

# What Predicts Depression among American Older Adults : Toward a New Paradigm beyond Successful Aging

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## 1. Introduction

Aging populations are worldwide phenomena, observed both in industrialized and developing countries. The global population of those age 65 and over reached 420 million in 2000, and from 1999 to 2000, 77% of the world's net gain in older people occurred in developing countries (Kinsella & Vellcoff, 2001). The projection for the U.S. revealed that its 65 and older population amounted to 39.6 million (12.9% of the total population) in 2009 (Administration on Aging, 2010). This age group is expected to increase to 70 million (20% of the total) in 2030, as the baby boom generation reaches this age between 2010 and 2030 (Administration on Aging, 2002).

In such a rapidly aging world, it has become our imminent concern to respond to this demographic change by advancing policies and programs that achieve dual goals: utilizing the limited public and private resources more efficiently and enhancing the quality of life of older adults. Successful aging has focused on preventing strategies. This concept is believed to attain these two goals in ways to promote healthy aging as well as contain elderly care costs.

This paper aims to extend the construct of successful aging. Many previous studies in this field have investigated the determinants of successful aging. However, this research will take a paradoxical approach to focus on the negative aspect of this approach. Thus, this paper examines the kinds of variables that determine depression among older adults by focusing

on physical health, cognitive function, and social activities, which are the main components of the construct of successful aging. This approach will supplement the findings generated by previous researchers and contribute to our understanding of aging.

## 2 . Background review

Aging is a very complex and dynamic process that cannot be explained from a single perspective (Cavanaugh & Whitbourne, 1999; Steverink, Lindenberg, & Ormel, 1998; Rower & Kahn, 1998). In a review of aging theories, Friedrich (2001) pointed out that they illustrate the diversity in the disciplines of gerontology. Related to this discussion, Rowe and Kahn (1998) suggested that aging be studied from biological, psychological, and social perspectives.

There is no explicit comprehensive definition of successful aging that is widely shared by gerontologists. Historically, successful aging was defined from the perspectives of health and longevity. More recently, psychologists have focused on cognitive, mental, and emotional functioning, while sociologists have been more interested in role enactment and social integration (Baltes & Baltes; George, as cited in Crosnoe & Elder, 2002). These different foci are integrated in Rowe and Kahn's (1998) definition of successful aging, which can be described as to low risk of disease and disease-related disability, high mental and physical function, and active engagement with life (Figure 1).

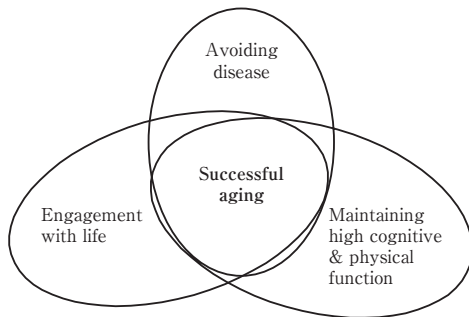


Figure1 :  
Construct of successful aging by Rowe & Khan  
(1998)

### **(1) Health perspective**

Even though physical aging is inevitable and the risk of disability and disease increases as individuals age (Rose, 2000; Glass, 2003), Perry (1995) proposed that the major building blocks of the sound aging process are good health and good health care, and Rowe and Kahn (1998) contested that a construct of successful aging includes “avoiding disease.” However, in contrast, Inui (2003) argued that the definition of successful aging does not require the absence of disease or disability but includes preservation of the capacities to perform in the domains that are meaningful and significant to the older adult.

### **(2) Mental and psychological perspective**

In studies of successful aging, research with an independent focus on the psychological aspect of successful aging are few. One example of such research is by Bruce, Seeman, Merrill, and Blazer (1994), who analyzed the association of depressive symptomatology with the onset of physical disability. Their research concluded that depressive symptoms are associated with the subsequent onset of disability in ADL when physical health and social conditions are controlled for. This association was also supported in the research on ADL disabilities by Seeman, Bruce, and McAvay (1996).

Depression is the most prevalent form of late life psychopathology, followed by dementia and paranoia (Hooyman & Kiyak, 2011). The presence of depression must be attended to with caution because the death rate appears to be higher among older adults with a diagnosis of depression. However, many cases of depression can be masked, as some symptoms can be confused with normal aging, and many older adults deny those symptoms in clinical interviews.

### **(3) Social perspective**

According to Unger, McAvay, Bruce, Berkman, and Seeman (1999), the

perception of good health is also associated with social factors – social support and social networks. Hooyman and Kiyak (2011) pointed out that older adults who perceive themselves as healthy have a tendency to be more involved in social activities. These authors conducted a longitudinal research of the impact of social network on older adults' physical functioning and concluded that older adults who have more social ties present fewer functional declines.

#### **(4) Subjective indicators**

Numerous researchers have suggested that the criteria to measure the quality of the aging process can be based on both objective and subjective methods (Steuerink, Lindenberg, & Ormel, 1998; Lawton, 1991; Stewart & King, as cited in Ball et al., 2000). Witkin and Altschuld (1995) discussed that though objective research data are important, also of great significance to incorporate is the client's point of view. One important issue was demonstrated in the research finding by Vailland and Mukamal (2001) that older adults, despite their diagnosed chronic illness and actual use of three to eight different medicines, often do not regard themselves as sick. Based on this finding, these authors insisted the inclusion of subjective physical health as an important research domain.

### **3. The conceptual framework of the study**

As discussed above, successful aging is a multidimensional construct. Nevertheless, in the absence of an explicit definition, only a few studies have attempted to measure the multiple indicators associated with this multifaceted construct (Chou & Chi, 2002). Rower and Khan (1998), among the pioneers in the field of successful aging, emphasized the significance of incorporating a diversity of disciplines in aging studies.

This literature review found that the Rowe and Kahn (1998) model of successful aging has been widely used by gerontological researchers who are likely to operationalize the concept of successful aging as healthy aging

and define its components accordingly. However, it has been discussed that successful aging should not be the terminology used only for older adults free of disabilities, diseases, and impairments. More recently, it has been argued that the construct of successful aging may serve even to stigmatize and marginalize older adults with multiple or severe disabilities (Minkler, 2002). More research should be conducted to examine a wider range of people, one that includes minor as well as significant disabilities.

Thus, the present paper challenges the successful aging construct in a paradoxical approach to Rowe and Khan's model 1) by investigating the respondents' perception of the multiple domains of successful aging - physical health, cognitive function, and social factors and 2) by studying negative dependent and independent variables that have been neglected in previous research. This research, I believe, will contribute to extend the study of successful aging and expand understanding of heterogeneity among older adults.

In an attempt to take on the above challenges, this research addresses the following questions:

1. How are demographic differences associated with depression among older adults?
2. How are perceived poor health, perceived cognitive decline, and inadequate participation in social activities associated with depression among older adults?
3. Do difficulties with ADL and IADL predict perceived poor health of older adults?
4. Does prevention from leaving home predict a feeling of inadequacy among older adults about participating in social activities?
5. What factors prevent older adults from leaving home?

Based on these research questions, the following hypotheses were developed:

1. There are demographic differences in predicting depression among older adults.
2. Perceived poor health, perceived cognitive decline, and inadequate

participation in social activities all predict depression among older adults.

3. Difficulties with ADL and IADL predict perceived poor health of older adults.
4. Prevention from leaving home generates a feeling of inadequacy among older adults about participating in social activities.
5. Older adults' physical and mental problems prevent them from leaving home.

## 4. Method

### (1) Data source and sample

This research was performed using the data from the first follow-up interviews conducted in the United States in 1997 – 1998, as part of the 1994 – 1998 Second Longitudinal Study of Aging (LSOA II), Wave 2, Survivor File, Version SF 1.2 (2002). This Wave 2 was originally designed to investigate changes in the health and functional status of the participants from 1994 to 1996. The survey intended to understand the aging process and the interaction of health, functioning, physical mobility, social and familial support, living arrangements, intergenerational transfers, and the utilization of formal and informal care services. The follow-ups were conducted primarily by telephone interviews using a Computer-Assisted Telephone Interview (CATI) system and by a self-administered questionnaire.

The sample for whom this follow-up survey was attempted were 9,447 LSOA II respondents, nationally representing civilians who were age 70 and over in 1995. Of these 9,447 eligible sample persons, 8,905 were traced and located, and 7,998 (sample persons and proxy respondents) were actually interviewed. This counts for a 89.8% response rate. The Final Annual SOA II Weight was used with the data to represent the population of the United States.

## **(2) Multivariate analyses and variables examined**

To investigate the demography of the sample, descriptive statistics, such as mean tables and tabulates, were generated and analyzed using the SAS system, 8.2.

In addition, the following regression models were employed to assess the associations between the dependent variables and the independent variables. The conceptual framework of this research is presented in Appendix 1. First, logistic regression was performed to examine the association of demographic status (age, gender, race, and residential status – community dwelling or institutionalized) with depression among older adults (Model 1). In this research, to employ the subjective indicator, depression was measured by self-reporting – felt sad or depressed all of the time, some of the time, or little of the time in the past 12 months, rather than professionally diagnosed-depression.

Second, logistic regression was employed to investigate the relationships of perceived poor health, perceived cognitive decline, and inadequate participation in social activities to depression among older adults controlling for demographic status (Model 2). The first independent variable, perceived poor health, was measured by self-assessment – self-rated fair or poor health. The second independent variable, perceived cognitive decline, was measured by self-assessment – self-rated fair or poor memory. The third independent variable, inadequate participation in social activities, was analyzed as the respondents' desire for more participation in social activities. Social activities in this research included getting together with friends, neighbors, or relatives; talking with friends, neighbors, or relatives on the telephone; going to church, temple, or another place of worship services; going to a show, movie, class, and/or other group events; and eating in restaurants.

Third, another logistic regression model was utilized to investigate whether difficulties with ADL predict self-rated poor health of older adults, controlling for demographic status, pain, and the number of impaired physical conditions (Model 3). ADL included bathing or showering, dressing,

eating, getting in and out of a bed or chairs, walking, and using the toilet. Difficulties with walking were used as reference. Pain was measured as “often troubled with pain.” Impaired physical conditions included cataracts, glaucoma, blindness, deafness, hearing impairments, tooth/mouth problems, a broken hip, osteoporosis, diabetes, arthritis, bronchitis, asthma, hypertension, heart disease, the recent experience of a stroke/ cerebrovascular accident, and cancer.

Fourth, difficulties with IADL as predictors of self-rated poor health of older adults were examined with logistic regression, when demographic status, pain, and the number of impaired physical conditions are controlled for (Model 4). IADL included preparing one’s own meals, shopping for groceries and personal items, managing money, using the telephone, doing heavy housework (e.g., scrubbing floors and washing windows), doing light housework (e.g., doing dishes and straightening up), and managing medication. Doing heavy housework was used as reference.

Fifth, whether prevention from leaving home explains inadequacy in participating in social activities was assessed by logistic regression, controlling for gender, age, and race (Model 5). Prevention from leaving home was measured by “something prevents the subject from getting out as often as would like during a typical week.”

Lastly, logistic regression explored reasons for prevention from leaving home, as it tends to lead to a feeling of inadequacy in social participation (Model 6). The reasons examined included a transportation problem, the respondent’s own health and mental problems, the spouse’s health and mental problems, other household members’ health and mental problems, safety, bad weather, no place to go, no one to go with, no time, child care provision, a financial problem, and others. Using the male respondents as reference, gender differences in reasons for prevention from leaving home were sought out.

In these analyses, all the dependent variables and independent variables were dummy-coded as dichotomous variables.



## 5. Results

### (1) Demographic characteristics

Descriptive statistics were developed to produce the profile of the sample (Table 1). The findings indicated that females composed 60% of the sample, and the average age was approximately 77 years old. Almost 90% of the sample was White. Additionally, most of the respondents (97%) lived in the community.

According to the findings, 61% of the sample replied that they felt sad or depressed in the past one year. With regard to self-rated physical health and cognitive function, more than 20% of the sample reported fair or poor. Regarding social participation, nearly 30% had desire to participate in more social activities.

**Table 1. Descriptive statistics of the sample %**

Variables	Mean
<b>Gender</b>	
Male	0.40
Female	0.60
<b>Age</b>	(77.27*)
Young-old	0.39
Old-old	0.48
Oldest-old	0.13
<b>Race</b>	
White	0.88
Black	0.08
Other	0.04
<b>Residential status</b>	
Community	0.97
Institution	0.03
<b>Depression</b>	
Sad or depressed (all/some/little of time)	0.61
Not depressed	0.39
<b>Self-rated health</b>	
Excellent/very good/good	0.72
Fair/poor	0.28
<b>Self-rated memory</b>	
Excellent/very good/good	0.76
Fair/poor	0.23
<b>Participation in social activities</b>	
About enough/too much	0.74
Would like to do more	0.26

\* Average age

### (2) Association of demography, poor health, cognitive decline, and inadequate social participation with depression

The results of logistic regression models 1 and 2 were summarized in Table 2. Model 1 assessed the direct association of demographic status with depression among older adults. The findings indicated that male respondents were 44% less likely to be depressed than their female counterparts

**Table 2. Impact of demography, poor health, cognitive decline, and inadequate social participation on depression among older adults**

Variables	Model 1	Model 2
	Impact of demographic status Odds ratio	Impacts of health, cognitive function, & desire for social participation Odds ratio
Gender		
Male	0.56****	0.52****
Age <sup>a</sup>		
Young-old	1.19****	1.23****
Oldest-old	0.49****	0.49****
Race <sup>b</sup>		
White	1.10****	1.27****
Other	0.57****	0.61****
Residential status <sup>c</sup>		
Community	47.55****	31.66****
Self-rated poor health		1.07****
Self-rated cognitive decline		3.39****
Inadequate social participation		2.85****

Note: <sup>a</sup> Old-old was deleted as the reference group.  
<sup>b</sup> Black was deleted as the reference group.  
<sup>c</sup> Institution was deleted as the reference group.

(OR=0.56, P<0.0001, CI[0.554, 0.556]). With regard to age differences, the young-old (between age 70 and 74) were 19% more likely (OR=1.19, P<0.0001, CI[1.190, 1.195]) and the oldest-old (between age 85 and over) were 51% less likely (OR=0.49, P<0.0001, CI[0.489, 0.492]) to report depression than the old-old (between age 75 and 84). White older adults had a 10% more likelihood of depression than Black respondents (OR=1.10, P<0.0001, CI[1.098, 1.102]); however, a different result might have been obtained if better racial balance had been represented in the sample. In addition, a significant association between residential status and depression was found in this model, showing that community dwellers were almost 48 times more likely to present depression than institutionalized individuals (OR=47.55, P<0.0001, CI[47.268, 47.830]). However, again, more representation of institutionalized older adults

in the sample could have generated different results.

The relations of perceived poor health, perceived cognitive decline, and inadequate participation in social activities, controlling for demographic status, were examined in Model 2. The latter two variables, perceived cognitive decline and inadequate social participation, predicted more depression among older adults. Nevertheless, perceived poor health did not. Despite significant association between perceived poor health and depression, the finding indicated that there was little difference in perception of depression between those who reported poor health and those who reported good health (OR=1.07,  $P<0.0001$ , CI[1.065, 1.070]). In contrast, respondents who assessed their cognitive function to be poor were 3.4 times (OR=3.39,  $P<0.0001$ , CI[3.383, 3.404]) and those who reported inadequate social participation were 2.8 times (OR=2.85,  $P<0.0001$ , CI[2.839, 2.855]) more likely to feel depressed than those who had positive ratings in these two domains respectively.

### **(3) Predictors of perceived poor health**

Model 3 and 4 investigated whether difficulties with ADL and IADL affect a perception of poor health among older adults, controlling for demographic status, pain, and the number of impaired physical conditions. With regard to difficulties with ADL, Model 3 found that difficulties with bathing and showering (OR=2.27,  $P<0.0001$ , CI[2.258, 2.276]), dressing (OR=1.78,  $P<0.0001$ , CI[1.771, 1.787]), eating (OR=2.50,  $P<0.0001$ , CI[2.488, 2.516]), getting in and out of a bed and chairs (OR=2.08,  $P<0.0001$ , CI[2.072, 2.086]), and using the toilet (OR=1.37,  $P<0.0001$ , CI[1.360, 1.374]) were all associated with more likelihood of perceiving poor health. Clearly, individuals having pain (OR=2.22,  $P<0.0001$ , CI[2.214, 2.226]) and impaired physical conditions (OR=6.74,  $P<0.0001$ , CI[6.639, 6.709]) were more likely to perceive poor health than those with neither pain nor physical impairments.

Model 4 examined whether IDAL difficulties are related to perceived poor health, controlling for demographic status, pain, and impaired physical conditions. Compared to the individuals having difficulties with performing

heavy housework, those having difficulties with preparing meals (OR=1.69, P<0.0001, CI[1.683, 1.701]), shopping (OR=2.30, P<0.0001, CI[2.286, 2.304]), managing money (OR=1.05, P<0.0001, CI[1.041, 1.052]), using the telephone (OR=1.53, P<0.0001, CI[1.520, 1.535]), doing light housework (OR=2.03, P<0.0001, CI[2.020, 2.041]), and managing medication (OR=1.49, P<0.0001, CI[1.483, 1.500]) were more likely to perceive poor health. In this model again, having pain (OR=2.51, P<0.0001, CI[2.499, 2.512]) and having impaired physical conditions (OR=14.93, P<0.0001, CI[14.839, 15.012]) predicted a more likelihood of perceiving poor health.

The demographic profile of the respondents who had difficulties with ADL and IADL is presented in Table 3. With regard to difficulties with ADL, the more people age, the more difficult becomes using the toilet and bathing and showering for both male and female older adults. The average

**Table 3. Gender profile of respondents with ADL/ IADL difficulties**

	Female		Male	
	%	Mean Age	%	Mean Age
<b>ADL difficulties</b>				
Walking	37	78.4	19	77.4
Using toilet	17	80.7	8	78.2
Getting in/out of bed/chairs	7	77.3	3	77.5
Bathing/showering	3	79.5	1	78.5
Dressing	1	78.6	1	76.9
Eating	1	76.7	1	75.5
ALL	67	78.9	33	77.5
<b>IADL difficulties</b>				
Doing heavy housework	39	77.3	12	77.3
Managing medication	13	80.4	7	77.8
Doing light housework	9	78.8	4	77.3
Using telephone	2	81.2	5	77.7
Shopping	3	78.2	1	78.8
Managing money	1	78.4	1	76.1
Preparing meals	1	78.4	0	80.5
ALL	69	78.3	31	77.5

ages of females having difficulties with using toilet and bathing/showering were 80.7 and 79.5 respectively, while 78.2 (using toilet) and 78.5 respectively for males (bathing/showering). The most difficult ADL for both males and females was walking, as shown in the highest percentage (37% of females and 19% of males) for that activity.

In terms of IADL, the most difficult activity for both males and females was performing heavy housework (39% of females and 12% of males of those with IADL difficulties). However, some gender differences were observed. For the female oldest respondents (age over 80), managing medication and using the telephone were identified as the most difficult activities, while preparing their own meals was identified as such by their male counterparts. In contrast to the female respondents, more males reported that using the telephone was more difficult than performing light housework.

#### **(4) Association of prevention from leaving home with a feeling of inadequate participation in social activities**

Model 5 examined how prevention from leaving home was associated with a feeling of inadequate participation in social activities. The analysis indicated that the respondents who could not leave home as often as they wished were 7.94 times more likely to desire participation in more social activities than those who could leave at any time, controlling for demographic status (OR=7.94,  $P<0.0001$ , CI[7.914, 7.963]).

Gender differences in reasons for not being able to leave home (Model 6) are summarized in Table 4. Of 14 reasons listed in Table 4, a provision of childcare appears to be the only insignificant reason for male respondents. Spouse's problems, both physical (OR=1.23,  $P<0.0001$ , CI[1.216, 1.234]) and mental (OR=2.08,  $P<0.0001$ , CI[2.014, 2.156]), other family member's mental problem (OR=2.29,  $P<0.0001$ , CI[2.156, 2.426]), bad weather (OR=1.19,  $P<0.0001$ , CI[1.182, 1.204]), and no time (OR=4.87,  $P<0.0001$ , CI[4.725, 5.018]), compared to other reasons, were more likely reasons for males not being

able to leave home. On the other hand, those who identified transportation problems (OR=0.40, P<0.0001, CI[0.394, 0.401]), respondent's own problems, both physical (OR=0.59, P<0.0001, CI[0.589, 0.594]) and mental (OR=0.17, P<0.0001, CI[0.167, 0.182]), safety (OR=0.72, P<0.0001, CI[0.707, 0.732]), no place to go (OR=0.001, P<0.0012, CI[0.001, 0.013]), and no one to go with (OR=0.52, P<0.0001, CI[0.500, 0.537]) were less likely to be male.

<b>Variables</b>	<b>Odds ratio</b>
Transportation problem	0.40****
Respondent's health reason	0.59****
Respondent's mental reason	0.17****
Spouse's health reason	1.23****
Spouse's mental reason	2.08****
Other family member's health reason	0.64****
Other family member's mental reason	2.29****
Safety reason	0.72****
Bad weather	1.19****
No place to go	0.001***
No one to go with	0.52****
No time	4.87****
Provision of child care	
Financial reason	0.97**

Note: 'Other reasons' was deleted as reference.

## 6. Discussion

The objective of this research was to examine how three domains of life – perceived poor health, perceived cognitive decline, and inadequate participation in social activities, reflecting the components of Rowe and Kahn's multidimensional model (1998) of successful aging, affected depression among older adults. The first hypothesis developed in this research – there are demographic differences in predicting depression among older adults – was supported by the findings. Female older adults were more likely to be depressed than their male counterparts. This outcome is consistent with the research finding of Benyamini, Blumstein, Lusky, and Modan (2003).

Interestingly, the finding showed that the young-old presented more likelihood of depression than the older cohort. This result may reflect that the older cohort, despite more declines in their functioning, improved their coping skills by compensating for their losses with formal and/or informal

support and managed their daily living and life contingencies more effectively than the young-old. In addition, this latter cohort, who was more likely to be struggling in a transition period between their former work life and their new retirement life, may have lost their robust emotional conditions. Regarding other demographic data, the sample was dominated by White people and community-dwellers; therefore, further research that includes greater ethnic and residency diversity is needed to understand the elderly population.

The second hypothesis – perceived poor health, perceived cognitive decline, and inadequate participation in social activities, each of which predicts depression among older adults – was partly supported. Significant associations of perceived cognitive decline and inadequate social participation with depression were found, presenting more likelihood of depression respectively. Nevertheless, contrary to my expectation, perceived poor health did not predict a higher likelihood of depression despite its significant relation to it. This result revealed that there was no distinctive difference in predicting depression among older adults who perceive themselves to be in poor health and those who perceive themselves to be in good health. This finding supports the argument of Inui (2003) that wheelchair users can present well-aging and the research result of Strawbridge, Wallhagen, and Cohen (2002) that many older adults with chronic conditions and functional difficulties present positive psychological status. Thus, whether older adults with physical impairments develop depression or not is likely dependent on the individual.

The third hypothesis – more difficulties with ADL and IADL predict perceived poor health – was supported by the findings. Interestingly, all the ADL variables were significantly associated with depression, compared to walking. Walking is one of the most basic activities of life; however, people having trouble walking can find instrumental support such as a walker and a wheelchair relatively easily and can thus compensate for difficulties. In contrast, not many devices can be found to compensate for difficulties with other activities, such as eating and getting in and out of a bed. The inability

to perform these ADL may affect an older adult's autonomy and probably increase that person's perception of poor health, as evidenced in this research. Older adults lose physical strength as they age. As a result, their ability to perform heavy housework decreases. However, as found in this research, failures to conduct less heavy IADL often lead to a perception of poor health. The analyses indicated that difficulties with ADL and IADL predict more likelihood of perceived poor health. Nevertheless, as discussed above, another outcome of this research showed that a perception of poor health does not always predict depression. Interestingly and importantly, this implies that despite physical impairments and perceived poor health, older adults may not lose the chance to maintain psychological well-being.

The analysis in this research confirmed the significant association of prevention from leaving home with a feeling of inadequacy in social participation. Thus, the fourth hypothesis – prevention from leaving home generates a feeling of inadequacy in participating in social activities – was supported. However, in examining different age groups, it was found that the young-old desired more participation, while the oldest-old desired less, compared to the old-old. Further studies are needed to investigate the factors that brought about these results. The young-old may be preoccupied with caring for their spouse and have no time for social activities, while the old-old may have lost their physical and emotional robustness to participate in activities as they age.

With regard to the reasons that prevented the respondents from leaving home, the data analysis supported the fifth hypothesis – older adults' physical and mental problems prevent them from leaving home, even though some gender differences were observed. Significantly, the data showed that male respondents identified their spouse's physical or mental health conditions as the reason that prevented them from leaving home, and their female counterparts identified their own physical or mental health as the reason as well. This result may reflect the fact that as women live longer than men, they will have more chances to lose their spouse than men. As a result, a likelihood of having their own health – physical and mental – and



safety issues also increases for women. In addition, a substantial difference was observed in a 'no time' reason: men were more likely than women to identify no time as the reason for their inability to leave home. This result suggests that men may be more involved in spouse care and, therefore, confined to the home. Another significant outcome that requires attention is that a transportation problem was a more likely reason for older women, compared to other reasons.

## **7. Policy and program implications**

The gender and age differences in predicting depression among older adults, as found in this research, indicated that more attention needs to be directed to identifying factors associated with depression among female older adults and the younger elderly. Especially, the examination of the onset of depression is critical for women and those who have just reached old age and are in a transition to retirement.

This research indicated that older adults who reported poor memory had more depression, and this outcome is consistent with previous studies. This result also suggests the significance of early assessment of older adults' cognitive status. The implementation of psychosocial assessment by social workers and appropriate responses to those results are significant for older adults' psychological well-being.

Referring to the findings on ADL and IADL, it is of great importance to connect frail older adults to instrumental support in accordance with their need. Public subsidies to ensure a safe home environment, including some house renovations and the installation of a safe bar in the bathroom, should help them maintain their autonomy in the community. More efforts should be made to educate older adults and provide them with information on safety issues. In addition, visiting nurse services would be helpful in administering their medication.

The analysis of the reasons that prevent older adults from leaving home reveal that more transportation arrangements and attendant services would

help female older adults participate in social activities. For male older adults, short-stay programs for their spouses and home-helper services are suggested. Overall, health maintenance and preventive programs should be more cost-effective than any other intervention and would contribute to enhancing older adults' well-being.

## 8. Conclusion

The goals of successful aging studies are (1) for individuals to make lifestyle choices that will maximize their chances of having a high quality of later life and (2) for policy-makers to make changes to allow better access to high quality care and more opportunities to facilitate individuals' efforts to age successfully. It is envisioned that further endeavors aimed at promoting successful aging will expand preventive policies and programs that will contribute both to reducing the burden of care systems and improving the quality of life of older adults.

How to predict and determine successful aging is not known, and there are differences and even discrepancies in the discussions on this issue. Nevertheless, certainly successful aging presents a framework in which professionals in different fields – medicine, public health, psychology, sociology, geriatrics, and gerontology – can collaborate across disciplines. To pursue the stated goals, further research is needed based on various approaches to examine the multiple constructs of successful aging.

Although Rowe and Khan's (1998) model of successful aging indicates that one domain is maintaining high physical function, this study supported that older adults who had poor functional conditions and perceived poor health did not always lose their psychological well-being. In previous research of successful aging, there was a tendency to undervalue a broader ecological approach, including well-being with disabilities (Minkler, 2002). Kahn (2002) also urged the attention to the unintended consequences of the successful aging concept, which tends to celebrate a fortunate elite but to neglect the less fortunate and heterogeneity among older adults. It is an undeniable fact

that people lose physical strength and have more disabilities as they age; however, one should not deny the wellness of those people. In sum, this research supports that the widely examined Rowe and Kahn's model should be extended to include older adults with impairments.

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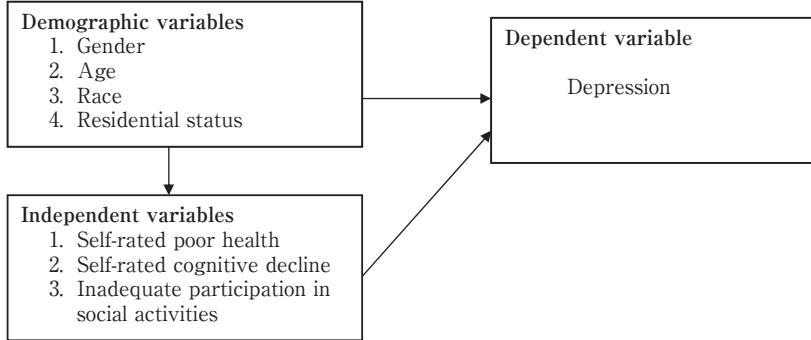
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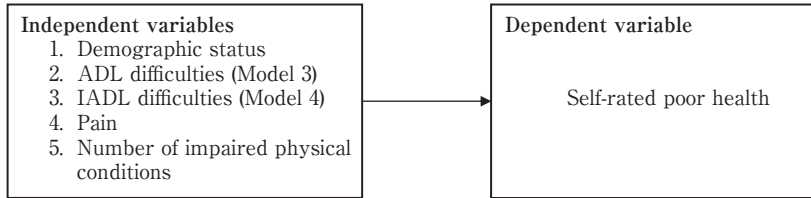
## Appendix

### Conceptual Framework of the Research

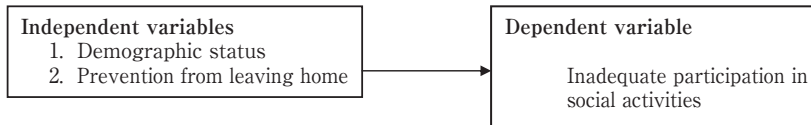
#### Model 1 & 2



#### Model 3 & 4



#### Model 5



#### Model 6

