






The Relationships Between Personality Characteristics and Social Function in Older Adults

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Abstract

Social function is an important concept in the mental and social health of older adults, and personality is a factor that drives many activities and communications. But their relationship is not explained. This study aims to determine the relationships between personality characteristics and social function in older adults. This is a cross-sectional descriptive-analytical study. We entered 550 eligible community-dwelling older adults through multi-stage cluster sampling in the study. The data were collected through the Big Five Inventory-44 (BFI-44) and Social Adaptation Self-evaluation Scale (SASS). Data were analyzed using SPSS software v.16 via t-test, ANOVA, Pearson's correlation and multiple linear regression. There was a significant positive correlation between all personality characteristics and social function ($p < .01$). Age ($\beta = -0.12$), extraversion ($\beta = 0.20$), neuroticism ($\beta = -0.11$), openness to experience ($\beta = 0.35$), and conscientiousness ($\beta = 0.16$) are able to explain the variance of quality of activities, but agreeableness was ineffective. Also, quality of relationships variance is explained by age ($\beta = -0.08$), extraversion ($\beta = 0.21$), neuroticism ($\beta = -0.12$), openness to experience ($\beta = 0.28$), agreeableness ($\beta = 0.11$) and conscientiousness ($\beta = 0.14$). The changes in social function are predictable by BFI. Neuroticism has a negative effect on both the quality of relationships and the quality of activities, but agreeableness does not affect the quality of activities.

Keywords

aged, personality, social function, social activity



Non-Technical Summary

What does this research add to existing knowledge in gerontology?

This study explains the importance of psychological aspects such as personality traits. It explains the relationship between personality traits and social function.

What are the implications of this new knowledge for nursing care with older people?

Elderly health care providers should consider the personality factor to increase social participation and social communication.

How could the findings be used to influence policy or practice or research or education?

Policymakers and health care providers need to look at the personality factor to maximize social activities and make programs based on them. Further mention of the importance of psychological and social aspects in student education.

Ageing is not only a change in physical and mental condition, but also a change in social functioning and roles. These changes can have a significant effect on the social motivation and function of older adults (Farokhnezhad Afshar et al., 2017).

Literature Review

Social function is a concept defined in terms of individual interactions with others and the environment, the ability to perform, and social activities and family relationships. So, the social function has expanded in the fields of work, community, leisure, and the role of spouse and parent. Social function is a broad concept that is evaluated in both objective and subjective dimensions (Bosc, 2000). Its objective dimension includes social work and social roles. But the subjective dimension is the evaluation of the individual from her or his performance and communication in society. The factors influencing the social function of older adults are not yet clear in the theories and studies (Abachizadeh et al., 2014; Bosc, 2000). It has been stated in theories that social function effects on well-being and satisfaction of older people. One of the first social theories addressed the well-being and satisfaction in old age is Disengagement Theory; this theory states that by entering old age, individuals find a natural tendency to socially and psychologically disengage from the community. But this theory did not pay attention to individual differences (Hollis-Sawyer & Dykema-Engblade, 2016). Activity Theory states that maintaining and continuing activity and having an active life has a positive effect on the well-being of older adults. Many older people tend to stay busy and active, and their satisfaction comes from their participation in social activities and relationships but this theory also does not

address the different types of activities and levels of health and preferences of individuals (Lee & Choi, 2020). According to Role Theory, the interactions of the old people with society are reduced following retirement and loss of social roles and social position (Fillit et al., 2016; Settersten & Angel, 2011). Therefore, it is necessary to pay more attention to social function as an effective factor in the well-being of older people. But what factors affect social function?

Personality Characteristics

Personality characteristics are a fundamental psychological factor that affects people's activities and communication (Volodina et al., 2019). It was first started with the theory of Personality and Lifestyle in old age that social activities are influenced by personality (Hill et al., 2012; Wang et al., 2013). The personality is a specific pattern of thinking, excitement, and behavior response in everyday life which is fixed and predictable (Sadock et al., 2017). The classification of personality characteristics began in the late 19th century. The latest classifications include the Five-Factor Model, which includes neuroticism, extraversion, and openness to experience, agreeableness, and conscientiousness. Neuroticism personality characteristics include negative emotions such as sadness, fear, frustration, hatred, nervous stress, and depression, these characteristics are due to irrational thinking, low self-esteem, and ineffective adaptation (Sutin et al., 2019); The individuals with extraversion characteristic tend to have positive emotions such as euphoria, optimism, and ambition (Agmon & Armon, 2016); Agreeableness characteristics have human characteristics such as altruism, supportiveness, emotionality, and are less self-centered; Individuals with conscientiousness characteristics are disciplined, conscientious, hardworking, self-controlled, and consequential; The individuals with openness to experience characteristics are independent, flexible, creative, and innovative, curious, and have broad interests and are artists (Hill et al., 2014). The personality characteristics are almost stable until the end of life (Harris et al., 2016). According to the theory of continuity, older people tend to continue their middle-aged activities (Diggs, 2008). Personality characteristics do not have the same effect on social function. Also, due to the importance of social function on mental health (Bosc et al., 1997; Ueda et al., 2011), social well-being and life satisfaction (Farokhnezhad Afshar et al., 2017). This study aims to determine the relationships between personality characteristics and social function in older adults.

Method

Study Design

This is a cross-sectional descriptive-analytical study. The population study consisted of community-dwelling older adults in Tehran. Tehran is the capital of Iran and a metropolis.

Setting and Sample

We selected participants by Multi-stage cluster sampling. The primary health centers are under the supervision of medical universities in Tehran. We made a list of all the primary health centers in Tehran. Then, 40 centers were randomly selected to cover all areas. Finally, 550 community-dwelling older adults in Tehran who had the inclusion criteria were selected (south and center: $n = 133$, north and east: $n = 237$, west: $n = 180$). The inclusion criteria included Age over 60 years and Cognitive health based on the results of the Mini-Cog test (a combination of Three Word Recall test and Clock Drawing Task) (Borson et al., 2000; Sadeghipour Roodsari et al., 2013). The exclusion criteria included an incomplete questionnaire ($n = 0$) (the participants were given a pair of socks as incentives to complete the questionnaire).

Measurements

- Big Five Inventory-44 (BFI-44) was used to determine personality characteristics. The five personality characteristics measured by BFI-44 include neuroticism, extraversion, and, openness to experience, agreeableness, and conscientiousness. The test-retest reliability of BFI-44 was reported to be 0.94. Its convergent validity was shown to be optimal by its correlation with the revised version of the NEO Personality Inventory (NEO PI-R, Soto & John, 2009). In this study, Cronbach's alpha of extraversion was 0.92, 0.91 for agreeableness, 0.93 for conscientiousness, 0.92 for neuroticism, and 0.94 for openness to experience.
- Social Adaptation Self-evaluation Scale (SASS) was used to evaluate social function. SASS includes 20 items that assess social function concerning relatives and friends, work, interests and leisure, general social attitudes, and the ability to manage and control the environment. Its Cronbach's alpha coefficient has been reported in various studies in the range of 0.75–0.95 (Bosc, 2000; Bosc et al., 1997). The Chinese version of SASS showed that Cronbach's alpha was 0.97. There was a significant negative correlation with the Beck Depression Inventory (BDI), $r = -0.39$ (Tse & Bond, 2007). The evaluation of its Persian version found that SASS has two subscales of quality of relationship and quality of activities (Afshar et al., 2017a). Cronbach's alpha of the total scale was 0.95, 0.94 for the quality of relationships, and 0.93 for the quality of activities.

Statistical Analyses

The data were analyzed using IBM SPSS software Version 22 at a significant level ($\alpha = 0.01$). The mean, standard deviation, and frequency were used to describe the data, and independent t-tests, ANOVA, Pearson correlation, and multiple regression analysis (stepwise method) was used to analyze the data.

Results

Participant Characteristics

The mean age of the participants was 66.09 ± 6.66 (age range: 60 to 93 years). The gender ratio (male to female) was 1.43, and 58.9 percent of the participants were male. Table 1 shows demographic variables and social function scores based on them. According to the results, no significant difference was found between the two genders in terms of quality of activity score, but the quality of relationships score showed a significant difference between the two genders ($p = .03$). According to the ANOVA test, a significant difference was found between married and widowed groups in terms of quality of activities ($p = .02$). The quality of relationships differs significantly between the married, single and widowed groups ($p = .001$). According to the results, the quality of activities differs significantly between the illiterate and the secondary and university education groups ($p < .001$), but the quality of relationships score was significantly different between the illiterate and all three other groups ($p < .001$).

Table 1

Demographic Characteristics and SASS of the Participants

| Variable | Participants | | | SASS | | | |
|-------------------|---------------|------------|------------|-----------------------|----------|--------------------------|----------|
| | Frequency (%) | | | Quality of activities | | Quality of relationships | |
| | Female | Male | Total | <i>M</i> ± <i>SD</i> | <i>p</i> | <i>M</i> ± <i>SD</i> | <i>p</i> |
| Sex | | | | | | | |
| Male | — | — | — | 18.45 ± 6.17 | .70 | 21.34 ± 5.80* | .03 |
| Female | — | — | — | 18.24 ± 6.18 | | 20.25 ± 5.44* | |
| Education | | | | | | | |
| Illiterate | 53 (23.5) | 27 (8.3) | 80 (14.5) | 15.46 ± 5.91* | < .001 | 17.41 ± 5.32* | < .001 |
| Elementary School | 64 (28.3) | 88 (27.21) | 152 (27.6) | 17.52 ± 6.15 | | 20.36 ± 5.45* | |
| High School | 97 (43) | 171 (52.8) | 268 (48.8) | 20.15 ± 5.29* | | 22.69 ± 4.89* | |
| College education | 12 (5.2) | 38 (11.6) | 50 (9.1) | 22.42 ± 5.64* | | 24.16 ± 6.05* | |
| | | | | <i>F</i> = 20.94 | | <i>F</i> = 23.86 | |
| | | | | <i>df</i> = 3 | | <i>df</i> = 3 | |

| Variable | Participants | | | SASS | | | |
|-----------------------|---------------|------------|------------|-----------------------------------|----------|-----------------------------------|----------|
| | Frequency (%) | | | Quality of activities | | Quality of relationships | |
| | Female | Male | Total | <i>M</i> ± <i>SD</i> | <i>p</i> | <i>M</i> ± <i>SD</i> | <i>p</i> |
| Employment | | | | | | | |
| Employed | 29 (12.8) | 118 (36.4) | 147 (26.7) | 20.37 ± 5.33* | < .001 | 23.18 ± 5.44* | < .001 |
| Unemployed | 27 (12) | 44 (13.6) | 71 (12.9) | 15.07 ± 5.86* | | 17.47 ± 5.17* | |
| Retired | 46 (20.4) | 160 (49.4) | 206 (37.5) | 18.43 ± 6.02* | | 21 ± 5.33* | |
| Housewife | 124 (54.9) | 2 (.6) | 126 (22.9) | 17.76 ± 6.63* | | 19.98 ± 5.62* | |
| | | | | <i>F</i> = 13.16 <i>df</i> = 3 | | <i>F</i> = 19.39 <i>df</i> = 3 | |
| Marital status | | | | | | | |
| Married | 151 (66.8) | 280 (86.4) | 431 (78.4) | 18.83 ± 6.11* | .005 | 21.67 ± 5.42* | < .001 |
| Divorced | 13 (5.8) | 5 (1.6) | 18 (3.2) | 18.11 ± 6.73 | | 19.44 ± 5.89 | |
| Single | 9 (4) | 26 (8) | 35 (6.4) | 16.25 ± 5.65 | | 17.88 ± 4.75* | |
| Widow/ widower | 53 (23.4) | 13 (4) | 66 (12) | 16.48 ± 6.14* | | 17.83 ± 6.13 | |
| | | | | <i>F</i> = 4.32 <i>df</i> = 3 | | <i>F</i> = 13.62 <i>df</i> = 3 | |

**p* = .05.

Personality Traits and Social Function

Personality characteristics are a combination of all the characteristics, but one characteristic was dominant and scored higher. According to the results, personality characteristics included extraversion (6%), neuroticism (13.3%), openness to experience (7.3%), agreeableness (42.2%), and conscientiousness (31.3%). Table 2 shows that all dimensions of personality are positively and significantly correlated with all dimensions of social function. But the correlation between neuroticism, quality of activities, and quality of relationships are negative and significant.

To assess the relationship between personality dimensions and place attachment dimensions, stepwise multiple regression analysis was performed. Durbin-Watson test was performed for both dimensions of social function and resulted in the quality of activities (DW = 1.91) and quality of relationships (DW = 1.99). Table 3 shows that age ($\beta = -0.12$) and extraversion ($\beta = 0.20$), neuroticism ($\beta = -0.11$), openness to experience ($\beta = 0.35$), and conscientiousness ($\beta = 0.16$) can explain the variance of quality of activities, but agreeableness was ineffective. Also, quality of relationships variance is explained by age ($\beta = -0.08$), extraversion ($\beta = 0.21$), neuroticism ($\beta = -0.12$), openness to experience ($\beta = 0.28$), agreeableness ($\beta = 0.11$) and conscientiousness ($\beta = 0.14$). Table 3 shows the other data.

Table 2

Correlation Coefficients Among Personality Traits and Social Function

| Variable | Quality of activities | | Quality of relationships | |
|------------------------|-----------------------|----------|--------------------------|----------|
| | <i>M ± SD</i> | <i>r</i> | <i>M ± SD</i> | <i>r</i> |
| Age | — | -0.26 | — | -0.21 |
| Extraversion | 20.06 ± 5.33 | 0.51** | 21.09 ± 4.58 | 0.51** |
| Neuroticism | 12.98 ± 6.06 | -0.46** | 16.34 ± 5.98 | -0.51** |
| Openness to experience | 24.37 ± 4.97 | 0.59** | 25.20 ± 4.16 | 0.56** |
| Agreeableness | 17.60 ± 5.85 | 0.33** | 20.72 ± 5.11 | 0.44** |
| Conscientiousness | 19.95 ± 4.98 | 0.48** | 22.02 ± 5.54 | 0.50** |

***p* = 0.01.

Table 3

Multiple Regression Analysis Predicting Social Function

| Variable | Quality of activities | | | | Quality of relationships | | | |
|------------------------|-----------------------|---------|----------|----------|--------------------------|---------|----------|----------|
| | <i>B</i> | β | <i>t</i> | <i>p</i> | <i>B</i> | β | <i>t</i> | <i>p</i> |
| Constant | 11.42 | — | — | — | 10.32 | — | — | — |
| Age | -0.11 | -0.12 | -3.67 | < .001 | -0.06 | -0.08 | -2.32 | .021 |
| Extraversion | 1.47 | 0.20 | 5.11 | < .001 | 1.42 | 0.21 | 5.27 | < .001 |
| Neuroticism | -0.81 | -0.11 | -2.89 | .004 | -0.78 | -0.12 | -2.54 | .011 |
| Openness to experience | 2.41 | 0.35 | 9.13 | < .001 | 1.79 | 0.28 | 7.61 | < .001 |
| Agreeableness | — | — | — | n.s | 0.85 | 0.11 | 2.31 | .021 |
| Conscientiousness | 1.23 | 0.16 | 3.92 | < .001 | 1.05 | 0.14 | 3.42 | .001 |
| Adjusted R Square | 0.46 | | | | 0.45 | | | |
| <i>F</i> | 95.79 | | | | 77.23 | | | |
| <i>p</i> | < .001 | | | | < .001 | | | |

Discussion

This study aims to determine the relationships between personality characteristics and social function in older adults. The results showed that there was a significant positive correlation between all personality characteristics and social function (except neuroticism, which had a significant negative correlation). Age and extraversion, neuroticism, openness to experience, and conscientiousness could explain the changes in the quality of activities, but the impact of age and neuroticism was negative. All personality characteristics and age could explain the changes in the quality of relationships, but the impact of age and neuroticism was negative too.

Social activities or social participation includes interacting with others and participating in social events and tasks (Kelly et al., 2017). Tse found that harm avoidance had a negative impact and self-directedness had a positive effect on social activities (Tse et al., 2011). In this study, neuroticism had a negative impact on social function and other personality characteristics had a positive effect. Some personality characteristics are associated with cognitive function. For example, neuroticism is a negative predictor of memory function and IQ test scores (Saylik et al., 2018) and Cognitive function is related to social activities (Kotwal et al., 2016). Therefore, personality characteristics who have weaker cognitive functions in some dimensions are also effective in their social function.

Personality is an important factor that affects interactions with others (Back, 2021). Asendorpf and Wilpers found that extraversion, agreeableness, and conscientiousness affected the quantity and quality of social relationships, but neuroticism was less effective in making new relationships, and openness to experience did not have a significant correlation with social relationships (Asendorpf & Wilpers, 1998). In this study, personality is correlated with the quality of relationships, but openness to experience is also related to the quality of relationships, and this can be related to age. In this study, the effect of age on quality of relationships and quality of activities was negative. Social interactions reduce with age (Zhaoyang et al., 2018).

There was no significant difference in the quality of activities between men and women, but the quality of relationships with men was better than in women. Another study found that the correlation between gender and social participation was negative for women and positive for men in Iran (Afshar et al., 2017b). This could be due to the traditional role of women in the Iranian culture, who are less present in the community. This issue has changed in the new generations, and women are more present in society. Older people with higher education were better in both quality of relationships and quality of activities, and there was a significant difference in the scores of higher levels of education compared to lower levels. Iranian older men have higher education than Iranian older women, and the number of illiterate elderly women in Iran is about 1.66 times that of illiterate men (Statistical Center of Iran, 2020). Employed older people had more social activities and higher social function than other employment situations, this is due to the greater presence in the community. The social activities of married seniors were higher than those of widows. Also, the quality of relationships was significantly higher in married older people than in single.

The role, identity, job, education, and almost everything in Iran is intertwined with gender. Therefore, men are in a better position, and this has led to a higher social function.

Strengths and Limitations

Study strengths included our sample was relatively large, and sampling had the necessary dispersion. This is a cross-sectional study. Therefore, the results have limitations and cannot be generalized to all older people.

Conclusion

Findings show that Personality Characteristics can predict the changes in social function. Only neuroticism has a negative impact on both quality of relationships and quality of activities, and agreeableness does not affect the quality of activities.

Implications for Practice

The results of this study have implications for policymakers and researchers. Personality and lifestyle theory states that activities are influenced by personality in old age. Social function is associated with better cognitive function and mental health (Krueger et al., 2009). Influential factors must be identified to achieve better social function. Personality traits that have a negative impact on social function should be given more attention. This is important, not only in terms of planning for the health of the elderly, but also to ensure the quality of care, because programs fail without the participation of older adults.

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Ethics Statement: This study has been approved by the Research Ethics Committee of the Iran University of Medical Sciences (Ref: IR.IUMS.REC.1400.756). We first explained the study objectives to the participants and then obtained informed written consent from them.

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