

## A Mixed Methods Study of the Successful Aging of Older Adults in Korea

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### Abstract

The purpose of this study was to understand experiences of successful aging of community-dwelling elderly living in the Korean community using mixed methods. This study is a mixed methods research using convergent parallel design. 483 elderly people living in the 2 cities were selected as subjects to collect quantitative data. For qualitative data collection, 6 elderly people participated. The level of successful aging for elderly people living at home scored an average of  $4.30 \pm .59$  out of 5 points ( $4.46 \pm .64$  for self-efficacy,  $4.31 \pm .65$  for good self-control,  $4.29 \pm .70$  for satisfaction with children's success, and  $4.26 \pm .61$  for partnership with spouses). The main themes of successful aging derived by interview were as follows: 1) fulfill responsibilities of raising children as parents, 2) establish a stable life to overcome difficulties, 3) accept the body being different from the past, and 4) live in harmony with people around them. Based on these results, it is necessary to provide useful health care services that can be used in the local community and to provide service utilization information through various routes in order to achieve a successful aging.

**Keywords** : Aging, Health Care, Aged, Mixed Method.

### 1. Introduction

The question of “How can people have successful lives?” is of great interest within the human life cycle. Although lives of the elderly have some negative aspects, the concept of “successful aging” has been introduced, portraying desirable lives for the elderly due to increase of the elderly population and greater duration of the elderly period within the human lifespan. The notion of successful aging that associates success with a low risk of disease, high physical functioning, and active engagement with society has grown paradigmatically in gerontology and laid the groundwork for contemporary discourses in positive gerontology, which emphasizes overlapping domains of successful aging, productive aging, and civic engagement in later life<sup>[1]</sup>. Understanding successful aging is critical to the development of policies to enhance the quality of life of the elderly<sup>[2]</sup>. The previous study has reported that the elderly in their nineties who experience successful aging

have a low likelihood of entering long-term care in Finland<sup>[3]</sup>. On the other hand, the elderly who did not experience successful aging showed a higher risk of all-cause mortality than successful agers in Korea<sup>[4]</sup>. As successful aging can enhance the quality of life of the elderly, it is important for healthcare providers to assist the elderly in achieving successful aging. Although successful aging is not a new concept, it is difficult to define it with a single term because it has multidimensional aspects.

Many scholars face difficulties not only in clearly defining successful aging, but also in identifying predictive factors of successful aging and differences in the status and results of successful aging<sup>[5]</sup>. A study conducted in Canada<sup>[2]</sup> has shown that subjective successful aging was associated with fewer (not absence of) chronic diseases, absence of depression and less dysfunction in activities of daily living, but not with objective measures of physical dysfunction. But, some elderly can report aging successfully despite chronic diseases status<sup>[6]</sup>. Thus, it is difficult to understand the elderly with objectively assessed successful aging as successful aging can vary by individuals<sup>[2]</sup>. Tzioumis *et al.*<sup>[6]</sup> have stated that future studies should use a multi-dimensional definition of successful aging that inte-

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(Received : June 11, 2020, Revised : June 14, 2020,  
Accepted : June 17, 2020)

grates the awareness of the elderly. To do so, it is necessary to obtain an in-depth understanding of successful aging.

There have been many global studies of successful aging<sup>[3]</sup>. However, there are cultural and environmental differences in the definition or the awareness of successful aging across countries. Therefore, it is necessary to investigate successful aging perceived by the Korean elderly for an appropriate management of aging according to Korean characteristics. Many studies have qualitatively investigated factors related to successful aging in Korea<sup>[7]</sup>. Since 2000, the concept of successful aging has been analyzed<sup>[8]</sup> and a scale for successful aging has been developed (Kim & Shin, 2005). Factors affecting successful aging have also been determined<sup>[9]</sup>. Other studies in the field of nursing have focused on how individuals who have experienced aging can experience successful aging rather than focusing on diseases of the elderly or pathophysiological aspects of aging. Flood<sup>[10]</sup> has proposed that aging well is defined by the extent to which older adults adapt to the cumulative physical and functional changes they experience. According to Flood's theory, aging successfully means remaining physically, psychologically, and socially engaged in meaningful ways that are individually defined. Flood's theory of successful aging provides a more comprehensive framework to guide nursing practice and has been validated by some authors. In particular, as there are few factors that can be independently decided and managed by the elderly in communities with vulnerable environments for successful aging, it is necessary for the government and the state to be involved in this issue and provide appropriate management. To do so, health providers should investigate what successful aging is perceived by the elderly and what they do for successful aging through in-depth interviews. Subramanian *et al.*<sup>[11]</sup> have also stated that further research into the older population is needed, both in terms of qualitative research to gain a better understanding of successful ageing from the older adult's perspective. However, few studies have conducted in-depth investigation of successful aging perceived by the Korean elderly. Therefore, this study conducted a mixed-method approach<sup>[12]</sup> involving a quantitative research having a high reliability and qualitative research having a high validity to obtain in-depth understanding about the internal meaning. The methodology used to collect data for the quantitative

research involved collecting structured surveys from random participants. The qualitative research was based on focused group interviews (FGI) which allowed the collection of large organized bodies of data within a short time on the topic of interest. An advantage of focused group interviews is that participants can listen to opinions of others to help them form their own opinions. Therefore, it is expected that quantitative data can lead to an overall understanding of the socioeconomic status and physical and mental health of the Korean elderly while focused group interviews can lead to a rich understanding of their experiences through conversations and discussions focusing on the study purpose of successful experiences of aging for participants.

The purpose of this study was to understand experiences of successful aging of community-dwelling elderly living in the Korean community using mixed methods. Detailed purposes of this study are as follows: 1) to identify health-related characteristics and the degree of successful aging of the Korean elderly through quantitative research methods with surveys; and 2) to investigate successful experiences in aging perceived by the Korean community-dwelling elderly through qualitative research methods using focused group interviews.

## 2. Methods

### 2.1. Study Design

This cross-sectional study used mixed research methods to collect data from September to November 2016. Quantitative research and qualitative approaches were used to investigate successful aging experiences of the elderly living in communities in Korea<sup>[13]</sup>.

### 2.2. Participants

#### 2.2.1. Quantitative Research

Participants of this study were community-dwelling elderly of S city aged 65 years or above who agreed to participate in this study and understood the purpose and goals of this study. The selection of participants for mixed-method studies varies by research topic and research design. The number of participants for the quantitative research was chosen based on previous studies<sup>[14]</sup>. The G\*Power 3.1.2 program was used to calculate the number needed for a one-way ANOVA with an effect size of 0.25, a significance level of 0.05, and

a statistical explanation power of 0.80. Results showed that there should be 269 participants. Thus, the number of samples was 269 for this study.

### 2.2.2. Qualitative Research

It is commonly known that focused group interviews should have 6 to 12 participants per group and that interviews should be conducted until there is a theoretical saturation<sup>[12]</sup>. This study used purposeful sampling of introductions to individuals with rich experiences of successful aging among participants of the survey to select participants for the quantitative research. Detailed criteria for participant selection were: those who successfully adapted to physical changes or diseases with reactive measures, those who were not hospitalized or had entered nursing hospitals from six months before the data collection period, and those who had high scores in successful aging when assessed with the self-rated successful aging. Fifteen members participated in the focus group interview, two focus groups were conducted in a seminar room of E University from November to December 2016. One group had seven participants while the other had eight.

### 2.3. Measures

The survey questionnaire consisted of items asking about demographic information (i.e. gender, age, education level, religion, subjective health status, diagnosed diseases and the number of diseases, key care provider, health screening checkups, number of visits to medical institutions, and frequency of health checkups) and self-rated successful aging scale (SRSA). This scale developed by Kim and Shin<sup>[15]</sup> for community-dwelling elderly (Cronbach's  $\alpha=0.94$ ). SRSA contained 30 items measuring four dimensions of successful aging: self-control, success of children, self-efficacy, and partnership with spouses. Responses were rated on a 5-point Likert scale, ranging from 1(least successful) to 5(most successful). Relatively, high scores indicate good standing in terms of successful aging or its dimensions. The scale in this study demonstrated good level of internal consistency (Cronbach's  $\alpha=0.97$ ).

### 2.4. Data Collection and Ethical Consideration

#### 2.4.1. Quantitative Research

Data were collected from September to November 2016. To collect quantitative data, this study first clas-

sified 25 *gu* of S City into North-East-South-West areas and used stratified sampling to randomly select two *gu* in each area. Notices were sent to health centers, welfare centers, and senior centers of selected areas to ask for their cooperation in data collection. The purpose, methods, confidentiality, and anonymity of this study were then explained to participants who matched the selection criteria. Data were collected only from participants who voluntarily agreed to participate in the survey. A total of 300 surveys were distributed, accounting for possible dropout. A total of 270 surveys were used for data analysis after excluding 30 surveys with insufficient responses. It took approximately 20 minutes to respond to the survey.

#### 2.4.2. Qualitative Research

Qualitative data were collected in focused group interview utilizing a semi-structured interview format. Two focus groups were arranged by the first author as a moderator. Focus group sessions were conducted in familiar, comfortable, and accessible setting for the participants. The moderator started the group sessions by welcoming the participants and clarifying the purpose of the study. As the interview progressed, there were open questions such as "What does live a successful life as an elderly person consist in?" and "What are the differences between the elderly with successful aging and the elderly without successful aging?" There was a total of three focused group interview sessions. The average time for each session was 70 minutes. The authors noted facial expressions, tones, and behaviors of participants during the interview and recorded their nonverbal expressions, major contents of the interview, and thoughts and questions from the author right after these interviews. These recorded interviews were transcribed immediately. Personal information was omitted during the process of transcription. The number of interviews used in the study was sufficient to result in theoretical saturation without any new concept.

### 2.5. Data Analysis

#### 2.5.1. Quantitative Research

Collected quantitative data were analyzed using SPSS 24.0 program. To identify general and health-related characteristics and the level of successful aging of participants, this study calculated frequencies, percentages, means, and standard deviations. Differences in success-

ful aging by general and health-related characteristics were analyzed with independent *t*-test and one-way ANOVA.

### 2.5.2. Qualitative Research

Qualitative data were analyzed with thematic analysis of Braun and Clarke<sup>[16]</sup>. It provides a six-phase guide which is a very useful framework for conducting this kind of analysis (Becoming familiar with the data, generate initial coeds, search for themes, review themes, define themes, write-up). In this study, there were 13 sub-themes and themes. The authors discussed and shared opinions until reaching a final consensus. Lastly, each theme was named to clearly define meanings of themes through continuous analysis to organize these themes.

Data of this study were verified by participants regarding interview contents and results. Reviews and discussions were solicited from peers and qualitative researchers during the data analysis and discussion processes according to the standards of Guba and Lincoln<sup>[17]</sup>. Pre-understanding, assumptions, and prejudices of this study were considered in a reflection log.

## 3. Results

### 3.1. General Characteristics and Health-related Characteristics of Participants

Of all participants, 72.7% were women. The mean age of participants was 77.66 years (Table 1). The most common education level was high school graduate (38.6%). The majority (61.4%) of participants were religious. The most common subjective health status was "normal" (40.0%). Of all participants, 41.6% were diagnosed with high blood pressure. The mean number of diseases diagnosed for participants was 1.65. Spouses (46.2%) were their principle care providers. Of all participants, 25.1% visited medical institutions once a month while 11.8% did not visit medical institutions. A total of 41.2% participants gave other responses. The most common health checkup frequency was once every two years (62.8%).

### 3.2. The Level of Successful Aging

Regarding successful aging, elderly people living at home scored an average of  $4.30 \pm .59$  out of 5 points ( $4.46 \pm .64$  for self-efficacy,  $4.31 \pm .65$  for good self-

**Table 1.** General characteristics and health-related characteristics (N=270)

Characteristics	Categories	n(%)	M±SD
Age (year)	<70	27(10.0)	
	70~79	157(58.2)	77.66±6.44
	≥80	86(31.8)	
Gender	Male	74(27.3)	
	Female	196(72.7)	
Education	Below middle school	103(38.2)	
	High school	104(38.6)	
	≥College	63(23.2)	
Religion	Yes	166(61.4)	
	No	104(38.6)	
Subjective health Status	Very good	9(3.2)	
	Good	86(31.8)	
	Moderate	108(40.0)	
Type of disease*	Bad	25(9.5)	
	Never	42(15.5)	
	Hypertension	124(41.6)	
	Diabetes mellitus	29(10.9)	
Number of chronic Disease	Arthritis	250(17.4)	
	Others	90(30.0)	
	0 (a)	38(14.1)	1.65±1.28
	1 (b)	114(42.2)	
2 (c)	60(22.3)		
≥3 (d)	58(21.4)		
Caregiver	Spouse	125(46.2)	
	Children/daughter-in-law/son-in-law	91(33.5)	
	Brother/sister/Others	54(20.3)	
Health check-up	Yes	173(64.0)	
	No	97(36.0)	
Frequency of Visiting clinic	None	32(11.8)	
	2-3 times a week (a)	10(3.9)	
	Once a week (b)	49(18.0)	
	Once a month (c)	68(25.1)	
	Others	111(41.2)	
Frequency of health check-up	Once q year (a)	65(24.0)	
	Every two years (b)	170(62.8)	
	Every three years(c)	18(6.7)	
	Never (d)	17(6.3)	

\*Multiple response

control,  $4.29 \pm .70$  for satisfaction with children's success, and  $4.26 \pm .61$  for partnership with spouses) (Table 2).

### 3.3. Experiences of Successful Aging

The mean age of participants of the focused group

**Table 2.** The level of successful aging (N=270)

Variables	M±SD
Successful aging	4.30±0.59
Self-efficacy	4.46±0.64
Self-control	4.31±0.65
Satisfaction with children's Success	4.29±0.70
Couple's life like companions	4.26±0.61

interviews was 72.5. Eleven participants were women and four were men. For six of these participants, their spouses had passed away. Five participants had education levels of middle school graduates or below whereas 10 had education levels of high school graduate and above. All participants perceived themselves to have middle to high economic levels. Most of them were retired. Eight participants had pension. They had an average of 3.3 children. Nine responded that they participated in religious or leisure activities (Table 3).

Results of focused group interviews showed that there were four themes and 13 sub-themes for this study. Their experiences included “fulfill responsibilities of raising children as parents,” “establish a stable life to overcome difficulties,” “accept the body being different from the past,” and “live in harmony with people nearby” (Table 4).

**Table 3.** Demographic data of participants for focus group interviews (N=15)

ID	Age	Gender	Marriage	Education	ID	SES	Children	Pensioner	Religion/Leisure
G1	72	Women	Married	High school	G1	Middle	3	Yes	Yes
G2	77	Women	Bereaved	High school	G2	Middle	4	No	No
G3	68	Women	Married	High school	G3	Middle	3	Yes	Yes
G4	75	Women	Married	High school	G4	Middle	5	No	No
G5	77	Women	Bereaved	Middle school	G5	High	5	No	Yes
G6	72	Women	Married	Middle school	G6	High	4	No	Yes
G7	71	Men	Bereaved	College	G7	High	2	Yes	Yes
G8	67	Men	Married	College	G8	High	3	Yes	Yes
G9	69	Women	Bereaved	Middle school	G9	Middle	3	No	No
G10	68	Women	Married	High school	G10	High	3	Yes	No
G11	80	Women	Bereaved	Elementary	G11	Middle	1	No	No
G12	79	Men	Bereaved	Middle school	G12	Middle	4	No	No
G13	70	Men	Married	College	G13	High	2	Yes	Yes
G14	71	Women	Married	High school	G14	Middle	4	Yes	Yes
G15	72	Women	Married	College	G15	High	4	Yes	Yes
M±S.D	72.5				M±S.D		3.3		

1. Fulfill responsibilities of raising children as parents  
Participants thought it was their responsibility as parents to raise and nourish their children. For the elderly, marriages of their children and having grandchildren were happiness resulting from successfully fulfilling their duties as parents. Furthermore, their successful lives included maintaining good relationships with their children with their grandchildren as mediators.

1) Think of raising children as a responsibility

Participants regarded it as the responsibility of parents to meet the cost needed for their children to grow. Even if they could not do as much as they wished, they thought it was the responsibility of parents to provide basic necessities of life for their children to grow. They thought that providing education for children was especially important.

*I sent my youngest child to university after working all my life. Everything I had and more went into them. So now I have nothing left. (G9)*

2) Receive respect from grownup children

Participants were happy as parents when their children grew up to respect them. They thought they were respected as parents when their children asked them how they were doing, gave them an allowance, and

**Table 4.** Experiences of successful aging among community-dwelling elderly

Theme	Sub-theme
Fulfill the responsibilities of raising children as Parents	Think of raising children as a responsibility Receive respect from their grownup children Have good relationships with children who have become parents
Establish a stable life to overcome difficulties	Actively react to failures Feel rewarded after suffering troubles Feel satisfied with the new life
Accept the body being different from the past	Feel comfortable at home Easier to use healthcare facilities close to home Self-care to maintain physical functions Independently perform everyday tasks within a limited range
Live in harmony with familiar people	Spend free time with friends Feel relieved to have someone to ask for help Learn how to live in harmony with people around them

came to them to discuss important matters.

*My children did not have any big problems when growing up. They lived on their own from their university days. Even when they got married, they only discussed things that needed to be discussed with parent. They did everything on their own. (G1)*

3) Have good relationships with their children who have become parents

Participants thought it was important to maintain a good relationship with their children even after they had grandchildren. For them, happiness was when their children and grandchildren visited them and when their children and grandchildren were praised or promoted.

*My happiness is when my daughter-in-law and my son live well. My granddaughter got into 00 University. My grandson is in his second year of high school, and I feel proud just looking at them, and they are so reliable too! I love them and they are so trustworthy every time I see them. (G5)*

2. Establish a stable life to overcome difficulties

Participants experienced various failures in their lives, including war and efforts to overcome poverty after the war. However, as they actively reacted to frequent failures with self-directed goals, they were able to achieve results and find rewards. These results and rewards were perceived as turning points of their lives. Their newly-acquired life experiences became a driving force to overcome failure.

1) Actively react to failures

Participants made many efforts to overcome their failures. Rather than giving up when faced with difficulties including business failures, fraud, loss of fortune, poverty, and wars, they attempted to find a new meaning and react actively.

*My business failed. I was scammed out of eight million KRW in 1969. I had to do hundreds of things after my business failed. But thanks to that, I became a stronger person in supporting myself. (G6)*

2) Feel rewarded after suffering troubles

Participants felt rewarded when they achieved anticipated results such as harvesting crops after having troubles working or when their students came to visit. They felt new meanings of their lives as they experienced rewards of troublesome work (jobs).

*I was only a teacher. I taught students, and they would visit me, and I feel satisfied as a teacher when students invite me regularly or meet up regularly to treat their teacher. I have taught grow-ups well as members of society. I am proud of them. (G3)*

3) Feel satisfied with their new lives

Participants experienced various hardships in their lives, and then they found new meanings of life within those hardships. Although they were not rich economically, they did not feel they lacked anything in socio-economic terms. They were satisfied with their lives.

*It is not because I have a lot of money, but rather I*

*am loved by my husband and we live in happiness together... I think my life is happy enough. I lived a good life. (G10)*

### 3. Accept the body being different from the past

Although participants faced physical limitations in comparison with their younger selves due to aging and chronic diseases, they tried to maintain independent physical activities within a comfortable range by pursuing interests in physical aging and disease management and performing appropriate healthcare.

#### 1) Feel comfortable at home

It was not easy to participate in external activities after retirement. They needed time to adjust even if they participated in programs for the elderly. Therefore, they felt the most comfortable at home. They were reluctant to participate in new activities.

*I was sick and I became old, so I am happy with my life now. At first, I tried to do so many things to live well, but now I realize there is nothing better than home. (G9)*

#### 2) Easier to use healthcare facilities close to home

Participants preferred community healthcare centers that did not require much time to visit in consideration of their changed health status. As they were physically limited from moving great distances, they needed programs to effectively care for their chronic diseases without accompaniment to visit hospitals.

*It's not easy for us. We need to move around to go to the hospital. We have to rely on our children. It's not easy when they don't live nearby as we have to schedule ourselves and all. (G15)*

#### 3) Self-care to maintain physical functioning

Participants were greatly interested in how their uncomfortable bodies differed from the past. They focused on small changes, including pain, high blood pressure, high blood sugar, and loss of breath. They made self-care efforts to maintain their current physical functioning. They tried to exercise and have good quality sleep. They did not drink or smoke.

*I have to take medicine well even if I die while taking medicine. I take medicine well. I don't feel anything even if I take it. I don't have diarrhea or feel sick to my stomach. That is one thing I am good at. (G13)*

4) Independently perform everyday tasks within a limited range

They were satisfied with the fact that they could perform daily activities in terms of walking or moving around even if they need limited support from others. They were satisfied to carry out their daily lives on their own as much as possible, even if they were not fully independent.

*I go (out) during the summer or spring. I take what I need, go around the village once or twice. I ride on an indoor bike (at home) during the winter. I get off when I get sweaty and when my legs start to hurt. (G3)*

#### 4. Live in harmony with people around them

Participants spend time at the senior center or watch television. They developed supportive relationships with people around them. In addition, they could fill the tedious hours by visiting their neighbors' houses or sharing and volunteering with those who visited their houses. Furthermore, participants developed a sense of trust that they could be protected by those around them.

##### 1) Spend free time with friends

Participants had to spend a great deal of time on activities unrelated to economic activities or results as they aged. Rather than watching television by themselves or spending time pointlessly at the senior center, they thought it was important to visit meaningful places or engage in fun activities with their friends.

*I just play with people who come to the senior center. We play Janggi (Korean chess), play a game of go, play Hwatu (Korean card games), and just spend time together. We just watch television. We spend a lot of time that way. (G3)*

##### 2) Feel relieved to have someone to ask for help

Participants felt a strong need for help from others to live safely for the rest of their lives. Although they had not paid attention to distances to hospitals or friends in the past, as they were currently experiencing declines in their physical functions, they were relieved that they had friends or neighbors nearby who could protect them or whom they could rely on in times of danger.

*You become lonelier as you age. There has to be a hospital nearby; it is better if you make friends and there are people nearby, and it is great if you get to see your family often. (G1)*

3) Learn how to live in harmony with people around them

Participants not only faced declines in physical functions as they aged, but also changed their ways of thinking and interpersonal skills. They stated that as they gained more life experiences, they made fewer mistakes and held in their negative emotions rather than expressing them.

*As I become older, I say fewer bad words to others and become more accepting. I am considerate to her (my wife). As I learn more, I contribute more to the society and become more faithful. (G4)*

#### 4. Discussion

This study found that Korean elderly participants had an average of 1.65 chronic diseases (41.6% had high blood pressure, 17.4% had arthritis, 10.9% had diabetes, and 30% had other chronic diseases). The elderly without any disease were perceived to have more successful aging than those with one or two or more diseases. Our results were comparable to results of an earlier study showing a significant relationship between successful aging and perceived subjective health status<sup>[6]</sup>. Similarly, qualitative data of this study showed that participants were aware of the process of physical deterioration of the body as they aged. They became interested in disease management and made efforts to perform health management for themselves. Participants felt more comfortable at home and preferred to use community healthcare centers near their homes for health management. They chose to reduce long-distance movements. They increased their time spent at home as an adaptation to their changing bodies. They attempted to reduce their range of movement by using healthcare centers close to home as much as possible. These results reflect characteristics of the elderly who prefer environments that are easily accessible to hospitals, welfare centers, and healthcare centers<sup>[18]</sup>.

These findings are similar to results of a previous study<sup>[18]</sup> showing that the elderly who have been diagnosed with diseases wish to eliminate risk factors that might make their diseases worse and participate in meditation, diet, and exercises to maintain their physical functions and independently perform everyday tasks. Another qualitative study of the elderly residing in assisted living facilities in Sweden has also revealed that

physical activities of the elderly as a requirement for life<sup>[19]</sup>. Because it provided opportunities to develop and maintain the body and created meaning in daily activities. However, the researchers have stated that not all elderly are motivated to exercise<sup>[20]</sup>. Thus, it is possible that the elderly who voluntarily exercise and show a willingness to move around have a more positive awareness of aging. The MacArthur Foundation Research Network on Successful Aging has also identified that genetics, education, physical fitness, and self-efficacy are four predictive factors of successful aging<sup>[21]</sup>. Results of quantitative analysis of this study also showed that the factor with the highest scores among subfactors of successful aging was life with self-efficacy. However, there were limited institutions to support leisure activities of community-dwelling elderly. In addition, it was difficult to collect information on services. Therefore, for successful aging, there should be support and interest from the community so that community-dwelling elderly will have opportunities to receive various health and welfare services. Considering findings of prior studies, it is necessary to support the elderly to easily maintain physical functions. To do so, it is necessary to develop and promote health management programs in the community.

Second, the Korean elderly perceived successful aging as fulfilling their duties as parents and having good relationships with their children after they aged. These results are identical to results of a study by Song<sup>[22]</sup> on Korean elderly attending lifelong education centers whose scores of successful aging are the highest for their satisfaction with the success of their children. Results of the quantitative research of this study also showed that participants regarded satisfaction with the success of their children as more important for successful aging than married life. These findings are quite different from results of a study on European elderly<sup>[23]</sup> showing that the elderly with higher scores for successful aging have fewer declines in sexual interest. These findings may strongly reflect cultural characteristics of Korea where there is strong attachment to children and people become relatively more negligent towards their spouses in senescence. A study from Singapore<sup>[11]</sup> has defined successful aging with five indices: no major diseases, no disability, high cognitive functioning, high physical functioning, and active engagement with life. Our findings show that there are cultural variations in



successful aging, including differences between perception of successful aging in Korea and that in other Asian countries such as Singapore. To enhance successful aging of the Korean elderly, it is necessary to develop interventions that consider cultural characteristics of Korean elderly who consider the success of their children as their own.

Third, participants regarded successful aging as actively reacting to failure and overcoming difficulties to have a stable life in old age. The previous study have reported that some (early-life) adversity could be beneficial for successful aging<sup>[24]</sup>. Tedeschi and Calhoun<sup>[25]</sup> have suggested that those who have experienced post-traumatic experiences have more positive changes than those who have not had such experiences. When faced with unexpected difficulties, it is possible to fall into helplessness or blame oneself for not actively reacting to the situation. However, if one can overcome difficulties and regard oneself in a positive way rather than a negative, it leads positive effects to other parts of one's life. Indeed, it regards as ultimate improvement of quality of life<sup>[26]</sup>. Providing appropriate interventions to overcome difficulties will allow the elderly to have a more positive perception of life when they age.

Fourth, participants thought that successful aging involved living in harmony with those around them, participating in leisure activities together, and providing help when necessary. According to a study from Brazil<sup>[27]</sup>, a high level of social participation is related to successful aging. Another study highlighted that the importance of supports to enable the elderly to spend time with others for successful aging<sup>[28]</sup>. In other words, it is necessary for the elderly to participate in social activities with others rather than living alone to experience successful aging. Many studies have shown that social relationships are related to subjective successful aging<sup>[2]</sup>. Results of the present study corroborate these results. Therefore, it is also necessary for the Korean elderly to establish social networks so that they will not live alone. Nosraty *et al.*<sup>[3]</sup> have stated that factors that weaken successful aging are living alone and requiring help from others. The fact that participants of this study stated that they felt relieved to have someone to ask for help indicated that their successful aging involved such psychological comfort even if they were living alone. Although the elderly felt a greater need of care as they aged, as it was possible for them to perform everyday

tasks independently up to a point, it might not be necessary for them to enter nursing homes or become hospitalized. However, they felt anxious when they were left alone. They do not wish to become a burden to their children or their spouses although they are perceived as caretakers<sup>[29]</sup>. As time passes and the elderly become aware of the importance of outdoor activities, rather than staying at home, they would expand their relationship network to find a new support system within the community such as friends and neighbors<sup>[7,18,30]</sup>. These results suggest that it is necessary to complement unofficial networks or provide support through information or digital devices to enable the elderly to establish connections critical to guaranteeing successful aging because it is quite likely that the elderly will experience unmatched needs due to a reduction of unofficial networks.

## 5. Conclusion

Successful aging perceived by the Korean community-dwelling elderly was not a final state but a process of adaptation. Aging is not a period of termination. Although they thought that physical changes would pose possible risks, they reacted to situations through their experiences of overcoming difficulties. To adapt to the decline of physical independence, they increased their time at home where it was safe for them to perform everyday activities within a limited scope. They sought treatment for their diseases in places easily accessible to their homes. They prioritized their relationships with familiar people in terms of geographical distance and psychological distance. They felt relieved that they would be socially protected by maintaining emotional relationships with others. As a result, the Korean elderly perceived physical activity as important to adapt to their current situation and react to risks with self-efficacy during the process of aging. They switched their points of interest from their families including their children to those around them, developed familiar relationships with other people nearby, and attempted to establish a support relationship.

For the elderly, successful aging included being able to perform leisure activities in a safe environment such as their homes. This study provided basic data to establish strategies to guarantee successful aging of the community-dwelling elderly in Korea by applying a mixed-

method approach. Nonetheless, care should be taken when generalizing findings of this study as study participants were limited to elderly residents of Seoul, Korea.

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