

Verification of relationship model between Korean new elderly class's recovery resilience and productive aging

Gun-Sang Cho¹, Dae-Sung Kim², Eun-Surk Yi^{3,*}

¹Department of Community Sports & Recreation, College of Arts & Athletics Division, Daelim University, Anyang, Korea

²Department of Sports and Leisure Studies, Seonam University, Asan, Korea

³Department of Exercise Rehabilitation & Welfare, College of Health Science, Gachon University, Incheon, Korea

The purpose of this study is to verification of relationship model between Korean new elderly class's recovery resilience and productive aging. As of 2013, this study sampled preliminary elderly people in Gyeonggi-do and other provinces nationwide. Data from a total of effective 484 subjects was analyzed. The collected data was processed using the IBM SPSS 20.0 and AMOS 20.0, and underwent descriptive statistical analysis, confirmatory factor analysis, and structure model verification. The path coefficient associated with model fitness was ex-

amined. The standardization path coefficient between recovery resilience and productive aging is $\beta = 0.975$ ($t = 14.790$), revealing a statistically significant positive effect. Thus, it was found that the proposed basic model on the direct path of recovery resilience and productive aging was fit for the model.

Keywords: Recovery resilience, Productive aging

INTRODUCTION

Baby boomers, born after Korean War, are entering the aging society, signaling an overall great change in Korean society. Unlike the past elderly generation who became the beneficiaries of elderly programs or depended entirely on welfare benefits, the so-called new elderly class, entering the aging society, have to endeavor to create a yet another self-help-type life.

As such, aging paradigm is also changing according to elderly changes. What is the desirable aging to elderly people? After the 1980s, medical technologies were developed, and health promotion models emerged. Also, as an optimistic viewpoint that aging and diseases can be prevented or delayed according to individuals' life styles and choices, a viewpoint on successful aging emerged to provide the criteria for assessing social members' appropriate behavioral patterns and self-management results (Holstein and Minkler, 2003). In addition, as the world underwent the neoliberal economic order reshuffling period in the 1980s, leading to a reduction of national welfare benefits and a setback to the govern-

ments' responsibilities, and against this socio-economic background, the concept of productive aging, combining with the economic productive problems, emerged in line with the theory on activity. Productive aging, with the belief that people can remain productive even in the elderly period, emphasizes a need to reevaluate the elderly's social roles and to require them to participate in socially valuable activities. In other words, this change tends to follow the neoliberal ideology that emphasizes the crisis associated with aging population after the 1990s, as well as market functions and individuals' responsibilities.

Then, there is a need to think of what is required to achieve the elderly's self-help productive aging. Entering the aging society leaves the person concerned to be negative about his life due to relative deprivation sense and alienation sense. This awareness, seen in diverse environments, can be overcome by psychological factors. As such, what can turn the elderly's critical viewpoint into a positive viewpoint is to restore themselves to their past status, which can be made possible by recovery resilience. Recovery resilience refers to humans' ability to overcome difficulties challenging

*Corresponding author: Eun-Surk Yi

Department of Exercise Rehabilitation & Welfare, College of Health Science, Gachon University, 191 Hambangmoe-ro, Yeonsu-gu, Incheon 21936, Korea
Tel: +82-32-820-4442, Fax: +82-32-820-4442, E-mail: yies@gachon.ac.kr

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them, to adapt to the environment, and to grow mentally (Luthar et al., 2000; Olsson et al., 2003). Recovery resilience helps overcome maladjustment to interpersonal relations (Cowen et al., 1990), and serves as a protective factor to bolster psychological safety (Alim et al., 2008; Cooke et al., 2013; Lei et al., 2012). In other words, resilience can overcome and maintain emotional status helpful for the elderly's activities, thereby having positive effects.

Therefore, this study aims to analyze the relationship between Korean new elderly class's recovery resilience and productive aging so as to provide basic data in preparation for the aging society.

MATERIALS AND METHODS

Subjects of research

As of 2013, this study sampled preliminary elderly people (56–64 yr old) in large, medium and small cities, including seven large cities and nine medium/small cities, and rural areas in Gyeonggi-do and other provinces nationwide. In each of 25 areas, 20 preliminary elderly people (56–64 yr old) and 10 advanced elderly people (65–75 yr old) were sampled, totaling 250, respectively, for a gross total of 500. Also, data from a total of effective 484 subjects was analyzed. The characteristics of subjects are outlined in Table 1.

Research tools

Composition of research tools

A survey questionnaire was used. It consisted of questions about

Table 1. General characteristics of subjects (n=484)

Variable	No. (%)
Gender	
Male	218 (45)
Female	266 (55)
Age (yr)	
56–64	242 (50)
65–75	242 (50)

Table 2. Evaluation of the revised-model fitness (n=484)

Variable	Absolute fit index				Incremental fit index		Parsimonious fit index
	CMIN/DF	GFI	RMR	RMSEA	TLI	CFI	PNFI
Recovery resilience	1.825	0.896	0.046	0.064	0.918	0.935	0.682
Productive aging	1.530	0.902	0.043	0.052	0.923	0.935	0.705
Fitness	<3.0	>0.90	<0.05	0.05–0.08	>0.90	>0.90	>0.60

CMIN/DF, chi square/degree of freedom ratio; GFI, goodness of fit index; RMR, root mean square residual; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis index; CFI, comparative fit index; PNFI, parsimony normed fit index.

the new elderly class's recovery resilience, revised from the scale developed by Richardson (2002). Corresponding subfactors consist of emotion control power, cause analysis ability, communication ability, interpersonal skill, and satisfaction, and the subfactors of optimism consisted of 24 questions. Second, questions about the new elderly class's productive aging were created. Eighteen corresponding subfactors were created such as work-related activity, family support activity, economic development activity, and social volunteer activity.

Analysis of validity and reliability of research tool

For the verification of the relationship model, a confirmatory factor analysis was conducted to secure the validity of the assessment tool. First, a confirmatory factor analysis of questions about recovery resilience was conducted, revealing that the fit index Q for six factors was not greater than three, suggesting that the structure involving six factors and 18 questions was fit, and further revealing that except for the goodness of fit index (GFI) index, it met the overall fitness. Also, the reliability was found to be high at Cronbach $\alpha=0.909$. Second, and four subfactors about productive aging fitted overall fitness and their reliability was also high at Cronbach $\alpha=0.894$. This proved the fitness, validity and reliability of the established variables.

Method of gathering and processing data

Data was collected as follows. Four joint researchers and four assistants visited the target elderly people, explained the instructions, purpose and contents of the survey to them, and requested the subjects to answer the questionnaire by the self-administration method. The collected data was processed using the IBM SPSS Statistics ver. 20.0 (IBM Co., Armonk, NY, USA) and IBM SPSS AMOS ver. 20.0 (IBM Co., Armonk, NY, USA), and underwent descriptive statistical analysis, confirmatory factor analysis, and structure model verification (Table 2).

RESULTS

Verification of structural model of Korean new elderly class's recovery resilience and productive aging

Basic model of Korean new elderly class's recovery resilience and productive aging

The proposed relationship model of recovery resilience and productive aging was designed after designing a preliminary model based on literature. With regard to recovery resilience, as an independent variable, domestic researches on recovery resilience report that resilience has positive effects on diseases, stress, exhaustion, depressions, and suicidal ideation which tell of physical and psychological maladjustment status. Also, foreign researches report that recovery resilience helps heal maladjustment related to interpersonal skill (Cowen et al., 1990), and bolster psychological safety (Alim et al., 2008; Cooke et al., 2013; Lei et al., 2012).

Notably, researches on elderly people report that recovery resilience has a positive effect on successful aging, easing negative factors such as stress and suicidal, and is seen as a psychological factor that, through leisure activity or exercise, has a positive effect on reducing depressions or deviant behaviors (Cho and Yi, 2013).

In addition, productive aging, as a dependent variable, is a re-

cent theory on aging like successful aging, and is a new changed concept of elderly people. In other words, while the successful aging concept is seen as related to individuals' well-being, the productive aging concept views negative elderly problems from the social perspective, creating the second elderly culture, and making the concept a concept of improvement. In other words, the theory involves securing productive activities, allowing the elderly people to be recognized as social members, and viewing this change as being positive.

Thus, this study established a preliminary model, shown in Fig. 1, to examine how productive aging, applied to the new elderly class like successful aging, would be influenced by recovery resilience.

Correlational analysis of recovery resilience and productive aging

The fitness of the causation model of productive aging and recovery resilience was verified after a correlational analysis of variables was conducted. This correlational analysis revealed, as in Table 3, that the correlation between recovery resilience and productive aging was a high positive one. Specifically, the correlation between recovery resilience and productive aging was the lowest for



Fig. 1. Preliminary relationship model of the new elderly class's recovery resilience and productive aging.

Table 3. Correlational analysis of recovery resilience and productive aging (n=484)

	Work related	Career development	Family support	Social volunteer
Emotion control power	0.579***	0.542***	0.494***	0.538***
Cause analysis ability	0.725***	0.635***	0.619***	0.575***
Communication ability	0.559***	0.470***	0.632***	0.423***
Interpersonal skill	0.640***	0.622***	0.540***	0.583***
Satisfaction	0.601***	0.534***	0.608***	0.488***
Optimism	0.566***	0.553***	0.511***	0.568***

***P<0.001.

the correlation between social volunteer activity and communication ($r=0.423$), and was the highest for the correlation between work-related activity and cause analysis ability ($r=0.725$). As such, overall, $r=0.423-0.725$, thereby revealing a statistically significant positive correlation at the level of $P<0.001$. Given the correlation coefficient, at the correlation $r=0.50$ or above by sub-variable, the overall correlation was positive, suggesting that the higher recovery resilience was, the higher productive aging was.

Analysis of relationship model of recovery resilience and productive aging

To verify the relationship model of recovery resilience and productive aging, a preliminary model was analyzed. The verification of the model fitness revealed the results as in Table 4. Specifically, the absolute fit index CMIN/DF (chi square/degree of freedom ratio)=4.812 only had three. or above, contradicting the fitness, while root mean square residual (RMR)=0.015 and GFI=0.935 met the fitness. Also, the incremental fit indices, namely, NFI (normed fit index)=0.946, TLI (Tucker-Lewis index)=0.942, and CFI (comparative fit index)=0.956 met the fitness index. Finally, the CMIN/DF verification did not meet the fitness criteria, but since the sampling size was large and the theory on the model was

appropriate, only reference data was used and the criteria for other fitness were valued.

The path coefficient associated with model fitness was examined (Table 5). The standardization path coefficient between recovery resilience and productive aging is $\beta=0.975$ ($t=14.790$), revealing a statistically significant positive effect. Specifically, optimism variables such as the elderly people's emotion control power, cause analysis ability, communication, interpersonal skill, and satisfaction had direct effects on productive aging's work-related activity, economic development activity, family support, and social volunteer activity. Thus, it was found that the proposed basic model on the direct path of recovery resilience and productive aging was fit for the model.

DISCUSSION

In the rapidly changing society, and in the complicated competition structure under which people should fast adjust to such a change to survive, many people will suffer hardships and difficulties. Notably, the elderly people, from the perspective of life cycle, face many difficulties associated with negative events in life such as the deaths of spouse, brothers, and other relatives, unemployment, and poverty, thereby continuing to experience conflicts and frustration. Also, due to negative incidents, they face headache, high blood pressure, unsafe psychological symptoms, and social lonesomeness (de Souza-Talaricol et al., 2009).

Due to such difficulties and psychologies associated with aging, the elderly people spend an aimless, dull life, or choose a meaningless life. To overcome these problems, the elderly people need

Table 4. Evaluation of model fitness (n=484)

Variable	Absolute fit index			Incremental fit index		
	CMIN/DF	RMR	GFI	NFI	TLI	CFI
Basic model	4.812	0.015	0.935	0.946	0.942	0.956

CMIN/DF, chi square/degree of freedom ratio; RMR, root mean square residual; GFI, goodness of fit index; NFI, normed fit index; TLI, Tucker-Lewis Index; CFI, comparative fit index.

Table 5. Path coefficient of the basic model^{a)} (n=484)

Path	Standardization path coefficient (β)	Standard error (SE)	CR(t)
Recovery resilience→productive aging	0.975	0.065	14.790***
Productive aging→work-related activity	0.846	0.054	19.098***
Productive aging→economic development activity	0.804	0.055	18.061***
Productive aging→family support activity	0.771	0.057	19.098***
Productive aging→social volunteer activity	0.747	-	-
Recovery resilience→emotion control power	0.686	-	-
Recovery resilience→cause analysis ability	0.825	0.078	16.566***
Recovery resilience→communication	0.707	0.067	14.400***
Recovery resilience→interpersonal skill	0.748	0.066	15.169***
Recovery resilience→satisfaction	0.744	0.078	15.095***
Recovery resilience→optimism	0.705	0.064	14.371***

SE, standard error; CR, critical ratio.

^{a)}Basic model on South Korean elderly people's recovery resilience and productive aging path.

*** $P<0.001$.

recovery power. Thus, this study, through the recovery power, namely, recovery resilience, verified how it influenced productive aging, and reached the conclusion that, through recovery resilience, productive aging can be converted into positive attitude. This suggests that physical and social aspects associated with aging can be important factors to aging, but that to perceive such results can lead to having a certain psychology.

Researches on elderly welfare, mentioning recovery resilience as the ability to overcome the elderly people's stress, report that recovery resilience can help overcome stress (Connor and Davidson, 2003; Ong et al., 2006). Also, individuals can, through resilience, conduct a positive life engagement to resist anxiety emotion, thereby creating openness and flexibility (Block and Kremen, 1996). In other words, the elderly people's mental recovery will make their life emotion positive, promoting their productive aging perception and proving a new elderly life. Thus, as the findings of this study, many efforts for emotional recovery should be made to ensure the elderly people's new productive life. Also, follow-up researches are hoped to provide activities helpful for recovery resilience in line with the findings of this study, helping the development of elderly welfare.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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