

Attitudes Toward Aging And Happiness In Chinese Old Adults—A Mediating Effect of Spirituality

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Research Article

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Abstract

Background: Attitudes toward aging in old adults are critical for their adjustment, health-promoting behavior, quality of life and life satisfaction. However, fairly little is known about the inner mechanism between attitudes toward aging and happiness in Chinese old adults. This study examined the relationship between attitudes toward aging and happiness in old adults by introducing the mediator of spirituality in a Chinese context.

Methods: A descriptive cross-sectional study among persons aged 50 to 100 years old was carried out in 16 selected cities of 9 provinces (municipality) in Western, Central, and Eastern China. Trained research assistants collected data by face to face interview with the aid of online questionnaire. The Attitude to Aging Questionnaire (AAQ), Howden's Spirituality Assessment (SA), and Memorial University of Newfoundland Scale of Happiness (MUNSH) were used to measure participants' attitudes toward aging, spirituality and happiness. Data were analyzed using SPSS 25 and AMOS 24.

Results: The mean scores of AAQ and its three domains of psychosocial loss, physical change and psychological growth, spirituality and happiness were $81.85(\pm 10.39)$, $26.46(\pm 4.97)$, $28.34(\pm 4.69)$, $27.01(\pm 4.02)$, $101.06(\pm 12.88)$, and $31.72(\pm 9.87)$, respectively. Three domains, spirituality and happiness were positively correlated with each other. The spirituality acted as a full mediator on the positive relationship between the two domains of physical change and psychological growth and happiness.

Conclusions: First, Chinese old adults' attitudes toward aging was positive and positively related to spirituality and happiness; second, Chinese old adults' spirituality was high and positively related to happiness; third, Chinese old adults' happiness was fair and the significantly positive association between old adults' attitude toward aging (i.e. physical change and psychological growth) and happiness was entirely due to the growth of spirituality.

Background

Since China became an aging society in 1999, rapid increases in the relative and absolute numbers of the aged have been unbelievable and striking. As known to all, China now have had the largest number (264 million) of aging population (aged 60 years and over) in the world [60]. Obviously, it is a big challenge for China to help such a large old population to age well and live happily. Attitudes toward aging are a way of looking, thinking, or feeling in response to the aging process, being old, or old age [1]. In many cases, it's the fear of time, rather than time itself, that wreaks havoc on our bodies and minds, and may be the cause of premature aging. And those who live longer tend to develop positive attitudes toward the prospect of old age early in life [2]. From this perspective, the primary and critical job is to help people in the aging process develop healthy and positive perceptions and attitudes towards aging.

An extensive body of studies have revealed that the perception and attitudes toward aging in old adults significantly influence their perceived health status [3], mental health [4–7], cognitive development [8–14], quality of life [15–17], social support [18], well-being and longevity [19–22]. Overall, positive views and attitudes toward aging in old adults were strongly associated with better physical/mental health, better

cognition, greater levels of well-being and quality of life, high quality of social support, and even a longer life span, whereas negative attitudes toward aging in old adults were strongly associated with worse physical/mental health, worse cognition, lower levels of well-being and quality of life, low quality of social support, and even a shorter life span.

Quite a number of studies have examined the relationship between age/aging and life satisfaction/subjective well-being/happiness [23–26], and they showed a positive or negative correlation between the two. However, very few studies have directly evaluated the relationship between attitudes to aging and happiness. Xuejing & Jin (2013) revealed a significantly positive correlation between the two in their study [27]. Furthermore, no research has explored the mediating mechanism between attitude toward aging and happiness. Based on the analysis, this current study would examine the internal relationship between attitude toward aging and happiness by introducing the mediator of spirituality.

On one hand, spirituality, in essence, refers to a system of beliefs and attitudes that give meaning and purpose to life through the unity with self, others, natural environment, or the connection with other supernatural forces. Spirituality is a higher power being and is reflected in the individual's feelings, thoughts, experiences, and behaviors [28]. On the flip side, functionally, spirituality is a natural, innate human ability that transcends specific cultural and religious traditions and doctrines, and is a useful internal resource for maintaining life satisfaction in the face of stress or life crisis [29]. It was introduced in this study because as more and more people live longer, there has been growing interest in incorporating spirituality into a biological-psycho-social model to assess and treat their problems and troubles in life [30], and also a growing number of studies in Western countries have found a central role of spirituality to the well-being of old adults [31–33, 52–53].

Methods

Sampling group

This study was cross-sectional and was carried out in 16 cities of 9 provinces (municipalities) in Western, Central, and Eastern China, respectively. The cities were as follows: Zhenjiang of Jiangsu province; Hangzhou and Ningbo of Zhejiang province; Shanghai municipality; Fengcheng, Ganzhou, Nanchang and Yichun of Jiangxi province; Hefei and Shuzhou of Anhui province; Taiyuan, Jincheng, Lvliang and Xizhou of Shanxi province; Langfang of Hebei; Kezilesu of Xinjiang Autonomous Region.

16 local investigators were recruited and trained to conduct face to face interviews with people aged 50-100 years old by using an online questionnaire over three months from June to September 2020. The respondents were selected randomly. Finally, a total of 1516 valid questionnaires were collected.

Measurements

The Attitudes toward Aging Questionnaire (AAQ). The AAQ assesses three domains among old adults: psychosocial loss (PL), physical change (PC), and psychological growth (PG). Higher scores in the physical change and psychological growth mean positive attitude. The psychosocial loss is scored in reverse, in that higher scores mean positive attitude [34]. The instrument has been translated into Chinese and validated in a

Chinese context by some researchers [35]. It contains 24 items utilizing Likert-type responses on a scale of 1 to 5, ranging from Strongly Disagree to Strongly Agree. The Cronbach's alpha of AAQ, PL, PC and PG was 0.827, 0.746, 0.785 and 0.716, respectively. After three weeks, the retest validity of AAQ, PL, PC and PG was 0.865, 0.818, 0.720, and 0.826, respectively. This study reported within the instrument's domains just like the previous studies [3, 14].

The Spirituality Assessment (SA). Howden's (1992) SA was selected as a suitable tool for this research conducted in China because of its not emphasizing the religious aspect of spirituality but focusing on the existential, relational, and eco-awareness aspects of spirituality [36]. It is a 28-item instrument based on a conceptualization of spirituality as a phenomenon with four critical attributes: unifying interconnectedness (Sam), inner resources (Sbm), purpose and meaning in life (Scm), and transcendence (Sdm). Scores on items are summed to obtain an individual's score. A higher score on the SA represents a higher degree of spirituality. The instrument has been translated into Chinese and validated for this present study. The 28 items were placed on a five-point Likert-type scale ranging from Strongly Disagree to Strongly Agree. Following the analysis of the valid questionnaires by AMOS 24.0 and SPSS 25.0, the model fit of the Chinese version is good (CMIN/df=2.779;RMR=0.034;NFI=0.931;GFI=0.951;CFI=0.939;RMSEA=0.056).

The Memorial University of Newfoundland scale of happiness (MUNSH). The MUNSH is a self-report measure of subjective well-being containing 24 items that address affect during the preceding month and longer-term affective experiences. It was initially developed by Kozma & Stones (1980) for use with older people and its later usage includes adults of any age [37]. Ten items on the MUNSH refer to affect during the preceding month and 14 to longer-term affective evaluations. Half the items within these categories refer to positive emotions and half to negative emotions, thereby giving rise to four component scales termed: Positive Affect (PA), Negative Affect (NA), Positive Experience (PE), and Negative Experience (NE). The general sense of happiness (H) was given as $H=PA-NA+PE-NE$. Researchers in multiple countries have used French [38], Korean [39], and Chinese versions [40]. Its internal consistencies exceeded 0.8 and the test-retest reliability was 0.7 over 18 months.

Data analysis

In this study, SPSS 25.0 was used to test the Common method variance, correlation analysis and descriptive statistics; and AMOS 24.0 was used to for structural equation modeling.

Results

Common method variance

As the data regarding attitude toward aging, spirituality and happiness were all self-reported by the respondents, we tested for common method variance. Harman's sing-factor test of all variables showed that the variance explained by the first factor was 24.54 %, which is lower than the critical standard of 40%. This indicated that common method variance was not a significant concern in this study.

Correlation analysis and descriptive statistics

Table 1 presents the participants descriptive statistics of all 1516 respondents. The mean scores of AAQ,three domains of PL,PC,PG, spirituality and happiness were 81.85(±10.39),26.46(±4.97),28.34(±4.69),27.01(±4.02), 101.06 (±12.88),and 31.72 (±9.87), respectively. The domain of PC had the highest mean score and the domain of PL had the lowest. The mean score of AAQ (81.85±10.39) was above the middle level (range: 24-120). The mean score of spirituality was at upper level (rang: 28-140) and the mean score of happiness was at middle level and a little more than the national norm (28.7+10.72).As expected, three domains of PL,PC,and PG, spirituality and happiness were positively correlated with each other.

Table 1
correlations among all variables

Variables	M±SD	1	2	3	4	5
AAQ Overall	81.85±10.39					
1. Psychosocial loss	26.46±4.97	—				
2. Physical change	28.34±4.69	.275***	—			
3. Psychological growth	27.04±4.02	.179***	.663***	—		
4. Spirituality	101.06±12.88	.167***	.655***	.664***	—	
5. Happiness	31.72±9.87	.545***	.447***	.387***	.467***	—

***P<0.001

Mediating effect model

The overall model fit ($\chi^2 = 149.728$, $df=14$, $p<.001$) was significant (see Fig. 1) .All the values of GFI (.953), CFI (.965),IFI (.965),TLI (.939),RFI (.923),and NFI (.962) reached the threshold (> .90). AGFI (.879) was not in the range, but according to Anderson and Gerbing (1988) [41], more than or equal to .850 was acceptable too. According to Vandenberg and Lance (2000) [42], RMSEA ($\leq .10$) was statistically acceptable. In our study, RMSEA (.103) was very close to .10, so at least it was not bad. On the whole, only one of all values was not in the range, thus the overall model fit well.

Figure 1 shows a diagram of the potential mediation. The pathway between spirituality and happiness was .34 ($P<.001$), the pathway between psychosocial loss and spirituality was -.02 ($P=.522>.05$),the pathway between psychosocial loss and happiness was .46 ($P<.001$),the pathway between physical change and spirituality was .40 ($P<.001$), the pathway between psychological growth was .42 ($P<.001$), the pathway between physical change and happiness was .08 ($P=.61>.05$), and the pathway between psychological growth and happiness was .02 ($P=.618>.05$). This showed that spirituality acted as a full mediator between physical change and happiness, and the indirect association (IA) was given as $IA=ab=.136=13.6\%$. Additionally,95%CI (LL,UL)=[.09,.190],and two tailed significance $P=.001 <.01$. Also, spirituality acted as a full mediator between psychological growth and happiness, and the indirect association (IA) was given as $IA=ab=.142=14.2\%$. Additionally,95%CI (LL,UL) =[.10,.201], and two tailed

significance $P=.001 <.01$. However, spirituality didn't play the mediating effect on the relationship between psychosocial loss and happiness.

As can be seen from the above analysis, the mediating effects of spirituality on the paths between physical change and happiness and between physical growth and happiness were supported, but the mediating effect of spirituality was not supported on the path between psychosocial loss and happiness.

Discussion

In this study, the mean scores across all the domains reflected a positive attitude toward aging, which is similar to many studies conducted in foreign countries [3, 6, 14, 43] and China [4, 7, 27]. Compared to the previous studies in China, the overall mean score in this study is higher than those reported in past. This indicates that current old adults' perception of aging are more positive than the past old adults. Compared to the previous studies in foreign countries, the overall mean score in this study is higher than that reported in Nigeria [3], but lower than that in Turkey [14]. This difference may be related to religious culture and socioeconomic status in various countries.

The highest positivity reported was in the domain of physical change and the lowest was in the domain of psychosocial loss. This finding is consistent with all studies in a Chinese context [4, 7, 27], but inconsistent with the studies in foreign countries [3, 14]. In their studies, the highest positivity reported was in the domain of psychological growth and their perception of aging was more negative in terms of physical change, which had the lowest score. This difference reflected different views on old age between Chinese and foreign elders. Maybe, the former didn't perceive growth in wisdom and knowledge due to aging [3] and the latter perceived aging as enhancing their prestige and focused on resting and relaxing, but they considered impairment of physical health and dependency as the normal thing [14].

In this study, the state of happiness in old adults was fair, which is similar to many previous studies conducted in Chinese old people [44–46], and indicates a similar trend in many foreign studies that older people might be less happy than younger people [47]. The state of spirituality in this study was high, which was similar to the finding of Howden (1992). This gave strong evidence to support the existing views that spirituality may have multiple opportunities for development in different cultures, countries and religious groups and it is a common phenomenon to all cultures and ages and is not the exclusive property of any religious group. In other words, spirituality is a far more inclusive conception than religion and can be separated from religion, and "It may or may not be integrated into religious rituals and practices and does not necessarily involve participation in a religious organization" [48].

No previous study has examined the relationship between attitude toward aging and spirituality. In this study, it showed a positive pathway between the two domains (physical change and psychological growth) of attitude toward aging and spirituality. This indicated that the positive development of old age might involve a kind of inner resilience, named spirituality [49–50], and it also was regarded as a very important component of adjustment to aging [51].

Similar to previous studies, spirituality was positively related to happiness in our study [31–33, 52, 53]. More importantly, our study indicates that even in countries where atheism is the dominant culture, spirituality's central role in happiness is still positive and significant [54]. It can be seen that spirituality is indeed a natural instinct and precious asset shared by all human beings and it is a common phenomenon that transcends culture, country, group and region [48].

This study findings showed that spirituality acted as a full mediator on the positive relationship between two domains (physical change and psychological growth) of attitude toward aging and happiness. As written above, very few study revealed the positive relationship between attitudes toward aging and happiness in old adults [27]. And also, no research has further explored why they were correlated with each other. However, this study gave an in-depth explanation on this topic, that is, the significantly positive association between old adults' attitudes toward aging (physical change and psychological growth) and happiness was entirely due to the growth of spirituality. In addition, this study in a Chinese context once again confirmed the mediation roles of spirituality as an inner resilience that has been proved in previous studies conducted in foreign countries [55–59].

This study has some limitations. First, the cross-sectional nature prevents inference about the causal relationship among the factors. A longitudinal study on this topic is worth trying in future research. And also, a qualitative method is worth trying in this field in future. Second, the use of convenience sampling might have resulted sampling bias that the sample could not be representative of the entire old population. For example, participants in this study were relatively healthier and those unhealthier elders who lived in institutional settings were excluded.

Conclusions

This study is the first one that has explored the mediating mechanism of spirituality between attitude toward aging and happiness in Chinese old adults. Three main conclusions were obtained: first, the attitudes toward aging was positive and positively related to spirituality and happiness; second, Chinese old adults' spirituality was high and positively related to happiness; third, Chinese old adults' happiness was fair and spirituality acted as a full mediator between two domains (physical change and psychological growth) of attitudes toward aging and happiness.

As far as we know, by the year of 2021, China have had the largest number (264 million) of aging population (aged 60 years and over) in the world (National Statistical Bureau of China, 2021) [60]. Therefore, it is a very important and hard work to make all the Chinese old people age well and feel happy. Generally speaking, education about aging (or aging education) is an effective way to cultivate positive attitudes toward aging, so opportunities to foster learning cross the life span must be explored [61]. However, according to this findings, if we want to improve such a large old population's happiness through education about aging, it is very critical to increase content conducive to spiritual growth of old adults in teaching. Most importantly, the development of spirituality as a core content and aim should be included into the curriculum design of aging education. Besides the mediating function of spirituality itself reported in this paper, our society also has a very important role in making the seniors spiritual role models [62].

Declarations

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Authors' contributions

Jie Li contributed to the whole process of this study, including conception and design, material preparation, data collection and analysis and paper writing.

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Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

The study protocol was reviewed and approved by East China University of Political Science and Law. The local investigators obtained verbal informed consent from study participants who were unable to write. Participants were allowed to thumbprint their endorsement. However, written consent was obtained from those who were able to write, and the ethics committee had approved this procedure.

All methods were carried out in accordance with Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

Jie Li declares that there is no competing interest for the study.

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Figures

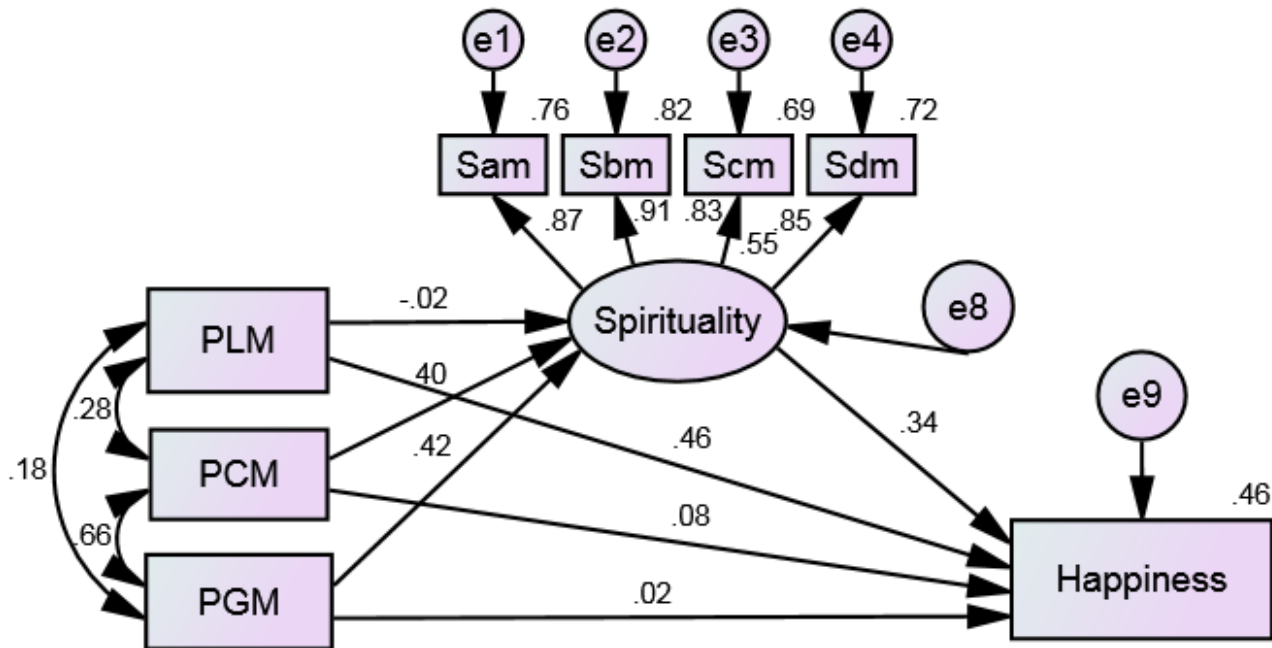


Figure 1

The SEM model of moderating effect