

Perceived Life Constraint, Physical Health Problem, and Positive Affect among Older Adults from 16 European Countries: Influence of Physical Activity

Due to the rapid aging of the population, promoting health and well-being for the aged is a significant challenge of the public health improvement. Previous literature has shown that older adults are more likely to have to cope with various psychological and behavioral restrictions in their everyday lives (Kleiber, Hutchinson, & Williams, 2002). As aged, many—if not most—experience the physical debility (e.g., chronic health problem), psychological instability (e.g., fear of death and loneliness), and lack of social opportunity along with retirement (Brawley, Rejeski, & King, 2003; Schnittker, 2005). Therefore, pursuing quality life among older adults might be impeded by different life constraints and weakened physical condition. Realization of life constraints, such as lack of money and a sense of out of control, may lead to the *low* morale regardless of the actual level of functional abilities that diminishes general health and quality life among older adults (McGuire & Norman, 2005). All of this suggests that it is important to better understand older adults' daily difficulties in order to provide suitable social support system for the aged.

Physical activity has been regarded as a significant facilitator for quality life among older adults (Sawatzky, Liu-Ambrose, Miller, & Marra, 2007). A great number of studies provide empirical evidence that physical activity engagement allows participants to consistently gain health-related benefits such as enhanced physical and mental health, subjective well-being, and delayed mortality among older adults (e.g., Copeland & Eslinger, 2009; Nimrod, 2007; Strawbridge, Deleger, Roberts, & Kaplan, 2002). For example, by engaging in physical activity, participants may share their personal life and experience with others and develop social network and emotional bonds that contribute to the positive emotion and attitude toward life (Cohen & Numa, 2011). Participating in physical activity also provides opportunities for older adults to develop better coping skills and learn to be resilient to overcome negative physical-psychological effects (Gabriel & Bowling, 2004; Shannon & Bourque, 2005).

Building on this idea, I hypothesized that aspects of ageing—perceived life constraints and physical problem—negatively influenced older adults' daily emotion. Also, I hypothesized that physical activity might mitigate the effect of negative aspects of ageing and increase positive attitudes and emotion among older adults. Although a number of studies have explored the positive associations between life satisfaction, psychological well-being, and physical activity among older population, relatively not many studies investigated the relationships between the life constraints, physical health problem, and positive affect among older adults. Finding of the study would provide better understanding of the mechanism of older adults' daily experience and how physical activity is related to the attitudinal correlates among older adults.

Methods

This current study used the data released from the Survey of Health, Ageing, and Retirement in Europe (SHARE) (Malter & Börsch-Supan, 2013). The SHARE wave 4 contains a wide range of life aspects such as physical-mental health, behavioral risks, activities, social networks, and cognitive function among older adults from 16 European countries. I used a total sample of 7, 757 individuals born between 1910 and 1948. The respondents' age ranged from 65 to 103 years old (Mean = 73.21 years, *SD* = 6.48). The sample was composed of 49.6% men and 50.4% women. With regard to marital status, 65.3% were married, 9.9% were separated or divorced, 10.8% were widowed, and 1.8% reported they were never married.

Perceived life constraint was measured by five questionnaire items (e.g., “Age prevents from doing things”) on a Likert scale, ranging from 1 “never” to 5 “often.” A total of 12 items was used to assess the level of physical health problem among respondents. The sample items include “bothered by: pain in back, knees, hips or other joint” and “bothered by: falling down.” In order to assess the intensity of physical activity participation, the respondents were asked to indicate how often they were engaged in physical related activity in the last 12 months. Using a four-point Likert scale, respondents were to select an answer ranging from 1 “less than every month” to 4 “almost every day.” Positive affect was measured using a total of 7 items employing a five-point Likert scale, ranging from 1 “never” to 5 “often.” Each item (e.g., “I look forward to each day”) demonstrates how respondents viewed their everyday life.

In order to investigate the relationships between latent factors and their measured variables, Confirmatory Factor Analysis (CFA) was conducted. The contribution of physical activity between the proposed relationships was also examined. Measurement scales were reliable and valid according to statistical standards. Statistical Package for the Social Sciences (SPSS 16.0) and SPSS Amos 18 software were used throughout the data analysis.

Results

According to the results, the measures of physical health problem ($\beta = -.214$, $t\text{-value} = -20.214$) and perceived life constraint ($\beta = -.335$, $t\text{-value} = -31.737$) were a significant predictor of positive affect. The level of physical activity participation was found to have significant path coefficients toward the measure of positive affect ($\beta = .050$, $t\text{-value} = 4.951$). Also, both negative ageing aspects were significantly related to the physical activity engagement. Figure 1 visualizes the relationships among latent factors and provides a summary of the standardized estimates of path coefficients in the tested model.

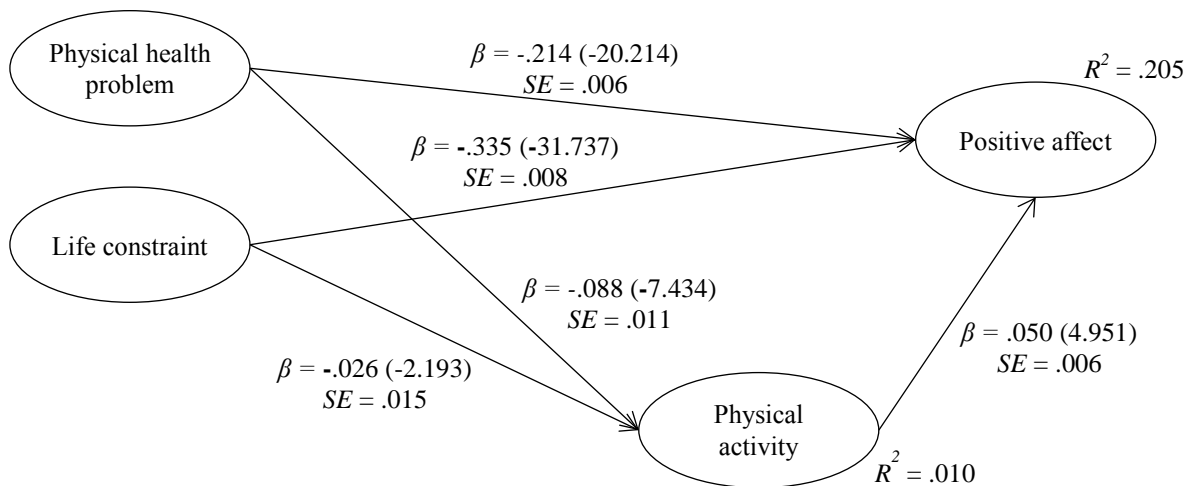


Figure 1. A tested relationships and standardized estimates of path coefficients between physical health problem, perceived life constraint, positive affect, and physical activity

In the present study, I examined the mediating effect of physical activity on the relationship between physical health problem and perceived life constraint and positive affect. Table 1 summarizes the estimations of the indirect and total effects between latent factors. It was demonstrated that indirect effects of the physical health problem on positive affect through the physical activity were statistically significant ($\beta = -.004$, $t\text{-value} = -4.000$). The indirect effect through physical activity was computed as the product of the path coefficient from physical

health problem to physical activity (-.088) and the path coefficient from physical activity to positive affect (.050). However, the indirect effect of perceived life constraint on positive affect through physical activity, which was computed as the product of the path coefficient from perceived life constraint to physical activity (-.026) and the path coefficient from physical activity to positive affect (.050), was *not* significant ($\beta = -.001$, t -value = -1.000). The total standardized effect for the measure of physical health problem on positive affect ($\beta = -.219$, t -value = -19.909) and the total standardized effect for perceived life constraint on positive affect ($\beta = -.336$, t -value = -30.545) indicated significant path coefficients by statistical standards.

Table 1

Summary of the standardized indirect and total effects between latent factors

Path	Indirect	Total	SE	Hypotheses test	
				C.R.	Results
HthPrbm → PhyAc → PsAf	-.004		.001	-4.000*	Supported
LfCnstrn → PhyAc → PsAf	-.001		.001	-1.000	<i>Not</i> Supported
HthPrbm → PsAf		-.219	.011	-19.909*	Supported
LfCnstrn → PaAf		-.336	.011	-30.545*	Supported

Keys: HthPrbm = Physical health problem; LfCnstrn = Perceived life constraint;

PhyAc = Physical activity; PsAf = Positive affect

Note: * $p < .05$

Discussion

The purpose of this study was to explore the relationships between perceived life constraint, physical health problem, and positive affect among older adults, and to examine the mediating effect of physical activity. Results indicated (1) that perceived life constraint and physical health problem significantly affected the acquisition of positive attitude and emotion among older adults; (2) that physical activity was found to have a significant path coefficient toward the measure of positive attitude and emotion among older adults; and (3) that physical activity was a significant mediator between physical health problem and positive affect. Findings of the current study are consistent with existent literature by providing evidence that physical activity engagement is a significant factor to mitigate negative effect among older adults (Rejeski & Mihalko, 2001; Thogersen-Ntoumani & Fox, 2005).

In addition, I found that physical health problem and perceived life constraint negatively affected physical activity engagement. That is, people who reported higher level of physical health problem and perceived life constraint are likely to less participate in physical activity, although the results show that physical activity is helpful to improve positive affect. For the aged, physical activity may be a challenging task due to the deterioration of the physical strength or less interest (White, Wojcicki, & McAuley, 2012). However, older adults who frequently participate in physical activity are more likely to maintain a positive affect that can improve psychological well-being and life satisfaction (Warburton, Nicol, & Bredin, 2006). All of this suggests that practitioner or worker in health-related fields ought to not only focus on providing an opportunity for physical activity but also understand what hinders older adults' participation in physical activity. For example, positive social support should be established by family member and local community, so that older adults can overcome their perceived constraint and physical struggles providing apt program considering individual's physical-mental health status. Although this study did not investigate the ultimate outcome such as physical improvement, life

satisfaction, psychological well-being, research has shown that possessing positive attitude and emotion contributes to effective coping, adjustment, and psychosocial well-being (Chang, 2002; Chang & Sanna, 2001).

Findings from this study provide better understanding of the older adults' daily experience, and potential implications for designing effective social support to mitigate negative aspects of ageing among older adults through physical activity. Along with the significant findings of the study, some limitations should be noted. The self-reported nature of the SHARE study is a limitation that may result in bias in the relationships among variables examined in this study. Although there is a complexity of social, cognitive, physical, and perceived environment associated with ageing, in the analysis, neither any demographic information (e.g., gender and nationality) nor the severity of physical health problem which directly related to the type and intensity of physical activity was reported. Therefore, future studies may include such information to better investigate the underlying variables.