



Grandparent-Grandchild Relationship and Older Adults' Life Satisfaction

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Abstract

Background and Aim: Aging population is increasing progressively. Therefore, determining factors behind their life satisfaction is among research priorities. The present study aimed to evaluate the correlation of grandparent-grandchild relationship and older adults' life satisfaction.

Methods: This cross-sectional descriptive-correlational study was done on 377 older adults who were 60 years of age or older and lived in Kashan, Iran. Participants were selected via multistage sampling. A researcher-made questionnaire was used for the assessment of grandparent-grandchild relationship and life satisfaction. Collected data were entered into the SPSS software (v. 23.0) and analyzed by running the Pearson correlation and multiple linear regression analyses.

Results: Participants aged 70.24 ± 8.20 , on average, and were mostly female (62%). The mean scores of the association, emotional, and functional attachment dimensions of grandparent-grandchild relationship were 56.81 ± 13.18 , 77.75 ± 16.64 , and 68.22 ± 15.71 , respectively. Moreover, the mean of life satisfaction was 81.40 ± 17.01 . Life satisfaction was positively correlated with the association, emotional, and functional attachments ($r = 0.31, 0.41, 0.35$, respectively; $P < 0.001$). Moreover, regression analysis illustrated that the emotional and functional attachments significantly predicted 20% of the total variance of life satisfaction ($P < 0.001$). The strongest predictor of life satisfaction was emotional attachment.

Conclusions: Grandparent-grandchild relationship can significantly improve older adults' life satisfaction. Therefore, strategies are needed to strengthen this relationship.

Keywords: Grandparents, Grandchildren, Life Satisfaction, Aging

1. Background

Population aging is a global phenomenon that has been caused by reduced birth and death rates and improved life expectancy (1). According to the world health organization statistics, aging population in southwest Asia countries, including Iran, constituted 7% of the total population in 2000 and is estimated to reach 15% by 2030 (2). Population estimates based on the current population growth rate reflect that in 2020, the population of Iranians who are 60 years of age or older will be larger than that of children who are less than 5 (9.2% vs. 5.8%) (1). The growing population of older adults highlights the importance of geriatric care.

Aging is associated with vulnerability. A large number of older adults experience problems such as loneliness, physical health problems, and financial strains, all of which negatively affect their satisfaction with different aspects of life (3).

Life satisfaction is one of the most important indicators of adaptation in all stages of life (4). It reflects the balance between the wishes and the perceived reality (5). Life satisfaction is affected by different personal, familial, and social factors. One of the social factors contributing to life satisfaction in older adulthood is having a relationship with your grandchildren (6). Grandparent-grandchild relationship (GGR) is a large part of intrafamily attachments

and relationships. Some studies showed that in their relationships with grandchildren, grandparents feel they have positive roles and hence, develop a positive identity (7).

Social support is of great importance to all people, particularly older adults who experience significant age-related physical and mental changes and problems. The most important sources of social support for older adults in western countries are governmental and social foundations and organizations. However, in eastern countries, older adults receive support mainly from their children (8). In other words, intergenerational support is among the most significant factors behind older adults' health and well-being in eastern countries (6, 9, 10). Recently, the migration of children to big cities and changes in the structure of families have decreased the size of families in Iran and assigned grandchildren greater roles in supporting older adults.

Previous studies showed GGR as the most important social capital for older adults (11, 12). It was found to have significant positive effects on older adults' life satisfaction, mental health, and depressive symptoms (6, 13-15). Madrid international plan of action on aging also requires all member countries to strengthen solidarity, partnership, and mutually responsive relationships among generations (16). The present study aimed to evaluate the correlation of GGR and older adults' life satisfaction.

2. Methods

This cross-sectional descriptive-correlational study was done in 2016. Study population consisted of all older adults who were 60 years of age or more and lived at their private homes in Kashan, Iran. Participants were selected via multistage sampling. Initially, all older adults who routinely referred to healthcare centers in Kashan, Iran, were identified. Then, a random sample of older adults was recruited from each healthcare center using name lists kept in the centers. The number of older adults who were selected from each center was proportionate to the total number of older adults who referred to that center. Finally, we referred to the homes of the selected individuals and invited them to the study. The eligibility criteria included individuals 60 years of age or more, physical and mental abilities to respond to study questionnaires, and having at least 1 grandchild. Participants who were reluctant to stay in the study or incompletely filled out their questionnaires were excluded.

Sample size was estimated through the sample size estimation formula for the correlation of 2 numerical variables (17) and the results of an earlier study, which reported a correlation coefficient of 0.16 (18). Considering type I and

II errors of 0.05 and 0.85, the size of study sample was estimated to be 348. However, to compensate a potential withdrawal rate of 15%, sample size was expanded to 400.

Data were collected using 3 questionnaires. The first was a demographic questionnaire with items such as age, gender, educational status, financial status, current employment status, marital status, possession of a private home, and general health status. The second questionnaire contained only 1 item on life satisfaction: "How much are you satisfied with your life?" This item was scored on a four-point scale from 25 ("Very little") to 100 ("Very much"). The 3rd questionnaire was related to GGR and was developed based on Bengtson Model of Intergenerational Solidarity and also the results of earlier studies (7, 19, 20). This questionnaire contained 16 items on intergenerational relationship in the following 3 dimensions:

1. Association attachment: this dimension contained 4 items, which were scored 1-5, resulting in a total score of 4-20. Examples of the items of this dimension were, "How often did your grandchildren visit you in the past year?" and "How many times did you talk with your grandchildren over telephone in the past 1 year?"

2. Emotional attachment: the 3 items of this dimension were scored from 1 to 4 and thus, the total score of this dimension ranged from 3 to 12. Emotional attachment was assessed using questions such as "How is your relationship with your grandchildren?" and "How much you and your grandchildren love each other?"

3. Functional attachment: the 9 items of this dimension were scored on a 1-4 scale, resulting in a total score of 9-36. The items were on financial, instrumental, and social support by grandchildren for their grandparents. Examples of the items of this dimension included, "How much do your grandchildren respect you or show you kindness?" "Do your grandchildren help you in going out of home, for example for a medical visit?"

The mean score of each dimension was changed to the 1-100 scale in order to facilitate inter-dimensional comparisons. The validity of this questionnaire was assessed via the content validity ratio and the content validity index. Accordingly, several experienced experts in gerontology were invited to rate each item. The content validity ratio and the content validity index of the questionnaire were 0.89 and 0.94, respectively. Moreover, the Cronbach's alpha of the questionnaire was 0.86.

For data collection, we referred to each participant's home, explained the aim of the study, secured his/her informed consent, and completed study questionnaires. Collected data were entered into the SPSS software (v. 23.0), where Pearson correlation analysis was used for correlation examination. Moreover, multiple linear regression analysis with the Enter method was used to evaluate the

role of GGR and its association, emotional, and functional attachment dimensions in predicting participants' life satisfaction. The criteria for selecting independent variables were the results of previous studies and the significant correlation of the intended variables with life satisfaction in univariate analysis. Statistical analysis using kurtosis and skewness measures showed the normal distribution of the dependent variable (i.e. life satisfaction) and the independent variables (i.e. GGR and its association, emotional, and functional attachment dimensions). The data were presented using the measures of descriptive statistics such as mean, standard deviation, and relative frequency. The Ethics Committee of Tehran University of Medical Sciences approved the ethical considerations of the present study under No 9352.

3. Results

From 400 distributed questionnaires, 377 were returned completely filled. In other words, the response rate was 94.6%. Participants aged 60 - 95 had a mean of 70.42 ± 8.20 . Most participants were aged 60 - 75 (74%) and were female (62%), married (71.6%), and illiterate (42.2%). Table 1 shows participants' demographic characteristics.

Table 1. Participants' Demographic Characteristics

Characteristics	Subgroup	N (%)
Age	60 - 75	280 (74.3)
	76 - 90	94 (24.9)
	91 and more	3 (0.8)
Gender	Female	222 (61.5)
	Male	145 (38.5)
Marital status	Married	270 (71.6)
	Single	107 (27.4)
Educational status	Illiterate	159 (42.2)
	Primary	149 (39.5)
	Guidance school and higher	69 (18.3)
	Total	377 (100)

The mean scores of the association, emotional, and functional attachment dimensions of GGR were 56.81 ± 13.18 , 77.75 ± 16.64 , and 68.22 ± 15.71 , respectively (Table 2). The mean scores of GGR among half of the participants (49.5%) were less than the mean score of GGR questionnaire. On the other hand, the mean score of participants' life satisfaction was 81.40 ± 17.01 .

Correlation analysis revealed a significant positive correlation between GGR and life satisfaction ($r = 0.44$; $P =$

0.001). Moreover, life satisfaction was significantly correlated with the association, emotional, and functional attachment dimensions of GGR ($r = 0.31, 0.41, 0.35$, respectively; $P < 0.001$; Table 2).

The results of multiple linear regression illustrated that the emotional and functional attachment dimensions of GGR were significant predictors of life satisfaction. These 2 factors explained 20% of the total variance of life satisfaction ($P < 0.001$; Table 3).

4. Discussion

This study aimed to evaluate the correlation of GGR with life satisfaction among older adults. Findings indicated that the mean scores of the association, emotional, as well as functional attachment dimensions of GGR among half of the participants were less than the mean score of the questionnaire. In line with our findings, these values in an earlier study were 2.5, 2.6, and 1.9 out of a total score range of 1 - 5 (21). Another study also reported the same finding (22). However, a study in China showed strong functional and structural attachments between grandparents and their grandchildren (23). This contradiction can be attributed to the differences in the sociocultural contexts of different countries. In Asian countries, like China, despite huge industrialization, old traditions and rituals are still followed and older adults are still worthy and respected. According to modernization theories, GGR is weaker in more modern societies (19, 20, 24, 25). Rapid and drastic changes in modern and industrial countries make older adults' knowledge and expertise unworthy and even outmoded. In such countries, younger people may have greater knowledge than older people. Similarly, modernization and wide geographical dispersion of family members in Iran have negatively affected GGR. Of course, intergenerational relationships are still strong in more traditional communities in Iran. For instance, in Kashan, family relationships and ties are still strong and social norms and traditions require younger people to respect older people. Such norms and traditions can prevent intergenerational detachment.

Findings also revealed the significant correlation of the association attachment dimension of GGR with older adults' life satisfaction. In other words, more frequent relationships between grandparents and grandchildren were associated with greater life satisfaction for grandparents. Association attachment reflects the frequency and the pattern of interactions among family members (26). Another study also showed that GGR gave grandparents greater life satisfaction, though it was occasionally associated with greater responsibility for them (27).

Table 2. The Mean Scores of GGR and Its Dimensions and Their Correlations with Life Satisfaction

GGR and Its Dimensions	Mean \pm Standard Deviation	Correlations of GGR with Life Satisfaction	
		Correlation coefficient	P Value
Association attachment	56.81 \pm 13.18	0.31	0.001
Emotional attachment	77.75 \pm 16.64	0.41	0.001
Functional attachment	68.22 \pm 15.71	0.35	0.001
Total score of GGR	67.56 \pm 12.46	0.44	0.001

Table 3. The Results of Multivariate Regression Analysis for Life Satisfaction Prediction^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	P Value
	B	Standard Error			
Constant	40.18	4.33		9.28	0.001
Association attachment	0.40	0.38	0.06	1.05	0.295
Emotional attachment	2.49	0.50	0.29	4.99	0.001
Functional attachment	0.55	0.17	0.18	3.33	0.001

^aF(373, 3) = 32.18; P < 0.001; R² = 21%; AdjustedR² = 20%.

We also found a significant positive correlation between life satisfaction and the emotional attachment dimension of GGR so that closer emotional attachment was associated with greater life satisfaction for participants. Emotional attachment reflects mutual positive feelings among family members (26). A study in the United States also reported close emotional attachment between grandparents and grandchildren as a significant factor behind older adults' well-being and life satisfaction (28).

The findings of the present study also indicated greater life satisfaction among older adults who had closer functional attachment with their grandchildren and received greater instrumental, financial, and social support from them. A study on older adults in Hong Kong also reported the same finding (29). Another study showed that grandchildren are the most important source of support for Chinese older adults so that grandchildren's support positively affects older adults' well-being and quality of life (30).

Multiple linear regression analysis in the present study showed that 1/5 (20%) of the total variance of life satisfaction was explained by the emotional and the functional attachment dimensions of GGR. The emotional attachment dimension was the strongest predictor of life satisfaction. Similarly, a study into grandparenthood stress and reward in Hong Kong reported that the senses of kinship and continuity gave hope and satisfaction to older members of families (27).

In line with our findings, a study reported that grandparenthood is positively correlated with life satisfaction and mental health (31). Another study revealed that GGR significantly alleviated depressive symptoms and thereby, improved life satisfaction and quality of life (32). Despite the theoretical and empirical evidence respecting the positive effects of grandparental roles on older adults' health and well-being, some scholars noted that grandparenthood is not correlated with well-being (33). Such contradiction may be attributed to the differences in the samples, methodologies, and sociocultural contexts of differences studies.

4.1. Conclusions

The present study is among the first studies in Iran into GGR and its effects on older adults' life satisfaction. The results illustrate that GGR and its association, emotional, and functional attachment dimensions are positively correlated with life satisfaction. Given the rapid modernization rate in Iran, sociocultural foundations and health-care organizations need to adopt effective strategies to strengthen intergenerational relationships. Educational authorities and policy-makers can also encourage students to establish close relationships with their grandparents.

One limitation of the present study was its cross-sectional design. Further longitudinal and interventional studies are needed for the generation of conclusive results respecting the correlation of GGR and satisfaction among

older adults. Moreover, variables assessed in this study explained only 20% of the total variance of life satisfaction. Future studies are recommended to use more independent for life satisfaction prediction. Finally, participants' responses to the study questionnaires might have been affected by some familial considerations.

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