of human development, close to the modern concept of mental health; subjective well-being defines happiness as well-being and focuses on the individual's subjective experience and feelings [12]. Social well-being is a positive state of being in which individuals can optimistically and confidently fulfill their function of social networks and interpersonal communication; it is a quality that can be collectively cultivated to effectively cope with social shock experiences [13]. Perceived social support refers to an individual's perception of the content and extent of social support, which emphasizes the individual's subjective feelings and satisfaction with external support and contributes positively to well-being [14,15]. If social support is perceived and understood correctly, it can not only help reduce individuals' psychological stress and occupational burden but also influence their physical and mental health and behavioral patterns, which in turn will affect their well-being. Mental health literacy not only prevents depression and increases help-seeking behavior but also contributes to subjective well-being [16–18]. The study also found that social support is likely to play a mediating role between mental health literacy and subjective well-being.

This study aims to analyze the differences in mental health literacy between urban and rural residents, as well as the differences in the relationships of mental health literacy, perceived social support and subjective well-being between urban and rural residents, and to further explore whether perceived social support plays a mediating role to provide a reference for improving well-being. Focusing on the differences between urban and rural residents in mental health literacy, understanding social support and its relationship with subjective well-being can help devise more targeted interventions for both urban and rural residents to improve overall well-being.

Based on previous evidence, we propose the following hypotheses regarding the relationship between mental health literacy, perceived social support and subjective well-being of urban and rural residents Fig. 1:

Hypothesis 1: There is a positive correlation between residents' mental health literacy and their perception of social support.

Hypothesis 2: There is a positive correlation between social support and subjective well-being.

Hypothesis 3: Perceived social support plays an intermediary role in the relationship between residents' mental health literacy and subjective well-being.
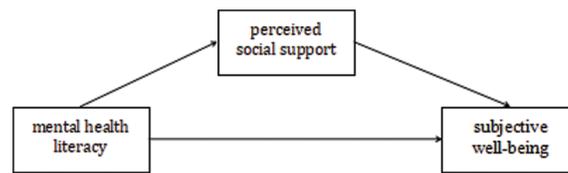
Figure 1: The mediating role of perceived social support in the mental health literacy and subjective well-being of urban and rural residents: A hypothetical model

2 Methods

2.1 Design

This study used a descriptive correlation design and structured questionnaire to explore the relationship between mental health literacy level and perceived social support and subjective well-being of middle-aged and young urban and rural residents.

2.2 Participants

In January–February 2022, 620 people from Henan, Jiangsu and Zhejiang provinces of China were selected for the survey using convenience sampling. Inclusion criteria were as follows: (1) 18–60 years old; (2) free from any psychiatric disorders; (3) reading comprehension literacy skills; (4) able to use smartphones for simple operations; (5) informed consent. Exclusion criteria were residents who frequently switch between urban and rural residences.

2.3 Data Collection Method

To facilitate sample collection, we selected residents from three provinces in central and eastern China by convenience sampling, which can well represent the regions with relatively concentrated population in China. This study used the online "Questionnaire STAR" method, where all questionnaires were completed anonymously. The researcher set up the questionnaire on "Questionnaire STAR", created a QR code and a link to the website, and distributed the survey to the residents, who used their mobile phones and other devices to answer the questions online. To avoid missing questions, the researcher set each item as a compulsory question to ensure the quality of the questionnaire. The Mental Health Literacy scale (MHL) includes 22 entries, and we calculated a sample size of 660 based on a 25:1 ratio sample size, taking into account a 20% missing visit rate. Ultimately, we deleted 40 invalid questionnaires, and a total of 620 questionnaires were retained for analysis for a valid return rate of 94.0%.

2.4 Tools

2.4.1 General Population Questionnaire

This questionnaire was compiled by the researcher according to the needs of the survey and includes seven items, including place of residence, gender, age, education level, marital status, monthly income and interpersonal relationship.

2.4.2 Mental Health Literacy Scale (MHL)

Prepared by Jung et al. [19] and translated by Ming et al. [20], the Chinese version is mainly used to measure individuals' psychological knowledge, beliefs and resources. There are 22 items in 3 dimensions. In this study, the Likert 5-point scale was used for the knowledge and belief dimensions, and the dichotomous scale was used for the resource dimension to improve the differentiation of the items, with a total scale score of 22–98. The higher the score is, the higher the mental health literacy of the individual. The Cronbach's alpha coefficient for the internal consistency of the scale was 0.962. McDonald's omega coefficient was 0.877. The content validity KMO value obtained by verification factor analysis was 0.966.

2.4.3 Perceived Social Support Scale (PSSS)

Developed by Zimet et al. [21] and revised by Jiang [22], the PSSS is an instrument that measures an individual's self-perception of multidimensional social support, including 3 dimensions of family support, friend support and other support, with 12 entries. A Likert 7-point scale is used with a total score of 12 to 84. In our study, the Cronbach's alpha coefficient was 0.979, and the McDonald's omega coefficient was 0.975. The content validity KMO value obtained by verification factor analysis was 0.963.

2.4.4 Subjective Well-Being Scale (SWB)

Developed by Fan [23], the scale is designed to measure an individual's general level of well-being and is divided into two subscales: general affective index (8 items) and life satisfaction (1 item). The two subscales are weighted 1:1 to give a total subjective well-being score on a 7-point Likert scale, with a total score of 9 to 63. The Cronbach's α coefficient of the questionnaire was 0.983, and the McDonald's omega coefficient was 0.975. The content validity KMO value obtained by verification factor was 0.963.

2.5 Statistical Methods

SPSS 25.0 and AMOS 22.0 statistical software were used for data processing. The statistical data were described by percentages; the measurement data were normally distributed and described by means ± standard deviations (x ± s); independent samples t test and one-way ANOVA were used to analyze the differences between urban and rural middle-aged youth. Pearson correlation analysis was used to explore the relationship between mental health literacy, perceived social support and subjective well-being of middle-aged youth, and structural equation modeling was used to explore the role of perceived social support. A structural equation model was used to explore the mediating role of perceived social support in the relationship between mental health literacy and subjective well-being [24]. The bias-corrected bootstrap method was used to test the significance of the mediating effect.

2.6 Common Method Deviation Control

The Harman single-factor test was used to statistically control for common method biases. The results showed that the variance explained by the first factor was 37.542% (<40%). Therefore, there was no serious common methodological bias in this study.

3 Results

3.1 Comparison of the Scores of Young and Middle-Aged Residents on Various Scales by Residence

Young and middle-aged residents differed in their mental health literacy, social support, and subjective well-being scores by urban vs. rural residence ($P < 0.001$). See Table 1 for details.

Table 1: Comparison of the scores of young and middle-aged residents on each scale by place of residence (x ± s, n)

Variable (n)	Rural (320)	City (300)	t	P
MHL	2.73 ± 0.79	3.34 ± 0.57	−4.751	<0.001
PSSS	4.37 ± 1.37	5.26 ± 1.00	−9.112	<0.001
SWB	4.54 ± 1.49	5.27 ± 1.14	−6.799	<0.001

Note: MHL: Mental Health Literacy; PSSS: Perceived Social Support Scale; SWB: Subjective Well-Being Scale.

3.2 Comparison of Mental Health Literacy Scores of Young and Middle-Aged Urban and Rural Residents by Demographic Variables

Table 1 shows that there are differences in mental health literacy scores between young and middle-aged residents in rural and urban areas, and a comparative analysis using different demographic variables as independent variables and mental health literacy scores of young and middle-aged residents in rural areas and urban areas as dependent variables shows that among young and middle-aged residents in rural areas, there are statistically significant differences in mental health literacy by gender, age, education, marital status, monthly income, and interpersonal relationships ($P < 0.001$). Among young and middle-aged urban residents, there were statistically significant differences in mental health literacy in terms of gender, age, education level, marital status, monthly income, and interpersonal relationships ($P < 0.001$). See Table 2 for details.

Table 2: Comparison of young and middle-aged residents by demographic variables in urban and rural areas ($x \pm s$, n)

Project	Rural residents (320)	Rural residents' MHL score	City dwellers (300)	City dwellers' MHL score	t/F value	P value
Sex						
Male	183 (57.2)	2.86 ± 0.71	140 (46.7)	3.40 ± 0.58	−7.322	<0.001
Female	137 (42.8)	2.57 ± 0.86	160 (53.3)	3.29 ± 0.55	−8.713	<0.001
t value		3.218		1.684		
P value		0.001		0.093		
Age						
18–29	96 (47.5)	3.27 ± 0.40	111 (37.0)	3.37 ± 0.39	−1.818	0.071
30–39	57 (25.9)	2.94 ± 0.65	84 (28.0)	3.35 ± 0.66	−3.642	<0.001
40–49	91 (25.3)	2.37 ± 0.80	66 (22.0)	3.32 ± 0.68	−7.813	<0.001
50–60	76 (1.3)	2.35 ± 0.81	39 (13.0)	3.29 ± 0.57	−6.466	<0.001
F value		38.288		0.259		
P value		<0.001		0.855		
Education level						
Lower secondary and less	152 (31.4)	2.42 ± 0.78	54 (18.0)	3.08 ± 0.41	−5.927	<0.001
Senior secondary school and secondary and vocational high school	83 (25.6)	2.73 ± 0.75	60 (20.0)	3.01 ± 0.66	−2.315	0.022
Specialist or undergraduate	81 (35.1)	3.29 ± 0.46	138 (46.0)	3.39 ± 0.44	−17.562	<0.001
Postgraduate students	4 (7.9)	3.63 ± 0.45	48 (16.0)	3.93 ± 0.39	−1.464	0.150
F value		28.831		39.047		
P value		<0.001		<0.001		
Marital status						
Married	194 (60.6)	2.58 ± 0.80	174 (58.0)	3.31 ± 0.65	−9.539	<0.001
Unmarried	90 (28.1)	3.22 ± 0.49	112 (37.3)	3.40 ± 0.42	−2.810	0.005

(Continued)

Table 2 (continued)

Project	Rural residents (320)	Rural residents' MHL score	City dwellers (300)	City dwellers' MHL score	t/F value	P value
Divorced	17 (5.3)	2.49 ± 0.79	12 (4.0)	3.36 ± 0.44	−3.445	0.002
Bereaved spouse	19 (5.9)	2.24 ± 0.81	2 (0.7)	3.14 ± 0.58	−1.514	0.146
F value		20.769		0.651		
P value		<0.001		0.583		
Monthly income						
2000 and below	124 (38.8)	2.70 ± 0.83	62 (20.7)	3.30 ± 0.43	−5.340	<0.001
2000–5000	120 (37.5)	2.58 ± 0.80	63 (21.0)	2.98 ± 0.61	−3.472	0.001
5001–8000	60 (18.8)	2.95 ± 0.63	101 (33.7)	3.36 ± 0.55	−4.330	<0.001
8001 and more	16 (5.0)	3.31 ± 0.46	74 (24.7)	3.67 ± 0.45	−2.891	0.005
F value		6.205		20.714		
P value		<0.001		<0.001		
Interpersonal relations						
Very dissatisfied	30 (9.4)	1.59 ± 0.65	0	0	–	–
Not satisfied	86 (26.9)	2.24 ± 0.83	23 (7.7)	2.39 ± 0.64	−0.804	0.423
Neutral	113 (35.3)	2.96 ± 0.41	104 (34.7)	3.12 ± 0.38	−2.974	0.003
Satisfaction	80 (25.0)	3.23 ± 0.37	138 (46.0)	3.55 ± 0.42	−5.659	<0.001
Very satisfied	11 (3.4)	3.71 ± 0.48	35 (11.7)	3.81 ± 0.47	−0.613	0.543
F value		73.401		68.956		
P value		<0.001		<0.001		

Note: MHL: Mental Health Literacy.

3.3 Scores and Correlations of Mental Health Literacy, Perceived Social Support and Subjective Well-Being of Young and Middle-Aged Residents

The total mental health literacy score and each dimension were positively correlated with the total PSSS score and each dimension, the total mental health literacy score and each dimension were positively correlated with the total SWB score and each dimension, and the total PSSS score and each dimension were positively correlated with the total SWB score and each dimension among young and middle-aged residents in rural and urban areas ($P < 0.01$) (Table 3).

Table 3: Scores and correlations of mental health literacy, perceived social support and subjective well-being of young and middle-aged residents

Rural	MHL	PSSS	SWB	City	MHL	PSSS	SWB
MHL	1			MHL	1		
PSSS	0.832[a]	1		PSSS	0.685[a]	1	
SWB	0.717[a]	0.825[a]	1	SWB	0.618[a]	0.627[a]	1

Note: MHL: Mental Health Literacy; PSSS: Perceived Social Support Scale; SWB: Subjective Well-Being Scale.

3.4 Multiple Linear Regression Analysis of Mental Health Literacy among Young and Middle-Aged Residents

Using the total mental health literacy score as the dependent variable, the factors that were statistically significant after univariate analysis of different demographic variables of rural and urban young and middle-aged residents were included as independent variables in the regression equation, and multiple linear regression analysis was conducted. The results showed that gender, age, education level and interpersonal relationships were the influencing factors of the mental health literacy of rural residents; education level, monthly income and interpersonal relationships were the influencing factors of mental health. The details are shown in Tables 4 and 5.

Table 4: Results of multiple linear regression analysis of rural mental health literacy among young and middle-aged residents

Model	B	Standard error	β	t	Significance
(Constant)	1.747	0.255	–	6.854	<0.001
Sex	−0.186	0.061	−0.117	−3.051	0.002
Age	−0.145	0.036	−0.211	−4.060	<0.001
Education level	0.175	0.048	0.191	3.635	<0.001
Interpersonal relationships	0.427	0.031	0.545	13.588	<0.001

Note: R^2 = 0.588, adjusted R^2 = 0.580.

Table 5: Results of multiple linear regression analysis of urban mental health literacy among young and middle-aged residents

Model	B	Standard error	β	t	Significance
(Constant)	1.521	0.119		12.774	<0.001
Education level	0.158	0.027	0.268	5.790	<0.001
Monthly income	0.055	0.024	0.104	2.325	0.021
Interpersonal relationships	0.351	0.034	0.490	10.326	<0.001

Note: R^2 = 0.461, adjusted R^2 = 0.455.

3.5 A Test of the Mediating Role of Comprehending Social Support

To test the mediating role of perceived social support in the relationship between residents' mental health literacy and subjective well-being, the hypothetical model was tested using structural equation modelling, and the model fit indices are shown in Table 6.

Table 6: Fit indices of the overall model

Projects	X^2	df	X^2/df	TLI	GFI	NNFI	CFI	NFI	RMR	RMSEA
Fitting criteria	–	–	<5.00	>0.90	>0.90	>0.90	>0.90	>0.90	<0.05	<0.10
Rural	81.352	17	4.785	0.966	0.941	0.966	0.979	0.974	0.033	0.092
Urban	70.928	17	4.172	0.947	0.944	0.947	0.968	0.958	0.029	0.103

The bias-corrected bootstrap method (5,000 draws) was used to test the significance of the mediating effects of the model. The direct effect of mental health literacy, perceived social support and subjective

well-being for rural middle-aged youth c' = 0.16 ($P < 0.05$), the mediating effect value a * b = 0.63 ($P < 0.01$), 95% confidence interval (0.502–0.732) excluding 0 and ($P < 0.01$), direct effect c' = 260 ($P > 0.05$), mediated effect value a * b = 0.74 ($P < 0.01$), 95% confidence interval (0.354–0.591) and ($P < 0.01$), indicating that the mediating effect was statistically significant, with middle-aged and young rural residents' perceived social support partially mediating the effect between mental health literacy and subjective well-being, with an effect ratio of 0.80, middle-aged and young urban residents' perceived social support partially mediating the effect between mental health literacy and subjective well-being, with an effect ratio of 0.74, and mental health literacy positively predicted perceived social support (rural β = 0.896, urban β = 0.823, $P < 0.01$); perceived social support positively predicted subjective well-being (rural β = 0.706, urban β = 0.895, $P < 0.01$). The specific structural equation models are shown in Figs. 2 and 3.
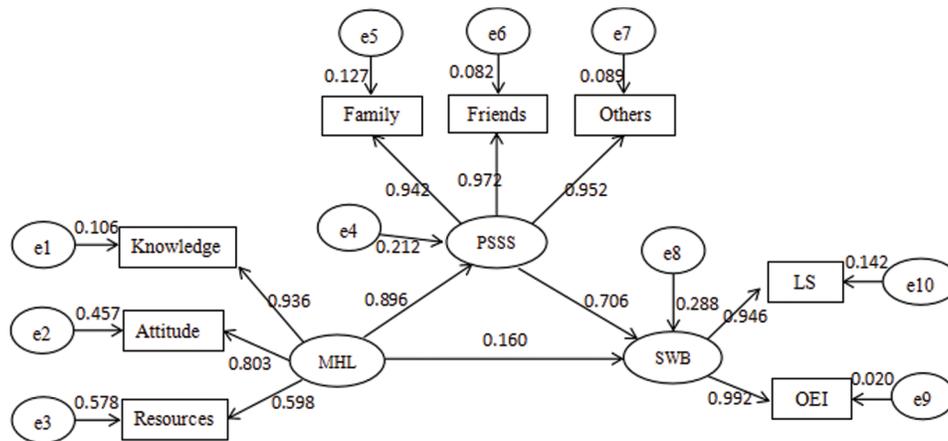

Figure 2: A structural equation model of the mediating effect of perceived social support on rural residents' mental health literacy and subjective well-being
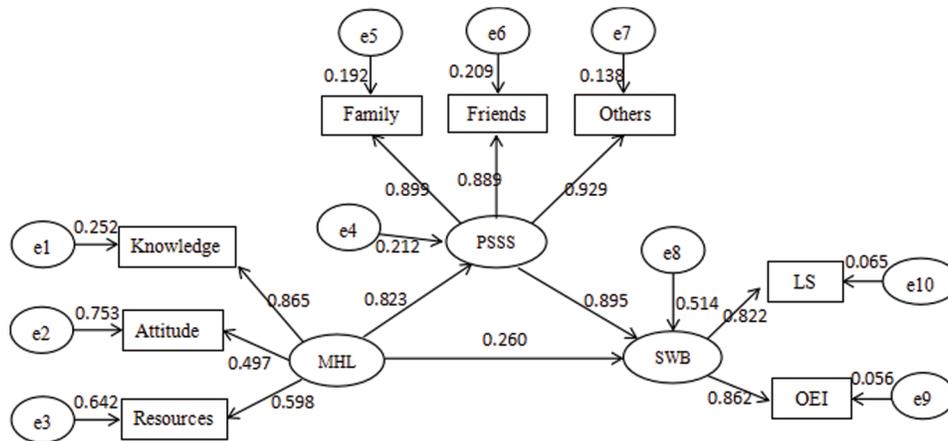

Figure 3: A structural equation model of the mediating effect of perceived social support on urban residents' mental health literacy and subjective well-being
Note: MHL: mental health literacy, PSSS: perceived social support scale, SWB: subjective well-being, OEI: overall emotion index, LS: life satisfaction.

4 Discussion

4.1 Analysis of the Differences in Mental Health Literacy Scores between Young and Middle-Aged Urban and Rural Residents

A comparative analysis shows that urban residents have higher mental health literacy scores than rural residents, and there is a correlation between mental health literacy and occupation and education level [25]. Urban areas have more comprehensive and advanced medical and internet facilities than rural areas, so urban residents have more access to mental health knowledge and this may account for their higher mental health literacy scores. In contrast, rural areas are more populated by farmers, whose knowledge of mental health is weaker [26]. Therefore, the popularity of mental health knowledge in rural areas should be increased to increase farmers' willingness to seek help and further improve their mental health literacy level.

4.2 Analysis of the Differences in Factors Influencing Mental Health Literacy among Young and Middle-Aged Urban and Rural Residents

The results of the multiple regression analysis showed that the mental health literacy scores of rural middle-aged youths were statistically significant in terms of gender, age, literacy and interpersonal relationships, while the mental health literacy scores of urban middle-aged youths were statistically significant in terms of literacy, monthly income and interpersonal relationships. The mental health literacy scores of both rural and urban young people were significant in terms of literacy and interpersonal relationships, and those with higher literacy levels had higher levels of mental health literacy: this may be because with the continuous improvement in the economic and educational levels of society, young people are generally more educated and have more opportunities to receive education than in the past, thus becoming more knowledgeable about mental health. Further, the higher the literacy level is, the greater the education and awareness of the importance of mental health and the more positive they are about seeking professional help [27]. Research suggests that better interpersonal relationships are associated with higher levels of mental health literacy, which may be related to higher levels of social support positively associated with mental health literacy [28].

Further comparisons revealed that the differences in gender and age were more pronounced among rural residents than urban residents. The gender difference from Lee et al.' study [29] may be because the social status of Chinese women has increased significantly compared to the past. Because urban women are now able to work and socialize in the same way as men, the difference in mental health literacy levels is not significant. However, due to the limited economic development in rural areas, the number of available jobs is insufficient, and the social custom of "men taking care of the outside world and women taking care of the inside" is often followed in rural areas. So, compared to urban women, rural women are more likely to stay at home and have less contact with the outside world and are therefore more prone to mental health problems and have lower mental health literacy than men [30]. In terms of age, as rural residents grow older, their ability to work decreases, and their ability to care for themselves decreases to varying degrees, requiring the care of their children. In contrast, urban residents have more social security and a higher rate of medical insurance reimbursement than their rural counterparts. In addition, in cities where parents and children usually live together, urban residents receive more social support and care, thus improving their mental health literacy levels. In addition, the monthly income of urban residents is significantly higher than that of rural residents. In rural areas, the income level is not very different, as most of the residents are mainly engaged in agriculture, while in cities, the difference in income is greater due to the difference in occupation, and the residents have a different sense of access, which leads to a different level of mental health literacy. In summary, residents in different places of residence are affected differently, and it is necessary for the relevant government departments to develop mental health first aid for different groups of people [31].

4.3 Correlation Analysis of Mental Health Literacy, Perceived Social Support and Subjective Well-Being of Young and Middle-Aged Residents

The results of this study show that mental health literacy is closely related to both perceived social support and subjective well-being among young and middle-aged rural and urban residents, and comparing the R-values of the two groups intuitively reveals that rural residents score higher than urban residents. The positive correlation between mental health literacy and subjective well-being among urban and rural residents is in line with the findings of Liu et al. [32] on the elderly population. The study suggests that when individuals have positive attitudes and behaviors in the face of their illness, their satisfaction with quality of life improves and that positive mental health literacy improves an individual's subjective well-being [33,34]. Mental health literacy is positively correlated with perceived social support, which is a common mediating variable in psychological research and plays an important protective role for individuals' mental health; studies have found that individuals with lower perceived social support are more likely to experience physical and psychological symptoms such as anxiety and depression and thus have better levels of mental health literacy [35,36]. Although this survey has had a stimulating effect on mental health literacy, the results suggest that there is still a need for a range of activities to improve mental health literacy in the population [37]. At the same time, the positive correlation between perceived social support and subjective well-being is consistent with the findings of Liu et al. [38] study on university students, which found that young and middle-aged people who obtain support from family, friends and other social sources have a greater sense of well-being, and individuals with higher perceived social support are usually able to navigate life more positively, set clear goals, and enhance their subjective well-being. High levels of social support play an important role in maintaining their psychological well-being, enhancing their professional identity and sense of professional fulfilment, and increasing their level of well-being.

4.4 Appreciate the Mediating Role of Social Support in Mental Health Literacy and Subjective Well-Being

This study further investigated the mediating role of perceived social support in the relationship between mental health literacy and the subjective well-being of young and middle-aged urban and rural residents and found that perceived social support partially mediated the relationship. This suggests that mental health literacy not only directly influences the subjective well-being of young and middle-aged urban and rural residents but also indirectly influences subjective well-being through perceived social support, which is an ability to obtain support from the outside world and can contribute to the growth of individual mental health and well-being [39]. Comparing the rural and urban structural equation models, we found that the total effect of mental health literacy on subjective well-being was intuitively 0.80 for rural residents compared to 0.74 for urban residents, probably because rural residents, compared to urban residents, have a greater need to translate social support into a positive state in response to various events, thus being able to better predict the level of well-being. Thus, residents with a high level of mental health literacy will have a more positive mindset, and this positive mindset will help individuals feel more respected, supported and understood in social interactions, giving them a higher level of social support, which will expand their individual and social resources increase their level of well-being [40]. The survey found that improving the mental health literacy of farmers and parents helped them better seek social help [41,42], When individuals have adequate social support for their needs, their subjective well-being is enhanced. The current level of mental health literacy among Chinese residents is not high, and its direct prediction of well-being is not significant. The prediction of mental health literacy on subjective well-being will be greatly enhanced with the mediation of comprehending social support, which suggests that researchers should focus on the role of social support on individuals' mental health literacy to improve their subjective well-being.

4.5 Limitations and Prospects

This study mainly selects urban and rural residents in three regions of China, and the sample size is not large enough. The differences between urban and rural residents in mental health literacy and perceived social support in mental health literacy and subjective well-being need to be further explored and analyzed by enlarging the sample size. In addition, the populations selected in this study all live on the plains, and future studies can include residents living in mountainous areas to explore whether there are corresponding differences.

5 Conclusion

The level of mental health literacy among young and middle-aged urban residents is higher than that of rural residents, and there is a strong correlation between mental health literacy, perceived social support and subjective well-being among urban and rural residents. This perceived social support plays a part in mediating mental health literacy and subjective well-being. Researchers should pay attention to the level of mental health literacy among residents and adopt appropriate mental health first aid measures for different groups to improve their well-being by increasing social support. Due to the limited number of people surveyed in this study, further expansion of the sample population is needed to validate the mediation model and to clearly comprehend the mechanism by which social support affects subjective well-being through mental health literacy so that effective intervention methods can be proposed.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

References

1. Jiang, G. R., Zhao, C. X., Wei, H., Yu, L. X., Li, D. Y. et al. (2018). Mental health accomplishment: Connotation, measurement and new conceptual framework. *Journal of Psychological Science, 43(1),* 232–238.
2. Ming, Z. J., Chen, Z. Y. (2020). Mental health literacy: Concepts, assessment, interventions and roles. *Advances in Psychological Science, 28(1),* 1–12. DOI 10.3724/SP.J.1042.2020.00001.
3. Jafari, A., Nejatian, M., Momeniyan, V., Barsalani, F. R., Tehrani, H. et al. (2021). Mental health literacy and quality of life in Iran: A cross-sectional study. *BMC Psychiatry, 21(1),* 499. DOI 10.1186/s12888-021-03507-5.
4. Jiang, G. R., Li, D. Y., Ren, Z. H., Yan, Y. P., Wu, X. C. et al. (2021). The status quo and characteristics of chinese citizens' mental health accomplishment. *Acta Psychologica Sinica, 53(2),* 182–201.
5. The State Council of the People's Republic of China (2019). Opinions of the State Council on the Implementation of the Healthy China Initiative. People's Daily, 007. DOI 10.28655/n.cnki.NRMRB.2019.008002.
6. Wu, J., Zhang, L., Zhu, X., Jiang, G. (2021). Mental health literacy from the perspective of multi-field experts in the context of chinese culture. *International Journal of Environment Research and Public Health, 18(4),* 1387. DOI 10.3390/ijerph18041387.
7. Bonabi, H., Müller, M., Ajdacic-Gross, V., Eisele, J., Rodgers, S. et al. (2016). Mental health literacy, attitudes to help seeking, and perceived need as predictors of mental health service use: A longitudinal study. *Journal of Nervous and Mental Disease, 204(4),* 321–324. DOI 10.1097/NMD.0000000000000488.
8. Olfson, M., Blanco, C., Marcus, S. C. (2016). Treatment of adult depression in the United States. *AMA Internal Medicine, 176(10),* 1482–1491. DOI 10.1001/jamainternmed.2016.5057.

9. Huang, Y. Q., Wang, Y., Wang, H., Liu, Z. R., Yu, X. et al. (2019). Prevalence of mental disorders in China: A cross-sectional epidemiological study. *The Lancet Psychiatry, 6(3),* 211–224. DOI 10.1016/S2215-0366(18) 30511-X.

10. Qin, F. M., Gao, X. H., Sun, H. W. (2015). Relationship among effectiveness professional help, etiology and stigma in middle school students. *China Journal of Health Psychology, 23(7),* 1007–1011.

11. Miao, Y. J. (2013). *Happiness in the perspective of psychology.* Nanjing Normal University. http://kns.cnki.net. zzulib.vpn358.com/KCMS/detail/detail.aspx?dbname=CDFD9908&filename=2003070557.nh.

12. Miao, Y. J. (2007). Beyond subjective well-being. *Journal of Inner Mongolia Normal University (Philosophy and Social Science Edition), (5),* 15–20.

13. Cathy, B., Penny, V., Jamie, A. (2020). Measuring well-being: Trial of the neighbourhood thriving scale for social well-being among pro-social individuals. *International Journal of Community Well-Being, 3(3),* 361–390. DOI 10.1007/s42413-020-00067-6.

14. Xiang, G. C. (2020). The influence of perceived social support on hope: A longitudinal study of older-aged adolescents in China. *Youth Services Review, 119(10),* 616–624. DOI 10.1016/j.childyouth.2020.105616.

15. Saber, M. (2021). Social support, happiness, and self-rated health among older adults: A population-based study. *Advances in Gerontology, 11(1),* 22–28. DOI 10.1134/S2079057021010471.

16. Sun, T. (2020). Mental health literacy about depression among rural left-behind children in China: A comparative and cross-sectional study. *Journal of Mental Health, 30(2),* 1–8.

17. Hee, C. K. (2020). Mental health literacy as a mediator on the relationship between depression and actual mental health help-seeking behaviors among university students in South Korea. *Mental Health & Social Work, 48(2),* 5–32. DOI 10.24301/MHSW.2020.06.48.2.5.

18. Ethan, M., Patricia, F. (2021). The impact of the campus climate and mental health literacy on students' well-being. *The Journal of Mental Health Training, Education and Practice, 16(3),* 245–256. DOI 10.1108/JMHTEP-12-2020-0088.

19. Jung, H., von, S. K., Davis, K. (2016). Expanding a measure of mental health literacy: Development and validation of a multicomponent mental health literacy measure. *Psychiatry Research, 243(6),* 278–286. DOI 10.1016/j. psychres.2016.06.034.

20. Ming, Z. J., Chen, Z. Y., Wang, Y. X., Jiang, L., Guo, F. et al. (2021). Alleviation of the validity of multiple health accomplishment scale in male soldiers. *Chinese Journal of Public Health, 37(1),* 86–91.

21. Zimet, G., Blumenthal, J. A., Burg, M. M. (1987). Social support, type a behavior,and coronary artery disease. *Psychosomatic Medicine, 49(4),* 331–340. DOI 10.1097/00006842-198707000-00002.

22. Jiang, Q. J. (2001). Perceived social support scale. *Chinese Journal of Behavioral Medical Science, 10(10),* 41–43.

23. Fan, X. D. (1999). Index of well-being, index of general affet. *Chinese Mental Health Journal,* 82–83.

24. Wen, Z. L., Ye, B. J. (2014). Mediating effect analysis: Methodology and model development. *Advances in Psychological Science, 22(5),* 731–745. DOI 10.3724/SP.J.1042.2014.00731.

25. Adu, P., Jurcik, T., Dmitry, G. (2021). Mental health literacy in Ghana: Implications for religiosity, education and stigmatization. *Transcultural Psychiatry, 58(4),* 516–531. DOI 10.1177/13634615211022177.

26. Heizomi, H., Allahverdipour, H., Asghari, J. M., Safaian, A. (2015). Happiness and its relation to psychological well-being of adolescents. *Asian Journal of Psychiatry, 16(5),* 55–60. DOI 10.1016/j.ajp.2015.05.037.

27. Li, F. L., Li, S. L. (2019). Mental health literacy among Chinese rural residents: A survey from Hubei Province in Central China on people's perception of mental illnesses. *The Journal of Nervous and Mental Disease, 207(10),* 875–883. DOI 10.1097/NMD.0000000000001043.

28. Jennifer, K., Sterett, H., Skinner, S. (2020). Developing self-concept, coping skills, and social support in grades 3–12: A cluster-randomized trial of a combined mental health literacy and dialectical behavior therapy skills program. *School Mental Health: A Multidisciplinary Research and Practice Journal, 12(3),* 323–335. DOI 10.1007/s12310-019-09353-x.

29. Lee, H. Y., Hwang, J., Ball, J. G., Lee, J., Yu, Y. et al. (2020). Mental health literacy affects mental health attitude: Is there a gender difference. *American Journal of Health Behavior, 44(3),* 282–291. DOI 10.5993/AJHB.44.3.1.

30. Jiang, Y., Li, M., Pan, L. (2021). Becoming young women farmers: The process and characteristics of rural women in agriculture. *Journal of China Agricultural University (Social Science Edition), 38(2),* 73–81.

31. Yang, J. X., Liao, X. L., Fu, X., Li, Y. (2021). Mental health first aid: An effective public health intervention. *Chinese Journal of Clinical Psychology, 29(1),* 209–213.

32. Liu, L. F., Yang, L. N., Wang, H. Y., Liu, Q., Zhang, X. G. (2020). Correlation between mental health and subjective well-being of the Elderld in Nursing Institution. *Chinese Journal of Gerontology, 40(24),* 5277–5280.

33. Zhang, Z., Chen, B., Chen, W. (2021). The mediating effect of perceived health on the relationship between physical activity and subjective well-being in Chinese college students. *Journal of American College Health, 69(1),* 9–16. DOI 10.1080/07448481.2019.1645676.

34. Zhai, W. J. (2021). A study on the correlation between mental health literacy and social support in patients with diabetic retinopathy. *Chinese Health Engineering, 20(6),* 944–945. DOI 10.19937/J.ISSN.1671-4199.2021.06.020.

35. Niu, Y. B., Hao, Z. S., Wang, R. Z. (2019). Optimism in older adults, the relationship between appreciative social support and subjective well-being-mediating role of control strategies. *Psychological Development and Education, 35(2),* 101–109.

36. Chen, J. J., Li, H. P., Yang, Y. J. (2019). The impact of family resilience on psychological resilience in cancer patients: Perceived the chain mediating role of social support and sense of meaning in life. *Chinese Journal of Clinical Psychology, 27(6),* 1205–1209.

37. Abdulhameed, A. A., Saed, S. A., Rashid, A. A. (2019). Mental health awareness phone polling survey: Focus on community knowledge, attitude and practice, Saudi Arabia. *International Neuropsychiatric Disease Journal, 13(2),* 1–14.

38. Liu, Z. K., Chen, L. N. (2019). Family economics status, understanding the impact of social support on subjective well-being. *Statistics and Decision, 35(17),* 96–100.

39. He, Q. X., Chen, J. W., Liu, C. M., Kong, L. L. (2021). The effect of perceived social support on subjective well-being among college students with disabilities: The mediating role of self-compassion. *Psychological Inquiry, 41(2),* 143–148.

40. Zhang, J. X., Huang, S., Qi, X., Gao, P., Cai, Y. K. et al. (2022). The effect of temperamental optimism on college students' subjective well-being: Perceived the mediating role of social support. *Chinese Journal of Health Psychology, 2,* 143–148. DOI 1003-5184(2021)02-0143-06.

41. Hagen, B. N., Harper, S. L., O'Sullivan, T. L., Jones-Bitton, A. (2020). Tailored mental health literacy training improves mental health knowledge and confidence among canadian farmers. *International Journal of Environment Research and Public Health, 17(11),* 3807. DOI 10.3390/ijerph17113807.

42. Hurley, D., Harper, S. L., O'Sullivan, T. L., Jones-Bitton, A. (2021). A matched control trial of a mental health literacy intervention for parents in community sports clubs. *Child Psychiatry and Human Development, 52(1),* 141–153. DOI 10.1007/s10578-020-00998-3.