



Original Article

The Prediction of Quality of Life - based on Personality Traits and Spiritual Intelligence in the Elderly

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ABSTRACT

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Introduction: Considering the increasing trend of the elderly population in Iran, attention paid to this critical phase, both socially and psychologically, is essential in improving their quality of life. The present study aimed to investigate prediction of quality of life - based on personality traits and spiritual intelligence in the elderly.

Methods: This correlational study carried out on older adults in Tehran who lived in nursing homes in 2020 and 182 of them were selected by convenience sampling. The *NEO* Personality Inventory (*NEO-PI*), The Spiritual Intelligence Self-Report Inventory (*SISRI-24*) and Leiden-Padua Questionnaire (*LEIPAD* questionnaire) were used for data collection. Descriptive statistics (mean, standard deviation) and inferential statistics (correlation and stepwise regression analysis) were used for data analysis. The correlation matrix and stepwise regression were used to predict the quality of life scores based on personality and spiritual intelligence.

Results: There was a significant relationship between personality traits with spiritual intelligence and quality of life ($r: 0.361, p < 0.05$). Also, there was a significant relationship between spiritual intelligence and quality of life ($p < 0.05$). Personality traits of neuroticism, extraversion, and spiritual intelligence could predict a total of 38.5% of the variance in quality of life ($p < 0.05$).

Conclusion: The quality of life has a significant relationship with both spiritual intelligence and personality traits, so, spiritual intelligence and personality components can predict the quality of life in the elderly.

Keywords: Aging, Spiritual Intelligence, Personality Traits, Quality of Life

Introduction

Aging is a critical period of human life in which the elderly are exposed to potential threats such as increased incidence of chronic diseases, loneliness, isolation, lack of social support, and due to physical and mental disabilities; in many cases, their independence is threatened (1). With the increase of the elderly population, the prevalence of mental disabilities increases, and this has worried the health

and social systems that are currently under financial pressure, so paying attention to the issues and needs of this stage of life is a social necessity especially in the personality characteristics of the elderly and their effect on psychological variables (2). Given the many definitions of personality, it is impossible to provide a single, complete personality description. Each theorist defines it according to their approach. For example,

humanistic psychology, emphasizes that people have free will and that this plays an active role in determining how they behave. Accordingly, humanistic psychology focuses on subjective experiences of persons as opposed to forced, definitive factors that determine behavior (4). Behaviorists explain personality in terms of the effects external stimuli have on behavior. The approaches used to evaluate the behavioral aspect of personality are known as behavioral theories or learning-conditioning theories (5). Several theories have investigated personality development in the elderly. Some of these theories have explained that the personality of individuals becomes more stable and inflexible with age and changes less, although there is a possibility of change (6). Personality flexibility is also related to intelligence. There is probably a connection between personality processes and intelligence. Intelligence is a set of tools to achieve productivity, effectiveness, happiness, satisfaction, and meaningfulness in life (7). Emmons believes that spirituality can be considered a form of intelligence because it predicts one's performance and adjustment and introduces capabilities that enable people to solve problems and achieve their goals (8).

The concept of spiritual intelligence in the literature of the Academy of Psychology was first introduced in 1999 by Emmons (9). By definition, spiritual intelligence can be a cognitive-motivational thing that teaches adaptive skills and resources that facilitate problem-solving and goal achievement. Spiritual intelligence is the adaptive and practical performance of the above in specific situations and daily life (10). The definition of spiritual intelligence is based on the concept that distinguishes it from existential and religious intelligence (11). Emmons defines spiritual intelligence as the adaptive use of spiritual information to facilitate the solution of everyday problems and the maintenance of goals (12). He suggested five components for spiritual intelligence: The capacity for transcendence, the ability to experience higher levels of consciousness, the power to sanctify everyday experiences, the ability to use spiritual resources to solve problems, and the capacity to behave virtuously. Spiritual intelligence can facilitate or enhance awareness or a sense of connection to a higher power or a sacred being (13). Spiritual intelligence combines the structures of spirituality and intelligence into a new system. While spirituality is associated with the search and experience of sacred elements, meaningfulness, heightened consciousness, and transcendence, spiritual intelligence requires using such spiritual subjects to adapt and act effectively and produce valuable products and consequences (10). In general, the appearance of the structure of spiritual intelligence can be used as the application of spiritual capacities and resources in practical fields and situations. People use spiritual intelligence to use their spiritual powers and resources to make crucial decisions and thoughts on existential issues or solve everyday problems (14). Therefore, spiritual intelligence integrates the mental themes of spirituality with the tasks of the natural

world (15). These two components of personality and spiritual intelligence can affect the psychological health of the elderly. More vulnerable characters and lower levels of intelligence cause a decline in quality of life. Some findings also indicate the significant role of personality characteristics in the spiritual intelligence of individuals and consider these characteristics as a predictor of spiritual intelligence (7, 16).

Aging is a period of life in which the elderly are exposed to potential threats such as increased chronic illness, loneliness, isolation, lack of social support. Due to physical and mental disabilities, their independence is also threatened in many cases. Taken together, these factors can lead to a decline in quality of life in the elderly (17). According to the results of a study conducted in this field, the elderly who need the help of others and caregivers in daily life have a lower quality of life (18). Quality of life is a set of physical, mental, and social well-being perceived by an individual or a group of people. It includes happiness, satisfaction and pride, health, financial success or educational opportunities, and creativity. The World Health Organization (19) defines the quality of life as each individual's perception of life, values, goals, standards, and interests. There is no one-size-fits-all definition of quality of life, and people's understanding of life is essential, and each person may have their criteria. However, what can be considered is that in the life of the elderly, due to a series of issues such as retirement and consequently reduced social activities, separation of children from parents, dependence on others, and increasing physical problems, the quality of life is affected (20). In a study about the quality of life in the elderly, most of them had a good understanding of the quality of life. Two thirds of them had evaluated their quality of life as favorable, and those who evaluated the quality of life negatively considered it mostly related to physical problems and economic problems. In another study, Lim et al., (21) concluded that maladaptive personality characteristics reduce desirable social relationships and thus the quality of life. In the study of Seraji et al., (22) it was shown that there is a difference in the quality of life in elderly men and women, and women had a lower quality of life than men. Also, there was a positive and significant relationship between quality of life and spiritual health.

The increase in the number of elderly people in Iran and its consequences have not been seriously considered yet. But there is the fact that the elderly population is growing faster than the population as a whole. In fact, along with population growth and increased life expectancy, aging is on the rise, and the weakness and inability of this group require special care and attention. The importance of the present study is evident in the fact that so far, no research has been done on personality characteristics and spiritual intelligence and consequently the quality of life of the elderly, as well as plans to provide related services and care for the elderly in the country.

Methods

Study design

The present study's design is descriptive research according to the purpose of the study, which the correlation of between study variables was investigated.

Setting and participants

The statistical population included all older adults in Tehran who were residing in nursing homes (3 nursing homes in the north of Tehran) in 2020. Considering the correlation method in this study and Morgan's table (23), 182 older adults were selected by convenience sampling. Inclusion criteria were age between 60 and 80 years, lack of specific diseases such as Alzheimer's and multiple sclerosis that cause cognitive and physical disability, and literacy. Exclusion criteria also included debilitating illness and mental deficiency.

Instruments and data collection

The tools used in this study included:

The NEO Personality Inventory (NEO-PI): To assess the personality traits of individuals, the short form of NEO-PI, which has 60 questions, has been used (24). This test measures five personality traits of individuals: neuroticism, extraversion, openness to experience, agreeability, and conscientiousness. The validity of this questionnaire in Iran by the method of correlation of its scales has been reported by the revised Eysenck-Short Form Questionnaire (25) in the neuroticism factor of 72% and in the extroversion factor of 70% and the correlation of the compatibility and consciousness scale with the neuroticism scale, 32 % and the correlation of openness to experience with extraversion factor is 22 %.

In the standardization of the NEO-PI performed by Garossi Farshi (26), the correlation coefficient of the five principal traits was between 0.56 and 0.87 has been reported. Cronbach's alpha coefficients in each of the main factors of neuroticism, extroversion, openness, agreeableness, and conscientiousness were 0.86, 0.73, 0.56, 0.68, and 0.87, respectively. To check the content validity of this inventory, the correlation between the two forms of the personal report (S) and the observer evaluation form (R) was used, with a maximum correlation of 0.66 in the extraversion factor and a minimum of 0.45 in agreeableness factor (26).

The Spiritual Intelligence Self-Report Inventory (SISRI-24): SISRI-24 (28) was used to measure spiritual intelligence in this study. This scale contains 4 dimensions and 24 items, including critical thinking with seven items, the creation of personal meaning with five items, the passing of awareness with seven items, and the development of consciousness with five items. The validity and reliability of this scale in Iran were measured by Raghieb et al., (29). For measuring validity, first-order confirmatory factor analysis was used, which at the level ($p < 1\%$) had a correlation coefficient of 66%, and reliability was estimated at Cronbach's alpha at the level ($p < 5\%$) of 88 %.

Leiden-Padua Questionnaire (LEIPAD questionnaire):

This questionnaire measures the quality of life of the elderly in 7 domains of cognitive functioning (CF), depression/anxiety (DA), life satisfaction (LS), physical functioning (PF), self-care (SC), and social functioning (SF) with 31 items on a 4-point Likert scale. The total score on this scale ranges from 0 to 93, and higher scores indicate a higher level of quality of life. Obtained Cronbach's alpha of this questionnaire is 0.83 (30). The questionnaire has no cultural burden and has been translated and standardized in Iran. In the study of Alipoor et al., (31), the reliability of the questionnaire through Cronbach's alpha was 87 %. Also, the content validity of the questionnaire has been expressed as eligible by the Panel of experts.

Statistical analysis

Mean \pm standard deviation (SD) was used for quantitative data and frequency and percent were presented for qualitative characteristics. Pearson's correlation coefficient and multivariate regression with the stepwise method was used for inferential data analysis.

Ethical considerations

First, the purpose of the study was explained to the participants and a written consent was obtained from them to participate in the research. The questionnaires were given to them and they were asked to read the questions carefully and choose the desired answers according to their characteristics. The elderly participating in the study were assured that the information received from them would remain confidential. The participants could withdraw from the research at any time and there was no obstacle for them. The present study has been approved by the Ethics Committee of Shahid Beheshti University (Ethics code IR.SBU.REC.1400.361)

Results

Of the participants (182 people), 43 % were male, and 57% were female. The age of participants ranged from 60 to 80 years (66.63 ± 5.1 years). The educational level of 74.7 % of them were under diploma, 15.9% high school diploma, 7.1 % associate degree and 2.3 % were bachelors. The mean and standard deviation of the study variables are shown in Table 1.

The mean and standard deviation of quality of life score of the participants was 64.47 ± 12.57 , and spiritual intelligence was 32.90 ± 7.29 . In addition, the mean and standard deviation of personality components are presented in Table 1.

There was a significant positive correlation between spiritual intelligence and quality of life ($r = 0.361$, $p < 0.001$). The correlation coefficient results between personality and quality of life are presented in Table 2. The correlation coefficient between the quality of life of the elderly and the personality trait of "neuroticism" was -0.503, which is significant at the level of $p < 0.001$; Also, the correlation between these two variables is inverse, which means that with increasing neuroticism,

the quality of life of the elderly decreases. In addition, the correlation coefficient obtained between the quality of life of the elderly and the personality trait of "extraversion" is 0.434, which is significant and positive at the level of $p < 0.001$. This means that as extraversion increases, so does the quality of life of the elderly.

A correlation matrix was performed to examine the correlation between personality, spiritual intelligence, and quality of life, the results of which are presented in Table 3. Spiritual intelligence has a significant and positive relationship with extraversion and conscientiousness. There was also a significant negative relationship between neuroticism and spiritual intelligence.

Stepwise regression was used to evaluate the quality of life through personality traits and spiritual intelligence. The scatter plot shows the linear relationship between the data, which allows us to perform a regression analysis. We can also examine the correlation of the Pearson bivariate functions and find that these two variables are

highly correlated ($r = 0.959, < 0.001$). Moreover, we need to look at multivariate normality. There may not be multivariate normality in this statistical sample. Kolmogorov-Smirnov test confirms this assumption ($p = 0.002, p = 0.006$) and obtains multivariate normality as ($p = 0.543, p = 0.991$ K-S test). The results of stepwise regression analysis are presented in Table 4.

In stepwise multivariate regression analysis, based on the correlation between the quality of life of the elderly with personality traits and spiritual intelligence, the first neurotic trait was introduced, which explained 25 % of the variance in the quality of life ($p < 0.001, F = 75.14$). After that, the extroversion personality trait explained another 4 % ($p < 0.001, F = 15.25$). In the next step, the component of spiritual intelligence explained 8 % of the variance in the quality of life ($p < 0.001, F = 30.02$). So, it can be said that personality traits of neuroticism and extroversion and the variable of spiritual intelligence can predict a total of 38.5% of the variance in the quality of life.

Table 1. Mean and standard deviation of quality of life, spiritual intelligence and personality trait

Component	Mean	Standard deviation	Variance	Min	Max
Quality of life	64.47	12.57	157.96	28.89	81.62
Spiritual intelligence	32.90	7.29	53.15	20.54	52.27
Neuroticism	48.49	13.09	171.39	16.67	70.83
Extraversion	57.50	13.30	176.89	20.83	81.25
Openness to experience	44.96	7.82	61.17	32.91	66.67
Agreeableness	53.61	10.56	111.56	23.40	77.08
Conscientiousness	70.58	14.88	221.49	18.75	93.75

Table 2. Pearson correlation matrix results between personality traits and quality of life

Variables	1	2	3	4	5	6
Quality of life	1					
Neuroticism	-0.503**	1				
Extraversion	0.434**	-0.481**	1			
Openness to experience	-0.035	-0.114	-0.251	1		
Agreeableness	0.233	-0.172	0.238	-0.108	1	
Conscientiousness	0.142	-0.132	0.423**	-0.175	0.343**	1

*. $p < 0.05$ **. $p < 0.01$

Table 3. Pearson correlation matrix results between personality traits, spiritual intelligence, and quality of life

Variables	1	2	3	4	5	6	7
Quality of life	1						
Spiritual intelligence	0.361**	1					
Neuroticism	-0.503**	-0.041	1				
Extraversion	0.434**	0.270**	-0.481**	1			
Openness to experience	-0.035	0.133*	-0.114	-0.251**	1		
Agreeableness	0.233**	0.187**	-0.172**	0.238**	-0.108	1	
Conscientiousness	0.142*	0.284**	-0.133*	0.423**	-0.175**	0.343**	1

**. $p < 0.01$ *. $p < 0.05$

Table 4. Stepwise regression results of spiritual intelligence and personality to predict the quality of life

Model	Predictive variable	B	β	t	p	R	R ²	F	p
1	Neuroticism	-0.48	-0.50	-8.669	0.001	0.503	0.253	75.149	0.001
2	Neuroticism	-0.37	-0.38	-5.964	0.001	0.549	0.301	15.259	0.001
	Extraversion	0.24	0.25	3.906	0.001				
3	Neuroticism	-0.40	-0.42	-6.883	0.001	0.621	0.385	30.022	0.001
	Extraversion	0.14	0.15	2.417	0.016				
	Spiritual intelligence	0.52	0.30	5.479	0.001				

Discussion

This study aimed to investigate the relationship between spiritual intelligence and personality traits with quality of life in the elderly. The results of this study indicated that quality of life has a significant correlation with both spiritual intelligence and personality traits. Therefore, the first hypothesis of the study that there is a relationship between personality traits and quality of life was confirmed. The present study's findings show that neuroticism has a significant negative relationship with quality of life; in other words, those who have lower neuroticism are more satisfied with their lives. Following this research, most other studies such as Naderi et al., (32), Kalantari et al., (33), Chen et al. (34), Gao et al., (35), Nasr Esfahani and Etemadi (36) all confirmed this relationship. They showed a significant negative relationship between neuroticism and quality of life.

The second hypothesis of the research that there is a relationship between spiritual intelligence and quality of life was also confirmed. The data showed that people with higher spiritual intelligence have a better quality of life. This result is consistent with the results of research by Naderi et al., (26); Nasr Esfahani and Etemadi (36); Raesi et al., (37); Pant and Srivastava (38); Seraji et al., (20); Bolghan-Abadi et al., (39); Munawar and Tariq (40) are consistent and confirm the results obtained. In explaining this relationship, it can be said that while spirituality is the search for sacred elements, semantics, high awareness, and transcendence, spiritual intelligence includes the ability to use such subjects that can predict one's functioning and adaptation and lead to the production of valuable elements; It can also be said that people with high spiritual intelligence are beyond the body and matter, experience peak states of consciousness and use spiritual resources to solve problems, and characteristics such as humility, gratitude, compassion or forgiveness can be seen in them. Having these characteristics and a positive view of the world, these people have a quality life and strive to improve it. The final hypothesis of the study that personality traits and spiritual intelligence can predict the variance of scores in quality of life was also examined. The results obtained by stepwise regression analysis showed that out of 5 personality traits, only two traits of neuroticism and extraversion were able to predict the quality of life; Also, with the addition of spiritual intelligence to each of these traits, the amount of predictability increased so that the neuroticism was introduced, which explained 25 % of the

variance in the quality of life of the elderly. Then came the extroverted personality trait, which explained another 4%. In the next step, the spiritual intelligence component was introduced, which explained 8% of the variance in the quality of life of the elderly.

Conclusion

In general, spirituality can express a separate dimension of personality. Individuals who score higher on "extraversion" and "conscientiousness" personality traits and lower on neuroticism have a more remarkable ability to deeply understand spiritual questions, inner insight, and general awareness of spirituality. Also, the positive relationship between quality of life and extraversion and conscientiousness and the negative relationship between neuroticism and quality of life can indicate that people with better quality of life can establish healthier and more successful interpersonal relationships and satisfy others. In general, it can be concluded that spiritual intelligence and personality components can predict the quality of life in the elderly.

Study limitations

There were a few limitations in this study. Lack of random sampling was the limitations of this study. The study was conducted only in 3 nursing homes centers in north of Tehran, and it may not be possible to generalize the results. Descriptiveness of the study design is also one of the limitations of the present study.

Conflict of interest

The authors declared no conflict of interest.

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Authors' contributions

All authors equally contributed to preparing this article. All authors read the final draft of the manuscript, provided the necessary revisions, and accepted the responsibility its contents.

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