

**The Relationship between Age Anxiety and Successful Aging in Middle-Aged Koreans:  
The Triple Mediating Effect of Social Support, Self-Esteem, and Life Satisfaction**

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**Abstract**

**Background/Objectives:** The purpose of study was to verify the triplet mediating effect of social support, self-esteem and life satisfaction in the effects of aging anxiety on successful aging.

**Methods/Statistical analysis:** A survey was conducted among middle-aged people living in the Seoul, Gyeonggi-do, and Seosan areas in December 2019. 200 copies of the survey were collected and used for analysis. Correlation analysis was performed using SPSS21.0, and the triple mediating effects of social support, self-esteem and life satisfaction in the relationship between aging anxiety and successful aging were verified with the use of the Model 6 of SPSS PROCESS macro.

**Findings :** Firstly, the relationships between aging anxiety, social support, self-esteem, life satisfaction, and successful aging were all statistically significant. In other words, the lower the aging anxiety, the higher the social support, the higher the self-esteem, the higher the satisfaction of life, and the higher the level of successful aging. Second, social support, self-esteem and satisfaction with life were found to have a full mediating effect in the relationship between aging anxiety and the successful aging of middle-aged individuals.

**Improvements/Applications:** In order to increase the successful aging of middle-aged people, various policies should be implemented in order to focus on increasing social support, self-esteem

, and life satisfaction, rather than on the reduction of aging anxiety.

**Keywords:** Aging anxiety, Successful aging, Social support, Self-esteem, Life satisfaction, SPSS macro model 6

## 1.Introduction

Five years from now, in 2026, the number of senior citizens aged 65 or older is expected to account for around 20.8% of Korea's total population[1]. Unlike the previous generation, the elderly living in the 21st century have a greater desire to spend their old age in comfort without the burden of disease, and desire to be fully self-reliant in terms of both economic power and physical health. As a result of these trends, the interest in successful aging has grown even greater over time. Recent changes in attitudes have resulted in a greater majority of individuals viewing old age as a time of creation, as opposed to a time of failure, driving the greater interest in successful aging, which has been a subject of research in Korea since 2000.

Row and Kahn[2], both leading researchers of successful aging, define the phenomenon of successful aging as an avoidance of disability risk by disease, low disease rates, the maintenance of high levels of cognitive and physical function, and active participation in life. This successful concept of aging by Row and Kahn [2] presents a similar concept. It was particularly noted that avoiding the risk of disability in addition to low levels of disease had a high likelihood of leading to the next step, which focused on the maintenance of high levels of cognitive and physical function, which would in turn then result in reaching the stage of successful aging, and ensuring continued active participation in life.

In contrast, Baltes et al.[3] defined successful aging as, 'selective optimization with compensation.' In other words, the theory focused on the idea that elderly individuals must select goals which are important to them, optimize the skills related to these goals, and then compensate for deficiencies in their skill-sets in order to succeed in that chosen field. They defined successful aging as a strategy to achieve successful aging. Most researchers were interested in the components of successful aging. Row and Kahn[2] has been criticized for failing to include senior citizens who led successful lives, even if they were not functional or healthy. Additionally, the definitions of Baltes et al. [3]differ somewhat from the particular type of successful aging that we are interested in for this study, because it is a strategy to achieve successful aging.

Therefore, this study aims to follow the group of scholars who define the components of successful aging. Among them, this study aims to make a manipulable definition of daily well-being, psychological and social well-being, and self-efficiency as defined by Ahn, Kang and Kim[4], who developed a measurement tool for successful aging which is applicable to not only

individuals who have reached old age, but also to individuals who fall in the middle-aged group. As this study focuses on middle-aged individuals, this study follows the conceptual definition of Ahn et al. [4]

On the other hand, aging is an inevitable process for all individuals, and aging anxiety includes both the fear of old age and the fear of getting old[5], which is somewhat contrary to the factors which contribute to successful aging. Therefore, the higher the aging anxiety, the lower the level of successful aging[6]. In other words, it could be argued that excessive aging anxiety damages not only the psychology of the individuals, but also the quality of their relationships, which negatively affects most adults who desire successful aging.

Therefore this study focuses on finding intermediate variables which could interfere with the impact of aging anxiety on successful aging. In order to verify the multi-parameter effect process, a prior study was considered with a focus on aging anxiety → social support → self-esteem → satisfaction with life → successful aging process.

First, we looked at the relationship between aging anxiety and social support. Social support is achieved as a result of meaningful interactions with others[7], and an increased awareness of social support after reaching middle age can increase psychological stability and serve as an important resource for improving the quality of life in old age . Additionally, based on both the study from Kim[8] which argued that social support lowers aging anxiety, and the study which argues that social support mediates the path by which aging anxiety affects successful aging [9], it can be predicted that aging anxiety is related to social support.

Secondly, it is the relationship between social support and self-respect. Self-respect is the degree to which an individual considers themselves worthy, which is related to the individual's negative or positive assessment of themselves[10]. Social support is a social resource that is drawn from the individual's interpersonal network, while self-esteem is a psychological resource that is the basis of mental and social health by way of the individual's self-evaluation of themselves. Social support and self-respect have a significant net correlation, and high social support is known to increase self-esteem[11].

Thirdly, when looking at the relationship between self-respect and life satisfaction, the higher the self-esteem, the higher the satisfaction level of life, and the more positive the conception of self, the higher the satisfaction level of life[12]. Finally, when taking the relationship between successful aging and life satisfaction into consideration, life satisfaction is an important factor that is directly related to the concept of successful aging, which an individual can achieve by adapting to the reality of aging[13]. Therefore, high life satisfaction is expected

to lead to high levels of successful aging.

In particular, social support, self-esteem and life satisfaction are used as parameters in this study, and are all dependent variables which have a positive effect on successful aging. In other words, social support has a positive effect on successful aging[14], and self-esteem also has a positive effect on successful aging[15], with this relationship between life satisfaction and successful aging having been explained earlier. On the other hand, all three parameters have a negative relationship with aging anxiety. In other words, there is a negative relationship between aging anxiety and self-esteem[9], and a negative relationship between aging anxiety and life satisfaction[16]. Therefore, social support, self-esteem and life satisfaction are expected to play a mediating role in the relationship between aging anxiety and successful aging, but this relationship has yet to be studied in an integrated manner.

Based on these prior studies, the purpose of our study is to verify the path by which successful aging through social support stems from the strength of interpersonal networks maintained throughout middle age, self-esteem, and life satisfaction. That is, the purpose of the study is to verify the triplet mediating effect of social support, self-esteem and life satisfaction in the effects of aging anxiety on successful aging.

## **2. Materials and Methods**

### **2.1. Research subject and data collection procedure**

The survey was conducted in December 2019 on 200 middle-aged people living in Seoul, Gyeonggi-do and Seosan to collect data for middle-aged people aged 40 to 64. The survey was conducted with the cooperation of the head of the organization and the help of the person in charge by visiting the local lifelong learning center, the general social welfare center, and the volunteer center. First, after obtaining permission from the head of the agency, the researcher explained the purpose of the study to the person in charge, and discussed the survey schedule and conducted the survey himself/herself. It was based on a one-on-one survey, and depending on the circumstances, the researcher left the questionnaire to the person in charge and found it a week later. Finally, 200 copies were collected and used for analysis.

### **2.2. Measurement**

#### **2.2.1. Aging anxiety**

As a tool for measuring aging anxiety, the Anxiety about Aging Scale (AAS) developed by Lasher and Faulkender [17] was supplemented by Kim [18] and used in this study. It is a 20-item, 5-point Likert scale, and the reliability Cronbach's alpha value was .827.

#### **2.2.2. Social support**

For social support, the scale of Kim [7] was used. Emotional support, service support, and economic support were 3 questions each, a total of 9 questions, a 5-point Likert scale, and the reliability Cronbach's alpha value was .913.

### **2.2.3. Self-esteem**

The self-esteem scale was created through the translation of the scale from Rogenberg [10]. It is a 10-item, 5-point Likert-type scale, and questions 3, 5, 8, 9, and 10 were completed through recoding. The reliability Cronbach's alpha value was .843.

### **2.2.4. Life satisfaction**

The life satisfaction scale was used by translating the scale of Diener, Emmons, Larsen, Griffin [19]. It was a 5-item, 5-point Likert scale. The reliability of the scale Cronbach's alpha value was .781.

### **2.2.5. Successful aging**

Successful aging was a scale constructed by Ahn et al. [4], and consisted of 25 items measured on a 5-point Likert scale, and the reliability value of the scale, Cronbach's alpha was .947.

## **2.3. Socio-demographic characteristics of the research subjects**

The gender breakdown of the participants of this study consisted of 131 females (65.5%) and 69 males (34.5%), with a much higher percentage of females. The age distribution was evenly distributed, with 85 (42.5%) individuals, the highest percentage of the survey group, aged between 50 to 59 years old, 72 (36.0%) aged between 40 to 49 years old, and 43 (21.5%) aged between 60 to 64 years old. The average age of the survey's participants was 52.49 years old. In terms of marital status, there were 174 married people (87.0%), most of whom had spouses. Divorce, bereavement, and unmarried rates were low, at 26 people (13.0%). In terms of education, 114 (57.0%) were university graduates or higher, and 73 (36.5%) were middle and high school graduates.

## **2.4. Analysis method**

Using correlation analysis with SPSS21.0 and Model 6 of the SPSS PROCESS macro proposed by Hayes [20], we identified the effects of aging anxiety on successful aging and the triple mediating effect of social support, self-esteem, and life satisfaction. We verified the mediated effects with bootstrap, and designated the number of bootstrap samples at 5,000, with the confidence interval set at 95%.

## **3. Results and Discussion**

### **3.1. Correlation between variables**

To examine relationship among variables like appearance management behavior, self-efficacy, body image, and life satisfaction, this study conducted correlation analysis, and found out that correlations among all the variables were significant (Table 1). As the correlation coefficient is from .115 to .541, there is no risk of multicollinearity between variables.

**Table 1 : Correlation between variables**

	Aging anxiety	Social support	Self-esteem	Life satisfaction	Successful aging
Aging anxiety					
Social support	-.323***				
Self-esteem	-.356***	.478***			
Life satisfaction	-.370***	.463***	.721***		
Successful aging	-.366***	.452***	.659***	.663***	

\*\*\*p<.001

**3.2. The triple mediating effect of social support, self-esteem, and life satisfaction in the relationship between aging anxiety and successful aging**

In order to investigate the effect of aging anxiety on successful aging stemming from social support, self-esteem, and life satisfaction, aging anxiety was added as the independent variable and successful aging was used as the dependent variable (Figure 1, Table 2). In Figure 1, only paths which are statistically significant at the  $p < .05$  level are presented in bold. And, the mediating effect (indirect effect) is not known in Fig. 1, Table 2, the indirect effect measurement values are presented in Table 3.

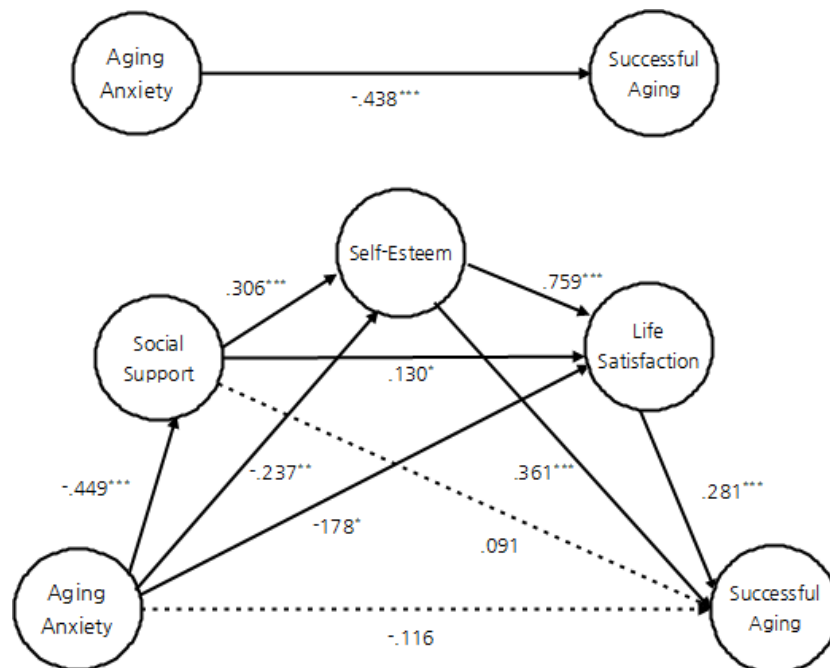
The results indicated that aging anxiety had a negative effect on social support ( $\beta = -.449$ ,  $p < .001$ ), self-esteem ( $\beta = -.237$ ,  $p < .01$ ), and self-efficacy ( $\beta = -.178$ ,  $p < .05$ ). The higher the aging anxiety, the lower the levels of social support, self-esteem, and self-efficacy.

The results also revealed that social support positively affects self-esteem ( $\beta = .306$ ,  $p < .001$ ) and life satisfaction ( $\beta = .130$ ,  $p < .05$ ). The higher the level of social support, the higher the levels of self-esteem and satisfaction with life. However, the path between social support and successful

aging was not statistically significant.

Self-esteem has a positive effect on life satisfaction ( $f_i=759$ ,  $p<.001$ ) and successful aging ( $f_i=.281$ ,  $p<.001$ ), indicating that higher self-esteem results in higher levels of satisfaction and successful aging.

Lastly, aging anxiety had a negative effect on successful aging ( $\beta=-.438$ ,  $p<.001$ ), but when social support, self-esteem, and life satisfaction were included, the effect of aging anxiety on successful aging was not statistically significant ( $\beta=-.116$ ,  $p>.05$ ). Therefore, in the relationship between aging anxiety and successful aging among middle-aged individuals, social support, self-esteem, and life satisfaction were found to have a complete mediating effect.



**Figure 1. The triple mediating effect of social support, self-esteem, and life satisfaction in aging anxiety and successful aging relationship**

**Table 2 : The triple mediating effect of social support, self-esteem, and life satisfaction in the relationship between aging anxiety and successful aging (N=200)**

Dependent	Independent	Coefficient	SE	t	p	95% confidence interval		F	R <sup>2</sup>
						LLC I	ULC I		

Successful aging	Constant	50.025	.225	22.328	.000	4.581	5.469	23.739	.135
	Aging anxiety	-.4380	.080	-5.4530	.000	-.596	-.279		
Social support	Constant	4.9426	.286	17.298	.000	4.379	5.506	19.438	.093
	Aging anxiety	-.4492	.102	-4.4090	.000	-.651	-.248		
Self-esteem	Constant	3.2109	.319	10.080	.000	2.582	3.839	32.379	.255
	Aging anxiety	-.2374	.074	-3.1860	.002	-.383	-.090		
	Social support	.3060	.050	6.0680	.000	.206	.405		
Life satisfaction	Constant	.7616	.376	2.0230	.045	.019	1.503	78.309	.555
	Aging anxiety	-.1783	.073	-2.4550	.015	-.322	-.035		
	Social support	.1302	.052	2.1770	.014	.027	.234		
	Self-esteem	.7599	.069	10.907	.000	.619	.893		
Successful aging	Constant	1.4817	.337	4.3990	.000	.817	2.145	52.563	.529
	Aging anxiety	-.1165	.065	-1.7800	.077	-.245	.0123		
	Social	.091	.04	1.920	.05	-.00	.184		



	support		7		6	3		
	Self-esteem	.361	.078	4.595	.000	.206	.515	
	Life satisfaction	.287	.065	4.348	.000	.153	.408	

Next, the triple mediating indirect effects of social support, self-esteem, and life satisfaction were verified (Table 3). In the path from Aging anxiety→Social support→Self-esteem→Life satisfaction→Successful aging, the bootstrap value measured at -.029, and there was no '0' between the lower limit and the upper limit (-.054 ~ -.010). Therefore, it was verified that social support, self-esteem, and life satisfaction play an indirect role in the relationship between aging anxiety and successful aging among the middle-aged.

**Table 3 : Social support, self-esteem and life satisfaction triple-mediated indirect effect verification**

(N= 200)

	Effect	Boot SE	BC 95.0% CI	
Aging anxiety→Social support→Self-esteem→Life satisfaction→Successful aging	-.029	.011	-.054	-.010

Based on prior studies, the purpose of this study was to verify how the path to successful aging is affected by social support gained from interpersonal networks experienced by the middle-aged, through the factors of self-esteem and life satisfaction. That is, the purpose of the study was to verify the triple mediating effect of social support, self-esteem and life satisfaction in the effects of aging anxiety on successful aging.

#### 4. Discussion and Suggestion

The purpose of the study was to verify how the process of successful aging is affected by

social support from interpersonal networks experienced during the middle-age life period, and how self-esteem can be seen as a related measure of internal power and life satisfaction. The main research results are summarized and discussed, and suggestions for further research are as follows.

Firstly, the relationships between aging anxiety, social support, self-esteem, life satisfaction, and successful aging were all statistically significant. In other words, the lower the aging anxiety, the higher the social support, the higher the self-esteem, the higher the satisfaction of life, and the higher the level of successful aging. These relationships correlate with the results of preceding studies [4-16].

Second, the aging anxiety of middle-aged individuals had an adverse effect on the likelihood of successful aging. However, when social support, self-esteem and satisfaction in life were taken into consideration, the direct impact of aging anxiety on successful aging was not statistically significant. Additionally, the verification of indirect effects was also statistically significant. Thus, social support, self-esteem and satisfaction with life were found to have a full mediating effect in the relationship between aging anxiety and the successful aging of middle-aged individuals. The direct effects of middle-aged individuals' age anxiety on successful aging are not statistically significant, and aging anxiety has been found to affect successful aging through other factors such as social support, self-esteem and satisfaction with life. Therefore, in order to increase the successful aging of middle-aged people, various policies should be implemented in order to focus on increasing social support, self-esteem, and life satisfaction, rather than on the reduction of aging anxiety.

Our study contributed meaningful results by examining the association between variables that had been studied individually, and which were then verified systematically and empirically. Furthermore, this research provides meaningful evidence by revealing that the commonly-experienced negative effects of aging anxiety on successful aging can be prevented through the improvement of social support, self-esteem and life satisfaction.

However, this study did not take into consideration whether there is a difference in aging anxiety between men and women. In particular, middle-aged women tend to perceive their health conditions as lower due to the increased rate of disruption in their physical condition, due to chronic disease and menopause, which thereby results in high age anxiety, indicating that the effect of the three parameters on the path to successful aging may differ substantially between men and women. Therefore, it is necessary to pay attention to the differences between men and women in future studies. Age anxiety also varies between middle-aged and older individuals. Aging anxiety can differ between middle-aged people who are just beginning to experience aging, and older individuals who are already in midst of the process of experiencing aging. Nevertheless,

this study did not cover this due to limitations in the dataset. Therefore, in future studies, it will be important to examine the mediating effects of social support, self-esteem, and life satisfaction within the relationship between aging anxiety and successful aging while also taking into account the differences in the experiences between middle-aged and elderly-aged individuals.

## 5. Conclusion

The purpose of the study was to verify how the process of successful aging is affected by social support from interpersonal networks experienced during the middle-age life period, and how self-esteem can be seen as a related measure of internal power and life satisfaction, targeting middle-aged people (40-64 years old) residing in the community. This study conducted a survey to 200 middle aged people in December 2019. The relationship between aging anxiety and successful aging in the middle-aged, social support, self-esteem, and life satisfaction were found to have a complete mediating effect. Based on such findings, this study suggested ways to improve successful aging by social support, self-esteem and life satisfaction..

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