

The Effect of Aging Attitudes on the Depression of Older Adults in China

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ABSTRACT

This study explored the effects of aging attitudes on depressed mood in community-dwelling older adults. The study was performed in Shandong, China and included 400 community-dwelling older adults. The Attitudes to Aging Questionnaire and the Patient Health Questionnaire-9 were collected between February 2020 and June 2020. We performed a hierarchical regression to examine the predictive capability of attitudes toward aging on depression. Multiple regression analysis revealed that psychosocial loss ($\beta = 0.474$, $P=0.000$) and physical change ($\beta = -0.259$, $P=0.000$) significantly predicted depression. Moreover, attitudes toward ageing accounted for 28.8% of depression among older adults. This points the necessity to better understand older adults' attitudes toward aging in order to reduce its impact on depression.

Keywords: Ageing, Attitudes, Depression, Older Adults, China

INTRODUCTION

Depression is highly prevalent among older adults with a depressive symptom detection rate of 30.7% in elderly Chinese residents (Yeung, 2013) [1]. The low cure rate and high recurrence rate of depression affects the quality of life and the physical and spiritual health of older adults. Depression in later life increases morbidity and the risk of suicide, impairs physiological, neurocognitive and societal functioning (Wahbeh and Fry, 2019) [2]. Therefore, it is necessary to study older adults with depression to comprehensively understand which factors influence depression.

Researchers have extensively described the impact of attitudes toward aging, which refer to older people's experiences of being progressively older, on depression in older adults (Laidlaw et al., 2007) [3]. Attitudes toward aging include three dimensions: the first is psychosocial deficits, which refers to older adults' perceptions of psychological and social deficits; the second dimension is awareness of physical changes. The third dimension is psychological growth, which refers to the wisdom that

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older adults gain as they age. The life-span Development view assumes that gain and loss in the aging process are not opposites, but occur simultaneously. Different factors, such as physiological, sociocultural, and demographic factors, have different effects on the psychological development of individuals at different ages. Research shows that positive attitudes to aging among Chinese older people are positively associated with better mental health (Lai, 2009) [4]. In addition, other studies have shown that the positive attitude of the elderly is positively correlated with life satisfaction and physical health, and negatively correlated with negative emotions (Bryant et al., 2012; Thorpe et al., 2014) [5,6].

Several studies have also evaluated the relationship between attitudes toward aging and depression and found a significant correlation between the two (Bryant et al., 2012; Kavirajan et al., 2011) [5,7]. Moreover, demographic factors such as age, gender, residence, and economic level, as well as health factors such as physical illness, smoking and alcohol consumption, could influence attitudes toward aging and depression (Korkmaz Aslan et al., 2019) [8].

Research has confirmed that the impact of cultural on attitudes toward aging. However, only a few previous studies have been performed in China (Liu et al., 2020; Liu et al., 2021; Luo et al., 2020) [9-11]. Compared to Western cultures, Eastern cultures place more emphasis on respecting the elderly. This may be due to the fact that Eastern cultures are deeply influenced by Confucianism, which emphasizes respect for the elderly and views them as people with a wealth of knowledge and wisdom. Among them, Shandong province, as the birthplace and inheritance of Confucianism, is more influenced by Confucian culture, especially filial piety. We therefore believe that the filial environment helps maintain the respect and prestige enjoyed by older adults. However, research has also shown that modernization can erode Eastern filial culture; in other words, as modernization increases, the status and prestige of the elderly may subsequently decline. Therefore, it is important to examine the current status of aging attitudes and their relationship with depression in Chinese society.

In the current study, the association between attitudes toward aging and depression among the Chinese elderly will be evaluated by considering the aforementioned demographic factors and health factors. Thus, the purpose of the study was to characterize attitudes toward aging and

its association with depression among community-dwelling older adults in China. The hypothesis guiding this study was that a positive attitude toward aging was a predictor of lower levels of depression in older adults.

RESEARCH DESIGN AND METHOD

Recruitment

This study was undertaken at the Society and Law School, Shandong Women's University between February 2020 and June 2020. The participants were older adults 50 years of age and above in residential areas in Shandong Province. All individuals were cognitively normal, conscious, and proficient in Chinese to communicate and testing. The participants included 179 men and 221 women. Their age spanned from 52 to 86 years, with a mean age of 69.45 years. Informed consent was acquired from all participants prior to completing the questionnaire. We distributed 400 questionnaires, all of which were completed. Ethical approval for this study was granted by the ethical review board of Shandong Women's University School of Society and Law.

Measures

Depression

The Patient Health Questionnaire-9 (PHQ-9) score was used as the primary outcome measure. The PHQ-9 is a simple, validated self-rating scale for depressive disorders with favorable validity and reliability as an aid to the diagnosis of depression and in the assessment of symptom severity (Liu et al., 2011; Yu et al., 2012; Chen et al., 2013; Liu et al., 2016) [10,12-14]. Each question is scored range from 0 to 30-3, and each question is summed to obtain a final score.

Attitudes to Aging

The Aging to Attitudes Questionnaire consisted of three dimensions: psychosocial loss (negative dimension, emphasizing negative experiences of psychological and social aspects of aging), physical change (positive dimension, emphasizing positive experiences of health, exercise and aging itself) and psychological growth (positive dimension, emphasizing positive aspects such as wisdom or growth), with 8 questions for each dimension. Each question was scored on a 5-point Likert scale, with 1 representing total disagreement and 5 representing total agreement. In the psychosocial loss dimension, higher scores indicate a more negative evaluation of aging; in the physical change and

psychological growth dimensions, higher scores indicate a more positive attitude toward aging. The questionnaire has well characterized psychometric properties with favorable validity and reliability in China (Yi-fan et al., 2010) [15].

Descriptive Characteristics

The descriptive form was composed of demographic factors and health factors. Demographic variables consist of age, sex, race, marriage status, education level, residence, number of children, whether live with children, and household monthly income. Health-related variables included smoking, drinking, and chronic diseases.

Statistical Analysis

The Pearson correlation method was used to examine the bivariate relationship between depression and attitudes toward aging. Numbers (percentages) and mean \pm standard deviation (SD) were used as descriptive statistics. To

determine the change in the predictive model of the dependent variable (depression) with the gradual inclusion of the independent variables (demographic factors, health factors, and means of AAQ), we used a hierarchical regression analysis. For the analysis, the categorical variables in the independent variables were converted into dummy variables.

The analyses were performed using SPSS 25.0 for Windows. Significance level $\alpha=0.05$ was assigned.

RESULTS

The basic characteristics of the 400 participants were shown in Table 1. Their average age was 69.45 ± 6.00 years. More than half (55.3%) were women and approximately 46% lived in urban. Furthermore, 77% of the participants were in "married/cohabitation" status and 41.5% had a secondary school education or above. The average monthly income was 2332.96 RMB (319.21USD).

Table 1: General Characteristics of Participants (N=400).

| Characteristics | Mean (SD) or N (%) |
|-----------------------------------|--------------------|
| Age, y | 69.45(6.00) |
| Sex | |
| Male | 179(44.8%) |
| Female | 221(55.3%) |
| Residence | |
| Urban | 184(46%) |
| Rural | 216(54%) |
| Marriage status | |
| Married/cohabitation | 308(77%) |
| Divorced/widowed/ single | 92(23%) |
| Number of children | |
| 1 | 71(17.8%) |
| 2-3 | 258(64.5%) |
| 4 or above | 68(17.0%) |
| Whether live with children | |
| Yes | 154(38.5%) |
| No | 241(60.3) |
| Education | |
| Primary school | 234(58.5%) |
| Secondary school | 162(40.5%) |
| College or above | 4(1%) |
| The currency for monthly income | 319.21USD (250.83) |

The mean scores of the psychosocial loss, physical change and psychological growth subscales of the AAQ scale were 23.67 (5.36), 26.36 (4.69) and 25.67 (4.87), respectively. Bivariate correlation analysis showed that psychosocial loss ($r = 0.522$, $P < 0.01$) was positively correlated with depression scores. Meanwhile, physical change ($r = -0.345$, $P < 0.01$) and psychological growth ($r = -0.150$, $P < 0.01$) were negatively correlated with depression scores (Table 2).

Table 2: Correlations among Depressive Symptoms and Attitudes to Aging.

| | Mean | SD | PHQ-9 scores | Psychosocial loss | Physical change |
|-------------------------|-------|------|--------------|-------------------|-----------------|
| 1. PHQ-9 scores | 6.73 | 4.35 | | | |
| 2. Psychosocial loss | 23.67 | 5.36 | .536** | | |
| 3. Physical change | 26.36 | 4.69 | -.340** | -.156** | |
| 4. Psychological growth | 25.67 | 4.87 | -.137** | .003 | .507** |

The results of the multiple regression analysis were displayed in Table 3. The variables chosen for model 1 are sociodemographic variables that may influence the dependent variable depression; the variables added to model 2 are health factors that may be associated with depression; and the variables added to model 3 are the three dimensions of attitudes towards ageing that are the focus of this study and in doing so explore their ability to predict the dependent variable depression. Sociodemographic variables were examined in Model 1, which illustrated that gender ($\beta = 0.100$), residence ($\beta = 0.168$), and number of children = 4 ($\beta = 0.164$) were predictors. The amount of variation in the dependent variable (depression scores) explained by the predictor variables in model 1 was 0.09%.

Table 3: Hierarchical Regression Examining the Influence of Attitudes toward Ageing on Depression.

| | Model 1 | | | Model 2 | | | Model 3 | | |
|--|---------|----------|----------|---------|----------|----------|----------|----------|----------|
| | β | <i>t</i> | <i>P</i> | β | <i>t</i> | <i>P</i> | β | <i>t</i> | <i>P</i> |
| Constant | | 1.675 | .095 | | 1.914 | .056 | | 1.936 | .054 |
| Age | -.081 | -1.523 | .129 | -.087 | -1.615 | .107 | -.089 | -1.968 | .050 |
| Gender (Male=1) | .100 | 1.979 | .049 | .062 | 1.030 | .304 | .020 | .392 | .695 |
| Ethnicity (Han=1) | .027 | .555 | .579 | .021 | .429 | .668 | .051 | 1.224 | .222 |
| Marriage status (Married/ Married/ cohabitation = 1) | .088 | 1.695 | .091 | .087 | 1.651 | .100 | .011 | .243 | .808 |
| Education (primary school and less= 1) | -.093 | -1.676 | .095 | -.082 | -1.449 | .148 | -.032 | -.681 | .496 |
| Residence (Urban=1) | .168 | 3.050 | .002 | .174 | 3.141 | .002 | .110 | 2.364 | .019 |
| Number of children=2-3 | .081 | 1.262 | .208 | .088 | 1.351 | .178 | .002 | .034 | .973 |
| Number of children =4 and above | .164 | 2.420 | .016 | .167 | 2.445 | .015 | .054 | .935 | .350 |
| Whether live with children (no=1) | .008 | .165 | .869 | .006 | .119 | .906 | -.004 | -.102 | .919 |
| Household monthly income | .012 | .214 | .831 | .008 | .151 | .880 | .055 | 1.195 | .233 |
| Smoking (no = 1) | | | | -.052 | -.863 | .389 | -.075 | -1.488 | .138 |
| Drinking (no = 1) | | | | -.036 | -.549 | .583 | -.007 | -.128 | .898 |
| Health status (chronic disease absent = 1) | | | | .036 | .705 | .481 | -.023 | -.546 | .585 |
| Psychosocial loss | | | | | | | .474 | 10.802 | .000 |
| Physical change | | | | | | | -.259 | -5.347 | .000 |
| Psychological growth | | | | | | | -.017 | -.346 | .730 |
| R | 0.307 | | | 0.315 | | | 0.622 | | |
| R ² | 0.094 | | | 0.099 | | | 0.387 | | |
| F | 3.981** | | | 3.209** | | | 14.865** | | |

Note: ** $P < .01$

In Model 2, no health-related variables were an effective predictor. The amount of variation explained by the model was 0.10%. In Model 3, the psychosocial loss subscale ($\beta = 0.474$) and physical change subscale ($\beta = -0.259$) were detected as determinants of the depression score. After adding model 3, the overall variance of the outcome variables explained by the predictor variables rises from 0.10% to 0.39%. Therefore, the hypothesis—positive an attitude toward ageing is a predictor of lower levels of depression in older adults—was accepted.

DISCUSSION

As life expectancy increases, there is a need to extend our understanding of how older adults view their own aging and how aging impacts their depression. By identifying the factors that influence depression, depression in older adults can be improved. There is a paucity of research on the impact of aging attitudes on depression, so more research is needed to expand this area.

Older adults' attitudes toward aging were assessed using the AAQ; the highest mean score was for the physical change subscale, followed by scores for the psychological growth and psychosocial loss subscales (Table 2). Overall, the older adults in this sample had positive attitudes toward aging. In the final model, the amount of variation in depression scores explained by attitudes toward aging was the largest, confirming the important link between attitudes toward aging and depression.

Similar results were obtained from similar studies conducted in China, which suggested that Chinese older adults appreciated aging as positive in some aspects, such as having more wisdom and prestige when they get older, and Chinese older adults perceive aging as including positive changes in physical fitness (Chen et al., 2018; Lai, 2009) [4,13]. In addition, they have a rational understanding of the worsening or incapacity of societal and psychological functioning.

Overall, higher age was significantly related to a lower PHQ score in Chinese older adults. This finding is in accordance with the results of previous similar studies on depression (Shang, 2020) [16]. To illustrate, depression decreases with age, which may be related to self-perceived satisfaction and support. The younger older adults are also under pressure to support children, care for grandchildren, and adjust to

retirement. It should be noted that the age range of older adults in this study was 52–86, with an average age of 69. Thus, these results may not be replicated in the older elderly population.

Residence type was positively associated with depressive symptoms ($\beta = .110$, $p < .019$); specifically, rural residents were more likely to experience more level of depression than people in urban. This result was consistent with previous Chinese studies (Shang, 2020; Sun et al., 2020) [16,17]. Research suggests that rural older adults may be more vulnerable to depression due to their poorer economic and physical status and quality of life, poor access to health services, and lack of social and economic support compared to urban older adults.

Our main focus was the contribution of aging attitudes to depression after controlling for possible confounding variables. We found that the psychosocial loss and physical change subscales significantly predicted lower PHQ scores after controlling for sociodemographic and health-related variables. These two variables accounted for the majority of the coefficient of determination of the total PHQ score. That is, older adults' subjective assessments of their aging contributed more to their overall emotional well-being than the effects of variables that are less likely to change, such as age, residence, and economic status. This result has been confirmed by other similar studies conducted in China and other countries (Bryant et al., 2012; Liu et al., 2020; Luo et al., 2020) [5,9,11]. Psychosocial loss subscale emphasizes the negative psychological and societal experiences of older adults, while physical change subscale emphasizes the positive subjective perspective on health, exercise, and aging itself. Levy and Myers (2004) [18] suggested that negative aging stereotypes can negatively impact physical and psychological health. Therefore, the correlation between these two domains and the PHQ score was not surprising. Our results show that more positive attitudes lead to lower PHQ scores, which confirms the association between self-awareness and subjective appraisal of own aging and improving psychological well-being.

One interesting finding was that psychological growth subscale had a non-significant effect on depression. In previous studies, psychological growth subscale was also often not significant in predicting various health-related indicators, such as quality of life and anxiety (Low et al.,

2013; Top and Dikmetaş, 2015) [19,20]. This suggests to us that these variables may be independent of each other in the older population (Ackroyd et al., 2011; Danoff-Burg and Revenson, 2005) [21,22]. Specifically, older adults are able to rationalize that aging brings wisdom and growth while feeling the physical and cognitive decline that comes with aging.

Although this study yielded important insights into attitudes toward ageing and depression, it also had several limitations. Given that this study was cross-sectional, it was not possible to determine causality. In addition, the questionnaires were completed as self-assessments; therefore, individuals may not be properly aware of their psychological state and may respond in a socially desirable manner. It is also important to note that the older adults in this study were from the community and not from medical institutions; therefore, the generalizability of the findings is limited. Future research should focus on frail older adults who live in institutional settings.

In conclusion, our results disclosed that attitudes toward aging strongly determine depression in Chinese older adults. Moreover, the similarity between the current study's findings and those of other countries contributes to generalizability of attitudes toward ageing's relationship with depression. Overall, our findings indicated that an effective measure to improve depressive symptoms is to target the attitudes toward aging among older adults. In addition, the findings highlighted the value of recognizing negative attitudes toward aging and promoting attitude change to improve depression. As older adults' attitudes toward aging are likely to reflect societal attitudes, the community should also be involved. Specifically, communities should provide more services such as psychological counseling and health education to older adults, with the goal of helping them change their negative attitudes toward aging and guiding them to learn more mature and flexible ways of coping, ultimately creating a harmonious, tolerant and understanding living environment.

CONFLICT OF INTEREST

Authors have no conflict of interest to declare.

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