Self-Regulation, Interpersonal Relationships, Self-Esteem and Aging Anxiety in Middle-Aged Adults

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Abstract

Background/Objectives: Aging anxiety has an adverse impact on the lives of middle-aged adults. This study investigated the relationship between self-regulation, interpersonal relationships, self-esteem, and aging anxiety.

Methods/Statistical analysis: This was a cross-sectional quantitative study. A total of 147 Korean 40–64 years, capable of communication and bearing no cognitive impairments were recruited for this study. Data were collected from June to July 2019 using a self-report questionnaire measuring self-regulation, interpersonal relationships, self-esteem, and aging anxiety. Data were analyzed with descriptive statistics, t-tests, one-way analysis of variance, bivariate Pearson's correlations, and multiple regression analyses using SPSS/WIN 24.0 software.

Findings: Among the 147 participants aged 40–64, 67 were male and 80 were female. The mean aging anxiety score was lower than that found in previous studies, and participants of this study felt less aging anxiety. People with good health had lower aging anxiety compared to those with moderate or poor health. There were significant correlations among self-regulation, interpersonal relationship, self-esteem, and aging anxiety. High self-regulation, interpersonal relationships, and self-esteem decreased aging anxiety. As a result of identifying the factors that influence aging anxiety, the explanatory power was 44.5%, and self-esteem had the greatest effect on aging anxiety, followed by self-regulation and health. Expressing gratitude increases self-esteem, and self-esteem improves self-regulation. One must constantly train to practice gratitude daily, not only for oneself, but also for others and one's environment to help reduce aging anxiety. As only a few studies examine the relationship among self-regulation, interpersonal relationships, self-esteem, and aging anxiety in middle-aged adults, additional studies with larger samples are needed.

Improvements/Applications: It is necessary to developing and implementing programs that strengthen self-esteem, self-regulation, and health. That might reduce aging anxiety among middle-aged adults and help them prepare well for old adulthood.

Keywords: aging anxiety, interpersonal relationships, middle-age, self-esteem, self-regulation.

1. Introduction

The consequences of scientific and medical advances have extended to older adulthood, which in turn raised interests in aging, older adulthood, and middle-aged adults [1]. Midlife plays a central role in the life cycle. It is a crucial period in which adults must prepare for their older adulthood, while commonly facing the double burden of raising their children and caring for their parents [2]. Midlife is also marked by the acceleration of physical aging, which has emotional impacts [1,3] and causes middle-aged adults to pay attention to, be anxious about, or wish to avoid aging [4]. People have particular difficulty in accepting aging, as it is generally perceived negatively; this is an issue since studies have shown that failure to accept aging as a natural process provokes psychological anxiety and miserableness [1,4].

Aging anxiety is not restricted to particular cultures; it refers to the human fear of prospective physical, psychological, and social changes of old age [1]. Aging anxiety triggers psychological problems and has a negative impact on middle-aged adults [5]. People with less aging anxiety are capable of living a more successful older adulthood, thus, understanding aging anxiety is essential to successfully adjust to these important years of life [6].

Self-regulation refers to self-control of one's thoughts, emotions, and actions, and affects health [7]. Proper self-regulation improves the ability to perform tasks and improves interpersonal relationships [8]. Self-regulation also aids in psychological adaptation so that an individual can adjust his or her behavior according to social situations and reduce anxiety and depression [8]. In summarizing these earlier studies [7,8], when one feels negative emotions toward aging in midlife [1], self-regulation can help middle-aged people reduce the burden and anxiety of aging and help them to adapt well.

Interpersonal relationships improve when positive emotions are involved [9]; however, when midlife aging begins and one experiences negative emotions [1,3], interpersonal relationships can weaken. People tend to be happier when they have positive relationships with others [9]. Maintaining good interpersonal relationships means that you have vitality in your life, and that you have secured a lot of support and resources to help you grow [9]. Absent this, anxiety about aging may increase [5].

Self-esteem is an assessment of a one's own values and abilities and plays a role in buffering stress in negative situations, reducing anxiety and allowing us to see the future from a positive perspective [10]. People with high self-esteem evaluate themselves positively, overcome stress in interpersonal relationships, and improve their health and emotional well-being in the long term [11]. Because people who perceive themselves positively can experience and maintain a stable midlife [3], providing opportunities for others to engage in activities that help people value their existence can be important.

Based on a review of these topics, we found that self-regulation, interpersonal relationship, and self-esteem are factors conducive to a stable midlife. To help middle-aged adults accept aging and overcome aging anxiety, it is important to identify and focus on the factors involved. However, research on the relationship between these variables and aging anxiety are scarce [12,19-20]. Therefore, this study investigates the influence factors of self-regulation, interpersonal relationships, and self-esteem on aging anxiety in middle-aged adults to explore measures for lowering aging anxiety in this population. Thus, these findings could serve as useful baseline data for the development of a program for reducing aging anxiety of middle-aged adults, helping them adopt a positive attitude toward aging and experience a successful transition to older adulthood.

2. Methods

2.1. *Study design*

This was a cross-sectional study on self-regulation, interpersonal relationships, self-esteem, and aging anxiety in middle-aged adults.

2.2. *Participants and data collection*

Middle-aged adults between the ages of 40–64 years, capable of communication and bearing no cognitive impairments were recruited for this study. Data were collected by visits to community meetings and social gatherings or by delivering and retrieving questionnaires via acquaintances. After distributing an information sheet containing information about the study purpose, confidentiality, and freedom of withdrawal, along with a consent form, we obtained a written informed consent form from subjects who voluntarily agreed to the survey. Data were collected from June to July 2019. The questionnaire took about 20 minutes to complete. A total of 160 questionnaires were distributed, and after excluding 13 questionnaires with missing responses or duplicates, 147 questionnaires were included in the final analysis. The sample size was calculated by the G-Power 3.1.9.2 software with an effect size of .15, significance of .05, power of 90%, and nine predicting variables; the minimum sample size was calculated to be 141. Therefore, the final sample size (n = 147) satisfied the requirement.

2.3. *Instruments*

2.3.1. *Self-regulation*

Self-regulation was assessed using 18 self-regulation items from the Korean Resilience Quotient-53 (KRQ-53) originally developed by Reivich and Shatte [13] and used by Lee [14]. Each item is rated on a 5-point Likert scale; higher scores indicate higher self-regulation. The Cronbach's α was .89 in development and .84 in our study.

2.3.2. *Interpersonal relationship*

Interpersonal relationship was assessed using 18 items on interpersonal relationship from the Korean Resilience Quotient-53 (KRQ-53) originally developed by Reivich and Shatte [13] and used by Lee [14]. Each item is rated on a 5-point Likert scale; higher scores indicate higher interpersonal relationship skills. The Cronbach's α was .86 in development and .87 in our study.

2.3.3. *Self-esteem*

Self-esteem was used through the 10-item scale developed by Rosenberg [15] and used by Shrout and Weigel [10]. Each item is rated on a 5-point Likert scale; higher scores indicate a higher self-esteem. The Cronbach's α was .92 in the study by Shrout and Weigel [10] and .77 in our study.

2.3.4. *Aging anxiety*

Aging anxiety was used through the 17-item Anxiety about Aging Scale (AAS) developed by Lasher and Faulkender [16] and modified and validated by Kim et al. [4]. Each item is rated on a 5-point Likert scale; higher scores indicate higher aging

anxiety. The Cronbach's α was .83 in the study by Kim et al. [4] and .86 in our study.

2.4. *Data analysis*

Data were analyzed using the SPSS/WIN 24.0 software. General characteristics, self-regulation, interpersonal relationship, self-esteem, and aging anxiety were analyzed with descriptive statistics and presented through frequencies, percentages, means, and standard deviations. Variations of aging anxiety according to demographic characteristics were analyzed with t-test and one-way ANOVA followed by the Scheffe test for post-hoc comparison. The relationships between self-regulation, interpersonal relationships, self-esteem, and aging anxiety were analyzed with Pearson's correlation coefficients, and the effects on aging anxiety were analyzed with multiple regression.

3. Results and Discussion

3.1. *Differences in aging anxiety based on general characteristics*

As shown in Table 1, most participants were women (54.4%), and most (51.7%) were aged 50–59 years, with a mean age of 52.59 ± 5.42 years. Most participants (92.5%) were married, more than 93% had moderate or better health, and more than 89% had middle or higher economic status. Aging anxiety significantly varied according to health (F = 10.50, p < .001), and post-hoc testing confirmed that people with good health had lower aging anxiety compared to those with moderate or poor health. This was consistent with the study [6] that the better the self-rated health, the lower the aging anxiety. Since midlife is a period marked by an increased incidence of chronic diseases and aging anxiety is exacerbated among those who perceive themselves in poor health because they worry that their health would worsen as they age [6], strategies to promote a positive perception of health and thus lower aging anxiety are needed. There was no significant difference in aging anxiety, as in previous studies [17], with respect to gender, age, and marital status. Economic status was not a significant factor in our study, but the group with good economic status scored higher than the middle and sub-group. This was similar to results of past studies [17], in which middle-aged people in good economic status, or those satisfied with their economic status, had lower aging anxiety. These results of factors inconsistent with previous findings should be further studied in relation to aging anxiety on a larger and diverse sample.

Table 1: Differences in aging anxiety based on general characteristics (N=147)

Variable	Category	n(%) or M ±SD	Aging Anxiety	t/F(*p*)
Gender	Male Female	67(45.6) 80(54.4)	2.61±0.54 2.64±0.48	-0.38 (.707)
Age	40–49 50–59 60–64 Mean	50(34.0) 76(51.7) 21(14.3) 52.59±5.42	2.72±0.47 2.59±0.56 2.58±0.39	1.19 (.308)
Marital status	Unmarried Married	11(7.5) 136(92.5)	2.59±0.56 2.63±0.51	-0.23 (.824)
Health	Good [a] Moderate [b] Poor [c]	49(33.3) 89(60.5) 9(6.1)	2.38±0.55 2.75±0.43 2.85±0.51	10.50 (<.001) (a<b,c)
Economic status	Upper Middle Lower	11(7.5) 120(81.6) 16(10.9)	2.55±0.36 2.64±0.51 2.64±0.60	0.16 (.849)

3.2. *Degree of self-regulation, interpersonal relationships, self-esteem, and aging anxiety*

As shown in Table 2, the mean self-regulation score was 3.54±0.44, and although no direct comparison could be found because studies on self-regulation in middle-aged adults were not found, it was higher than that of college students [14] or the elderly [7]. Self-regulation helps individuals to successfully resolve a problem by viewing it positively and provoking positive emotions [8]. Thus, self-regulation training could be useful to help middle-aged adults overcome aging anxiety. The mean interpersonal relationship score was 3.65±0.45, which was higher than that of college students [14]. This is presumed to be due to the fact that middle-aged adults have a wider range of social activities than college students and have many interpersonal relationships. Brunton and Scott [6] mentioned that good contact with one's surroundings, including family, work, and community, diminishes negative attitudes and aging anxiety, so strategies to secure positive resources and maintain good relationships are crucial. The mean self-esteem score was 3.73±0.48, which was higher than that found among previous studies on those aged 40–64 years using the same instrument [3]. As high self-esteem implies positive self-evaluation regardless of surrounding situation and is linked to well-being [10], providing opportunities for middle-aged adults to engage in activities through which they can develop positive self-values is important. The mean aging anxiety score was 2.63±0.51, which was lower than that found in previous studies on those aged 40–64 using the same instrument [17], showing that our participants had

relatively lower aging anxiety. Aging anxiety is worthy of attention, as it may potentially have adverse impacts on older adulthood [17].

Table 2: Degree of self-regulation, interpersonal relationship, self-esteem, and aging anxiety (N=147)

Variable	M ±SD	Range
Self-regulation	3.54±0.44	2.39–4.72
Interpersonal Relationship	3.65±0.45	2.28–4.83
Self-esteem	3.73±0.48	2.50–4.80
Aging Anxiety	2.63±0.51	1.00–3.82

3.3. *Correlations among self-regulation, interpersonal relationships, self-esteem, and aging anxiety*

As shown in Table 3, self-regulation was positively correlated with interpersonal relationship (r = .59, p < .001) and self-esteem (r = .49, p < .001) but negatively correlated with aging anxiety (r =-. 51, p < .001). Interpersonal relationship was positively correlated with self-esteem (r = .67, p < .001) and negatively correlated with aging anxiety (r = -.51, p<.001). Self-esteem was negatively correlated with aging anxiety (r = -.61, p < .001). There were significant correlations among self-regulation, interpersonal relationship, self-esteem, and aging anxiety. This was in line with the finding that good self-regulation improves interpersonal relationships [8], self-esteem improves self-regulation [10], and high self-esteem improves interpersonal relationships [11]. Self-esteem and aging anxiety were negatively correlated, consistent with results on people aged 18–86 years [12]. In our study, good interpersonal relationships decreased aging anxiety. This is in line with a previous study [5] showing that aging anxiety decreases when social relationships with people around them are good, and aging anxiety increases because people around them are evaluated negatively when social relationships are poor. As only a few studies examine the relationship among self-regulation, interpersonal relationships, self-esteem, and aging anxiety in middle-aged adults, additional studies with larger samples are needed.

Table 3: Correlation among self-regulation, interpersonal relationship, self-esteem, and aging anxiety (N=147)

Variable	Self-regulation r(*p*)	Interpersonal Relationship r(*p*)	Self-esteem r(*p*)
Self-regulation	1		
Interpersonal Relationship	.59(<.001)	1	
Self-esteem	.49(<.001)	.67(<.001)	1
Aging Anxiety	-.51(<.001)	-.51(<.001)	-.61(<.001)

3.4. *Factors that influenced the participants' aging anxiety*

To identify the predictors of aging anxiety, we conducted a multiple regression analysis after dummy-coded health, which significantly varied in relation to aging anxiety, while entering it as an independent variable in addition to self-regulation, interpersonal relationships, and self-esteem. As shown in Table 4, the regression equation was significant (F = 30.09, p < .001), with 44.5% of variance explained. Self-esteem (β = -0.41, p < .001) had the greatest effect on aging anxiety, followed by self-regulation (β = -0.24, p = .003) and health (β = -0.19, p = .003). The Durbin-Watson value was 1.90, it was confirmed that there was no correlation between the residuals. Based on a tolerance of 0.48–0.93 and variance inflation factor of 1.08–2.11, the problem of multicollinearity was also eliminated.

This was in line with the finding that high self-esteem reduces aging anxiety [12] and supporting previous results that health influences aging anxiety [4] and that aging anxiety is higher with poorer perceived health status [6]. Because previous studies confirming the influence of self-regulation on aging anxiety cannot be found, it cannot be compared, but Reed et al. [7] found that good self-regulation leads to better physical and psychological health, so self-regulation improves health; and health can be thought of as reducing aging anxiety.

Table 4: Factors that influenced the participants' aging anxiety (N=147)

Variable	B	SE	B	t	*p*
(Constant)	5.49	0.30		18.16	<.001
Health	-0.21	0.07	-0.19	-3.03	.003
Self-regulation	-0.27	0.09	-0.24	-3.00	.003
Interpersonal relationship	-0.07	0.10	-0.06	-0.64	.526
Self-esteem	-0.43	0.09	-0.41	-4.89	<.001

R^2=0.46, Adjusted R^2=0.45, F=30.09, *p*<.001

Strategies to lower aging anxiety in middle-aged adults should be developed based on our findings. Aging anxiety is a determinant of the quality of midlife and thus has an adverse impact on psychological health as well as society, requiring multidimensional intervention efforts [4]. We confirmed that self-esteem, self-regulation, and health are predictors of aging anxiety, so programs that strengthen these factors should be developed. Expressing gratitude increases self-esteem [18], and self-esteem improves self-regulation [10]. One must constantly train to practice gratitude daily, not only for oneself, but also for others and one's environment to help reduce aging anxiety. Further, health-promoting efforts such as adjusting diet and engaging in regular exercise should also be essential.

We conducted this study on only a subset of middle-aged adults in the Republic of Korea, so there are limitations in generalizing the findings to the entire middle-aged population.

4. Conclusion

This study is significant as it increases the understanding of aging anxiety and provides evidence for developing programs to lower aging anxiety in middle-aged adults by identifying the influence factors of self-regulation, interpersonal relationships, and self-esteem on aging anxiety in middle-aged adults. Self-esteem, self-regulation, and health were identified as predictors of aging anxiety; thus, developing and implementing programs that strengthen these factors will be advantageous. Such programs might help middle-aged adults in their current lives as well as prepare for a successful transition to older adulthood. Replication studies with a larger study population and studies that develop and assess the effectiveness of programs that curtail aging anxiety are important next steps.

5. References

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