

SUCCESSFUL AGING: THE CONTRIBUTION OF PERSONALITY VARIABLES

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Abstract

Understanding social, economic, and psychological factors are important for promoting elderly health. Rowe and Kahn (1997) described three main components for "successful aging" (SA): avoiding disability and disease, high cognitive and physical capacities, and active engagement in one's life. Psychological dimensions (i.e., personality) have not been sufficiently studied yet. However, they could be considered to define SA. This study aimed to determine whether physical, cognitive, social, and personality factors were associated with SA.

A total of 2109 participants living at home (53.39% men; $m_{\text{age}} = 75,38 \pm 8.11$) – from the Survey of Health, Aging, and Retirement in Europe (SHARE dataset release 7.0.0 of 2017) – completed questionnaires measuring physical (mobility, number of diseases, IADL, BMI) and cognitive (memory, executive function) health, social engagement, and personality (Big Five Inventory). These variables were gathered into three distinct blocks: sociodemographic characteristics (age, sex), model's Rowe and Kahn variables (physical, cognitive, social engagement), and personality. SA was assessed by the Euro depression scale. A correlation matrix was computed to examine the interrelationships between all variables. We then performed linear regression analysis when it was appropriate.

A higher level of motor and cognitive abilities correlated with a lower level of depressive symptoms ($r=0.34$; $p<.001$; $r=-.20$; $p<.001$; $r=-.17$; $p<.001$). The number of diseases was positively correlated with depressive symptoms ($r=0.26$; $p<.001$). The more engaged people were, the fewer depressive symptoms they had ($r=0.09$; $p=.019$). An effect of the level of education on depressive symptoms ($F(5,847)= 7.06$; $p<.001$) was found: people with a higher educational level had a lower depression score than those with a lower educational level. A lower level of neuroticism, higher level of agreeableness, and conscientiousness were significantly correlated with a lower level of depressive symptoms ($r=0.41$; $p<.001$; $r=-.09$; $p<.028$; $r=-.08$; $p=.028$). Linear regression analyses showed that personality variables explained 11% of the variance of depression scores, beyond sociodemographic characteristics (age, sex) (9%) and variables in the Rowe and Kahn model (10%). The three blocks, all together, explained 29% of the variance of the depression scores.

In line with Rowe and Kahn's model (1997), results showed that physical, cognitive, and social factors from the SHARE study partially explained SA (i.e., absence of depressive symptoms here). Interestingly, personality variables also explained a significant proportion of depressive symptoms. Personality may have an important role in addressing SA: adapting the care as well as the prevention to encourage the elderly to engage in physical, social, or cognitive activities.

Keywords: *Successful aging, personality, depressive symptoms.*

1. Introduction

Today, to prevent dependency among older adults, recent recommendations from the World Health Organization invite all actors involved in the field of aging to change their way of thinking from a disease-centered approach to a healthy aging approach. Several economic, cognitive, and psychological factors are involved in "successful aging" (SA). Approaches such as Rowe and Kahn (1997) focus on these factors improving the overall health of the individual. The authors highlighted three main components: avoiding disability and disease, having high cognitive and physical capacities, and an active engagement in one's life. However, psychological dimensions, such as personality, have not yet been sufficiently studied when looking at "SA". Yet, it could be essential to tend towards SA considering how personality traits can influence the components of SA (Baek et al., 2016). Moreover, depression, or rather the absence of depressive symptoms, can be considered as an important indicator of SA. This study aims to determine to what extent physical, cognitive, social, and personality factors could explain SA.

2. Methods

A total of 2109 participants living at home (53.39% men; 46.61% women, $m_{age} = 75,41 \pm 7,98$) from the Survey of Health, Aging, and Retirement in Europe (SHARE dataset release 7.0.0 of 2017) completed questionnaires measuring social engagement, physical (mobility index, Instrumental Activities of Daily Living's scale (IADL), Body Mass Index (BMI)), number of diseases, and cognitive (verbal fluency, recall of words delayed,) abilities, , and five personality's traits: extraversion, agreeableness, conscientiousness, neuroticism, openness (Big Five Inventory). SA was evaluated through the absence of depressive symptoms, with the Euro-D depression scale (the higher the score, the more depressive symptoms the participant has).

A correlation matrix was computed to examine the interrelationships between all variables and SA.

Next, we performed hierarchical moderated regression analyses. Variables were gathered into three distinct blocks: Sociodemographic characteristics (age, sex), Components from Rowe and Kahn's model (physical, cognitive, social engagement), Personality.

3. Results

Table 1 presents the results of the correlation analyses between all the variables and SA, their means, and standard deviations. The results showed that a higher level of mobility and cognitive abilities correlated with a lower level of depressive symptoms. The number of diseases was positively correlated with depressive symptoms. The more engaged people were, the fewer depressive symptoms they had. An effect of the level of education on depressive symptoms was found: people with a higher educational level had a lower depression score than those with a lower educational level. A higher level of agreeableness, conscientiousness, and lower level of neuroticism, were significantly correlated with a lower level of depressive symptoms.

Table 1. Population characteristics and correlation analyses.

	M(SD) Or %	SA
Sociodemographic characteristics		
Age	75.38 (8,11)	
Gender (men)	53.39%	
Level of education	2.49 (1,72)	
Social engagement		
Engagement (engaged)	68,06%	0.09**
Physical and cognitive abilities		
Mobility Index	0.75 (1,11)	0.34**
IADL	26.54 (4,88)	0.01
BMI	7.52 (9,72)	0.06
Number of diseases		0.26***
Verbal fluency	3.42 (2,14)	-0.20***
Recall of word delayed	2.26 (1,43)	-0.17***
Personality		
BFI		
• Extraversion	3.49 (0,85)	-0.02
• Agreeableness	3.93 (0,81)	-0.11***
• Conscientiousness	4.42 (0,71)	-0.08*
• Neuroticism	3.05 (1,07)	0.41***
• Openness	3.51 (0,95)	-0.05
SA	2.63 (4.85)	

*p < 0.05; **p < 0.01; and ***p < 0.001.

Table 2 presents the results for the linear regression analyses. Linear regression analyses showed that personality variables explained 11% of the variance of depression scores, beyond sociodemographic characteristics (age, sex) (9%) and variables in the Rowe and Kahn model (10%). The three blocks, all together, explained 29% of the variance of the depression scores.

Table 2. Results of multiple regression analysis for depression.

Predictor variables	β	Depression	
		R^2	ΔR^2
Sociodemographic characteristics		0.09	0.09***
• Age	0.10**		
• Gender	0.21***		
• Level of education	-0.13***		
Components from Rowe and Kahn's model		0.19	0.10***
• Engagement	-0.01		
• Mobility	0.21***		
• BMI	-0.05		
• Verbal fluency	-0.10**		
• Recall of words delayed	-0.02		
• Number of diseases	0.17***		
• IADL	-0.01		
Personality		0.30	0.11***
• Extraversion	0.03		
• Agreeableness	-0.06		
• Conscientiousness	-0.09**		
• Neuroticism	0.32***		
• Openness	0.02		
	R^2		0.29

* $p < 0.05$; ** $p < 0.01$; and *** $p < 0.001$.

4. Discussion

In line with Rowe and Kahn's model (1997), results showed that physical, cognitive, and social factors from the SHARE study partially explained SA. But, when personality variables are combined with Rowe and Kahn's components, it explained a more significant proportion of SA. Indeed, some personality traits may play an important role in SA, including contributing to positive functioning in terms of health, cognition, social relationships, and well-being across the lifespan (Pocnet et al., 2020). Conscientious older adults may be more likely to engage in physical, social, or cognitive activities. It seems necessary, in the future, to study bidirectional links between personality and components of SA to understand if personality has an effect on the components of the SA or it's a component in its own right.

References

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