

# 1 The Concept of Successful Aging and Related Terms

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## Antecedents

In the history of human thought there have been two traditions in the study of aging: a positive view arising from Platonic thinking and a negative perspective as a result of an Aristotelian heritage. When, at the beginning of the twentieth century, the multidisciplinary field of gerontology began, the two most important consolidated social theories of aging developed by social gerontologists were “disengagement” and “activity” theories; the former positing that aging is the process of unavoidable separation between individual and society, while the activity theory states that a human being’s life is directly related to his/her degree of social interaction and level of activity. Authors agree that during many decades of the century, gerontology, perhaps due to the influence of geriatrics, has been interested more in pathological aging than in other aspects or conditions of aging. As Johnson and Mutchler (2014) emphasize, it was during the final decades of the century when a new *positive gerontology* emerged considering successful aging to be an important key concept in this new vision of aging.

But it must be remembered that these two views or, perhaps better, two sides of aging, have an objective basis, given that aging is a natural lifelong process, associated with illness, which unavoidably terminates with death and dying. Making this process longer and healthier, more positive, optimal, active, or successful could be considered a key issue at individual and population level from a scientific and socio-political perspective.

From a scientific point of view, this new paradigm in gerontology is based on the results from large longitudinal studies on aging, initiated at about the middle of the past century (e.g. Baltimore Longitudinal Study of Aging in United States began in 1958 and Bonn Gerontological Longitudinal Study of Aging started in 1965, initiated by James Birren and Hans Thoma, respectively, two pioneers in the study of aging). These and other studies yielded extremely high variability in the way people aged, showing different profiles in all the multidimensions assessed throughout the process of aging. Based both on this variability and the profiles discovered, the results support John W. Rowe and Robert L. Khan in their seminal paper published in *Science* in 1987, in which they distinguish between pathological aging on the one hand, and normal and

This study was supported by the ICESEN (PSI2014-P) research project of the Spanish Ministry of Economy and Innovation. State Secretary of Science and Innovation.

successful aging as non-pathological states on the other, justifying this classification “with the purpose to counteract the longstanding tendency of gerontology to emphasize only the distinction between the pathologic and non-pathologic, that is, between older people with diseases or disabilities and those suffering from neither” (p. 433). Finally, this view has been empirically supported by the MacArthur Foundation Research Network on Successful Aging.

This view is not only supported by longitudinal studies of aging but also by biomedical, demographic, and epidemiological professionals who share the same positive assumptions. Among them, at the very beginning of positive gerontology we must place James Fries (see Fries, 1980). Based on the evolution of survival curves and their differences by age, the starting point of chronic disease and the plasticity and potential (reserve, Lerner) of human beings, Dr. Fries predicted a society in which “aging well,” that is, the active and vital years during a life span would increase, the onset of morbidity would be postponed, and the total amount of lifetime disability would decrease. Very importantly, at the heart of his vision is an emphasis on improvements in preventive medicine and the untapped potential of health promotion and prevention.

Nowadays, Christensen et al. (2009) consider that in those countries with *good practices*, aging has been postponed by ten years and the human life span ceiling is unknown. Thus, along the same lines of other gerontologists, a positive view of aging is also urged.

Finally, given a globally aging society, it must be remembered that the most important threat is not aging *per se* but rather what it represents at societal and at individual levels because pathological aging is highly expensive to society and/or to individuals, and because of the stereotypical over-generalizations of pathological aging. Thus, the promotion of successful aging is without doubt the most important public policy because, at the same time, it is one of the ways of preventing pathological aging and disability.

### The Meaning of Successful Aging

From a semantic point of view, the word “successful” is an adjective with a variety of following synonyms in *Webster’s Thesaurus and Dictionary* (1990): prosperous, fortunate, lucky, victorious, triumphant, auspicious, happy, unbeaten, favorable, strong, propitious, advantageous, encouraging, contented, satisfied, thriving, flourishing, and wealthy, among others. But, as Baltes and Carstensen (1996) have emphasized, any utilitarian conceptualization of success refers to favorable attainments without considering the process of reaching these positive outcomes, which depend on the individual’s efforts in, and therefore on his/her behavior and actions. Thus, success refers to the attainment of personal goals of all types, ranging from the maintenance of physical functioning and good health to other psychosocial outcomes (p. 400). In sum, “successful” could be considered a cross-culturally and highly positive value. But the first issue to consider is that this positive adjective is attributed to the word “aging.”

From a grammatical point of view, aging is the *gerund* of the verb *age*, referring to the human/life process bringing stability and change, growth and decline across a life span (e.g., Baltes, 1987). Moreover, aging is also considered as a *noun*, the external signs of aging as a process of change in the properties of material occurring over a period of time, either spontaneously or deliberately. Finally, aging is also an *adjective*, describing the process of growing old, with broadly negative synonyms such as decrepit, tired, fossilized, broken-down, debilitated, enfeebled, and exhausted, among others (see *Merriam-Webster's Thesaurus and Dictionary*). In sum, although the process of aging (as verb or noun) is scientifically tested as a process with broad inter-individual variability yielding heterogeneous trajectories, aging has a mainly negative meaning. If “successful” is interpreted as “no aging,” then “successful aging” could be considered an oxymoron.

An oxymoron is a rhetorical device that paradoxical or contradictory adjacent words, in our case juxtaposing positive (successful) and negative (aging) terms (Torres & Hammarstrom, 2009). The concept “successful aging” involves a noun (that is the process of aging) and an adjective (successful); Baltes and Carstensen (1996: p. 400) alluded to the fact that “some critics argue that successful aging is an oxymoron only when ‘successful aging’ means not aging at all ... however a conceptualization of successful aging founded on denial is ultimately an untenable position.” This argument implies that aging is radically negative, but this is not in agreement with data from two different perspectives: (1) the process of aging can carry positive outcomes such as a lower frequency of negative affect, higher affect balance, global understanding, etc., and (2) when research considers not only negative but also positive stereotypes, older adults can be characterized with positive labels (such as “friendly”). Therefore, in our opinion, the juxtaposition of successful-positive and aging-negative is a *subtle* one because aging implies both growth and decline throughout a life span. Thus, both negative and positive events are associated with aging to a greater or lesser probability; similarly, when considering cultural views and stereotypes, aging has not have a totally negative connotation when not only negative views but also positive evaluative images are introduced. In sum, successful aging could be considered only a *subtle oxymoron*.

### Semantic Network of Successful Aging

Successful aging belongs to a set of conceptual labels that emerged during the last decades of the twentieth century characterizing the so-called new paradigm in gerontology: successful, healthy, optimal, active, productive are positive labels characterizing “aging well” as a common or pop verbal expression.

Table 1.1 shows the evolution (1996–2015) of these labels in three scientific databases (MEDLINE, PsycINFO, and SocioFile) by searching in keywords and abstracts. The evolution over 20 years has been exponential, with the exception of “optimal aging.” The most-used term is “healthy aging” followed by “successful aging.”

Table 1.1 *Successful aging and related terms in scientific databases (1996–2015)*

MEDLINE, PsycINFO, SocioFile	1996–2000	2001–5	2006–10	2011–15	Total
<b>Successful</b>	110	260	466	611	1,447
<b>Active</b>	12	34	86	207	339
<b>Healthy</b>	81	268	708	1,466	2,523
<b>Optimal</b>	10	12	29	57	108
<b>Productive</b>	6	12	37	60	115
<b>Total</b>	219	586	1,326	2,401	4,532

The first consideration must be whether the term is developed from a *population* or an *individual* perspective; for example, “active aging” emerged from the World Health Organization (WHO, 2002) attempts to overcome “healthy aging” as a population term (see Table 1.3). It is defined as a process that includes outcomes such as “health” and “participation,” as well as determinants of active aging such as “security.” This mixture of dependent and independent variables in the definition of a concept seems to be rooted in the purpose of such a definition, that is, the promotion of policies at a population level. Conversely, from an individual perspective, “successful aging” is defined through three domain outcomes (health and functionality, physical and cognitive competence, and life involvement; see Table 1.3), and it has been criticized because it does not consider intersecting social issues (Katz & Calasanti, 2016).

Moreover, the second relevant factor focuses on the *multidimensionality* of the components included. Carver and Buchanan (2016) examine in *Ovid Medline* to what extent successful aging articles are reduced to non-biomedical components. In this search they rejected 37 (48 percent), which, although dealing with successful aging, they exclusively refer to phenotype/genotype, physiological process, a particular disease, or a single component. This is in line with the core contents of the European Innovation Partnership of Active and Healthy Aging (EIP AHA) set up by the European Union.<sup>1</sup> All action groups are devoted to biomedical conditions and the key concept is not active aging, but frailty. Finally, WHO defined the key term “active aging” in 2002, transformed it 13 years later into “healthy aging” (Table 1.3), and reduced it to *biomedical components* (see Table 1.2; WHO, 2015; Fernández-Ballesteros, 2017).

The third issue refers to whether these terms are synonymous. Martin et al. (2015) tried to establish an *equivalence* between “successful aging” and others such as “healthy aging,” “active aging,” or “productive aging” – all of which are technical terms integrating bio-psycho-social domains, while trying to specify with technical/scientific terms the simple and pop concept of *aging well*.

<sup>1</sup> See [https://ec.europa.eu/eip/ageing/home\\_en](https://ec.europa.eu/eip/ageing/home_en)

Table 1.2 *Summary of successful aging (and related terms) outcomes and predictors or determinants (modified from Fernández-Ballesteros, 2008)*

Component	Outcomes	Predictors or determinants
<b>Biomedical</b>	✓ Longevity	✓ Long-life ancestors
	✓ Biological health	✓ Maximizing health across life span
	✓ Cardiovascular and pulmonary functioning	✓ Socioeconomic conditions
	✓ Mental health	✓ Social/health services
	✓ Functional abilities	✓ Environmental conditions
	✓ Physical strength	
	✓ Vital capacity	
	✓ Absence of disability	
<b>Psychological</b>	✓ Autonomy	
	✓ Subjective health	✓ Selective Optimization with Compensation (SOC)
	✓ Activity	✓ Development and maintenance of primary control
	✓ Competence (motor and cognitive)	✓ Socio-emotional selectivity
	✓ Mental and physical positive functioning	✓ Adaptive process developing capacities for solving difficulties and minimizing the effects of deficits
	✓ Life and social engagement	✓ Coping strategies across life cycle
	✓ Behave according to own values and beliefs	✓ Behavioral lifestyles
	✓ Coping	
	✓ Purpose in life	
	✓ Personal growth	
	✓ Psychological well-being	
	✓ Life satisfaction	
	✓ Perceived quality of life	
	✓ Adaptation capabilities	
	✓ Mature defense mechanism	
	✓ Family relationships	
	✓ Affective states	
✓ Meaning in life		
✓ Maintenance of valued activities and relationships		
<b>Social</b>	✓ Social productivity	✓ Optimizing opportunities for security
	✓ Social networks	✓ Education
	✓ Material security	
	✓ Environmental mastery	

Table 1.3 *Technical definitions of successful aging and related terms (modified and updated from Fernández-Ballesteros, 2008)*

- Neugarten (1972): antecedent of a positive view of aging as multidimensional, considering *personality* as a central determinant for aging well.
- Riff (1982, *successful aging*): feeling well based in positive or ideal functioning related to developmental work over the life course.
- Guralnik and Kaplan (1989, *healthy aging*): low chronic disease, high level of physical functioning.
- Rowe and Khan (1987, 1997, *successful aging*): “low probability of disease and (disease related) disability, high physical and mental functioning, and active engagement with life.”
- Fries (1989, *aging well*): “independence, healthy lifestyles, to be active, to be enthusiastic, to have a good image of one’s self, and to be individual.”
- Baltes and Baltes (1990, *successful aging*): “length of life, biological health, mental health, cognitive efficacy, social competence and productivity, personal control, and life satisfaction.” Perhaps most important has been the Baltes and Baltes’s process theory of promoting gains and preventing losses through Selective Optimization with Compensation (SOC). Empirical evidence supports SOC as a theory of successful aging (see: Freund and Baltes, 2007).
- Vaillant and Vaillant (1990, *successful aging*): “physical health, mental health, and life satisfaction.”
- Baltes and Carstensen (1996, *successful aging*): “life satisfaction and subjective well-being, perceived social support, and involvement in life; physical health, functional abilities, and lifestyle; bio-physical conditions, such as strength or vital capacity; and social conditions, such as social network or education.”
- O’Really and Caro (1995, *productive aging*): “describes an array of activities through which older people contribute to society ... the extent of current productive activities among older people and the barriers to more extensive productive activity.”
- Schulz and Heckhausen (1996, *successful aging*): “Cardiovascular and pulmonary functioning, absence of disability, cognitive and intellectual performance, primary control and achievements in physical and artistic domains.”
- Yoon (1996, *successful aging*): physical health, personal income and financial stability, family dynamics and cohesiveness; social support networks, meaning of life, optimal cognitive functioning, personal control, prevention for depression; coping strategies, mastery bereavement, self-justification mechanism of negative life outcomes.
- Reed et al. (1998, *healthy aging*): surviving late life free of major life-threatening illness and maintaining physical and mental ability.
- WHO (2002, *active aging*): “The process of optimizing opportunities for health, participation, and security in order to enhance well-being and quality of life as people age ...”

(cont.)

Table 1.3 (*cont.*)

Haveman-Nies et al. (2003, *healthy aging*): "... Maintenance of health at old age (being alive and remaining independent)."

Fernández-Ballesteros and others (2008, 2013, *active aging, aging well*): "the life course adaptation process for arriving to an optimal functioning and health, psychological (optimal physical and cognitive functioning and emotional-motivational regulation) and social participation in old age ... four domains are included for this way of aging: health maintenance and ADL preservation, physical and cognitive fitness, positive affect and control, and social participation and engagement."

WHO (2015, *healthy aging*): "the process of developing and maintaining the functional ability ... [which] comprises the health related attributes that enable people to be and to do what they have reason to value" (p. 41).

ILC (2015, *active aging*): "the process of optimizing opportunities for health, life-long learning, participation, and security to enhance quality of life as people age."

The fourth and final issue, already mentioned earlier, is related to the type of conceptualization involved; thus, most definitions involved *outcomes*, in other words, the operational definition of the term proposed (e.g., physical and/or mental health, functionality, satisfaction or well-being, participation); some posit determinants or predictors of these outcomes (physical exercise, diet, etc.), while others consider the *process* across a life span promoting aging well, such as the Baltes and Baltes's (1990) theoretical development of "Selective Optimization with Compensation," which posited these mechanisms as avenues for achieving successful aging. This confusion can be checked by comparing Tables 1.2 and 1.3.

In order to examine the extent of equivalence between successful aging and the others, let us review several sources of information:

- (1) The outcomes and predictors arising from cross-sectional and longitudinal studies in this field
- (2) Conceptual definitions proposed by authors dealing with aging well, that is, successful aging and related terms
- (3) The construction of the meaning of those terms
- (4) Testing hypotheses about the semantic network of aging well through Structural Equation Modeling (SEM) with data from two different studies and several data sources.

### **Most Frequent Outcomes and Predictors/Determinants Used in Cross-Sectional and Longitudinal Studies in the Field**

Peel et al. (2005) and Depp and Jeste (2006) reviewed most of the cross-sectional and longitudinal studies involving successful and related terms by searching for the outcomes specified and the predictors or determinants posited.



Table 1.2 shows these outcomes classified by the bio-psycho-social components taken into consideration in these studies as well as their assumed predictors or determinants.

In sum, there is a high degree of heterogeneity in the bio-psycho-social domains introduced in the studies reviewed by Peel et al. (2005) and Depp and Jeste (2006), the majority being psychological components. Nevertheless, it must be emphasized that the complexity or simplicity of these classifying factors is also diverse and it cannot be concluded that psychology is the most important component for successful aging. Yet, it is highly important that there is a clear distinction between outcomes and predictors/determinants, which are much more evident in research with dependent and independent variables which will not be the case, as we will see, in authors' definitions.

### **Conceptual Definitions of Successful Aging and Related Terms Proposed by Authors**

Table 1.3 shows the most well-known authors' updated definitions of aging well, such as successful, healthy, active, and productive aging as defined by the authors (most of them reviewed by Fernández-Ballesteros, 2008). Each definition is composed of one or more criteria, which can be classified following a set of domains.

A classification of target terms (successful, healthy, active, or productive aging) by criteria (coded 19) is present in each definition. A summary of this analysis is the following: (1) healthy aging (4 definitions) is consistently defined by two criteria: health/illness and functionality; successful aging (7 definitions) is defined from 4 to 11 criteria; active aging (3 definitions) is defined by 3 to 8 criteria; and finally, productive aging (1 definition) is defined by 3 criteria. (2) These 19 criteria were classified into 4 domains: *Health (or Illness) and Functionality*, *Physical and Cognitive Functioning*, *Positive Affect* (e.g., life satisfaction) and *Control* (e.g., self-control, coping with stress), and *Participation and Engagement* (e.g., social support network). Only two criteria were not classified in any of these four domains.

In sum, almost all criteria used by the authors who defined our target terms about aging well seem to be embedded in these four domains.

### **Common Problematic Issues**

Taking into consideration definitions emerging from both research studies and theory-based arguments provided by authors, we can outline the most common flaws and problematic issues found.

- (1) First of all, mention must be made of the *criticisms* received by *successful aging*, as conceptualized by Rowe and Khan (2015). Martinson and Berrig-de (2015) analyzed and synthesized the range of critiques received through a systematic review of journal article abstracts published on 1987–2013 in



*Social Gerontology* ( $n = 453$ ); only 67 met the criteria of presenting a critique of successful aging models as a key component of the article. Authors classified these critiques into four categories: (1) The *Add and Stir* suggested an expansion of successful aging criteria; (2) The *Missing Voices* category advocated adding older adults' subjective meanings of successful aging to established objective measures; (3) The *Hard Hitting* critiques call for an embrace of diversity, avoiding stigma and discrimination, and intervene at structural contexts of aging; and (4) The *New Frames and Names* classifies alternative ideal models, often grounded in Eastern philosophies. In sum, authors concluded that since successful aging is a normative model and by definition exclusionary, greater reflexivity about the use of "successful aging" and other normative models is suggested.

- (2) The second issue refers to the position of Martin et al. (2015) regarding the lack of *equivalence* between "successful aging" and other terms such as "healthy aging," "active aging," or "productive aging." If we examine Table 1.3 carefully, successful aging and active aging can be differentiated clearly from healthy and productive aging. Thus, *successful aging* and *active aging* both contain multiple dimensions (Rowe & Khan, 1997, 1998; WHO, 2002) but definitions regarding *healthy aging* usually refer only to health and functionality (Guralnik & Kaplan, 1989; Haveman-Nies et al., 2003; Reed et al., 1998; WHO, 2015). Similarly, *productive aging* mainly emphasizes economic productivity. Therefore, it can be stated that multidimensionality is the only characteristic for successful and active aging. Next section describes our evaluation based on SEM of a semantic network positing the non-equivalence of the definitions reviewed here, but considers an overlap among domains, at least for successful and active aging conceptualizations (see also Figure 1.2).
- (3) Another differential characteristic in the definitions of successful aging refers to the *nature of the domains*. Some authors include objective conditions such as physical health and physical performance, cognitive fitness, and social participation (e.g., Rowe & Khan, 1997, 1998), while others only take into consideration subjective conditions such as life satisfaction, positive affects, and coping with stress (e.g., Baltes & Carstensen, 1996; Riff, 1982; Vaillant & Vaillant, 1990). As Pruchno et al. (2010) and Fernández-Ballesteros (2011) emphasized and claimed after performing empirical research, successful aging must be considered as a multidimensional construct having both objective and subjective dimensions, providing greater clarity, helping in the development of promotion programs, and taking into consideration more reliable prevalence.
- (4) The final problematic issue regarding definitions of successful aging and related terms emerges from the *confusion about dependent* (outcomes) and *independent* (predictors or determinants) components. One of the first critiques of Rowe and Khan's "successful aging" concept came from Riley et al. (1998: p. 151) stating: "We believe that their model remains seriously incomplete: Although it elaborates the potentials for individual success, it

fails to develop adequately the social structural opportunities necessary for realizing success.” This is a confusion between *outcomes* (*individual success*), or *dependent variables*, and what Rowe and Khan termed as, “*social structure opportunities*,” which are *independent variables*. Of course, any type of aging is dependent on the interactions between a person’s behaviors and psychological characteristics in the social context over a life span, along the lines of Bandura’s socio-cognitive theory. But if a type of aging is going to be described, the observable conditions in the individual are the way to *operationalize* it. In fact, when *active aging* is defined by “*health, participation, and security*,” while *health* and *participation* are *outcomes* of *active aging*, then *security* is an external social condition and must therefore be considered an environmental and independent variable for active aging.

In sum, beyond the criticisms received by Rowe and Khan’s definition published in *The Gerontologists Special Issue* (2015), any study supporting a definition related with aging well, in order to fulfill certain standards, should meet three essential conditions: be multidimensional, be assessed multi-domain/multi-method, and take into consideration both objectives and subjective conditions.

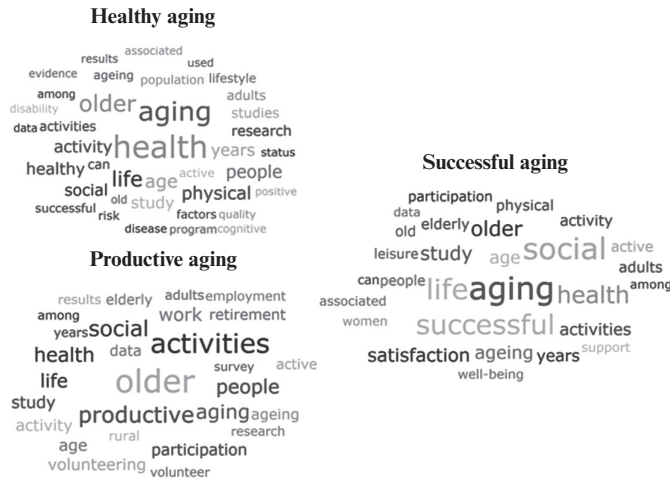
### Testing This Semantic Network

Two strategies have been used in order to test the semantic network of aging well: the review of literature based on the ATLAS.ti and a Confirmatory Factor Analysis through SEM on the basis of two distinct databases from two cross-sectional studies.

### Construction of the Meaning of Successful Aging and Related Terms

Fernández-Mayoralas et al. (2014) developed a study through ATLAS.ti, which is a sophisticated tool to arrange, reassemble, and manage written or verbal materials in systematic ways. The authors conducted a systematic search for “active, healthy, productive, successful ageing/aging, older adults/elderly” in the following databases: (a) English databases: PubMed, WOK, Scopus, Sociological Abstracts, and PsycINFO (1/1/1997 to 6/30/2012); (b) Spanish databases (from Spain and Latin America): Portal, “Mayores/Envejecimiento,” Scielo, Clacso, Redalyc, Cepal, Latindex, and Dialnet (1982–2012). In both cases, the search referred to: title, summary, keywords, and qualitative analysis; (c) 1,436 references were managed through the EndNote (v5) program limited to book, edited book, book chapter, journal article, reports, and theses.

Figure 1.1 shows the word clouds yielded by ATLAS.ti, where the following can be found: (a) the most-used terms defining the population group (older, adults, elderly, etc.) as well as the process (aging, ageing) and (b) in any type of analysis, there are interactions among the four constructs examined (successful, active, healthy, productive).



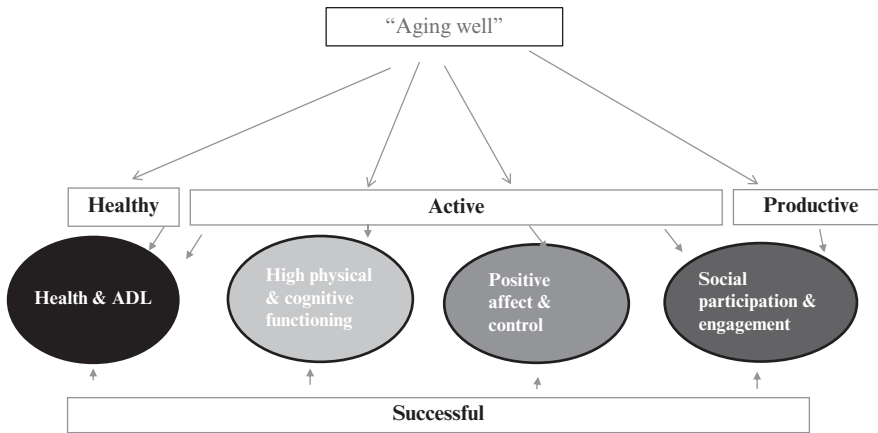
**Figure 1.1.** Word clouds yielded by ATLAS.ti for active, healthy, productive, and successful aging

### Testing Hypotheses about the Semantic Network of Aging Well through SEM with Data from Two Different Studies

Fernández-Ballesteros et al. (2013) used SEM to analyze the model of four domains of aging well through two studies with different samples (self-report data about the implicit concept of “aging well” from several cultures on four continents) and a diversity of multi-content, multi-methods (subjective and objective) administered in a cross-sectional study with a sample of older Spaniards. The hypothesis is that this set of verbal levels regarding aging well supports the existence of a semantic network in which there is no equivalence between verbal levels but an overlap among domains included, at least for the successful and active aging concepts.

Thus, after a review of the more extended definitions of aging well shown in Table 1.3 (such as healthy, successful, active, and productive aging well) the *four-domains model* (see Fernandez-Ballesteros, 2008) is shown in Figure 1.2: health and functioning, physical and cognitive competences, positive affect and control, and social participation and engagement. Aging well, as the common and pop term, is embedded in a semantic network of a set of *technical terms* used as modifiers of “aging” (such as *healthy*, *successful*, *active*, *productive*), sharing a cross-culturally positive value but positing that not all the technical terms are equivalent.

Figure 1.2 shows not only the four domains but also the four technical concepts implied. As can be observed, *healthy aging* is defined by only one domain: health and functionality, while *successful aging* is defined by the four domains, if the definition by Baltes and Baltes or Baltes and Carstensen are considered, or only three domains using Rowe and Khan’s definition (health and functioning, physical and cognitive competences, and social participation and engagement) but not including positive affect and control. *Active aging* as defined by WHO (2001) considers three domains (health, positive affect, and participation)



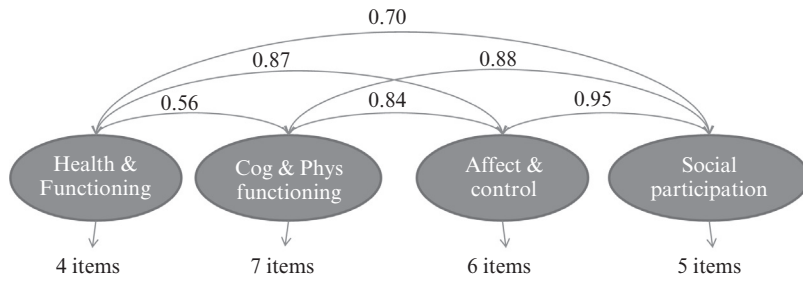
**Figure 1.2.** Four domains model of aging well

Modified from Fernandez-Ballesteros (2008) and Fernandez-Ballesteros et al. (2013)

because it does not include physical and cognitive functioning, and finally, *productive aging* refers only to one domain, that is social participation and engagement.

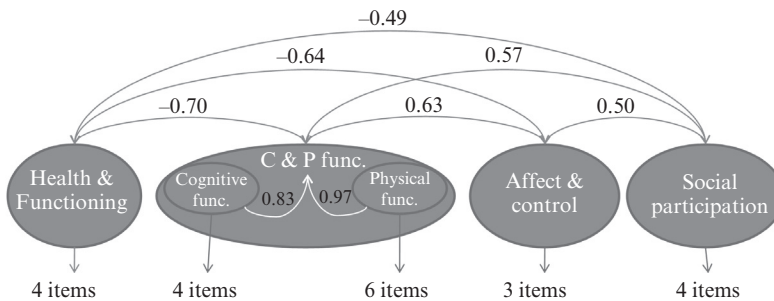
This four-factor model was our theoretical basic model and was tested through Confirmatory Factor Analysis. Thus, SEM was performed with LISREL 8.8 (Jöreskog & Sorbom, 2006) using unweighted least squares (ULS) estimation and polychoric correlations because of the ordinal nature of our data. Base data from two studies were examined:

- (1) *Lay concept study* (Fernández-Ballesteros et al., 2008): The research question in this study was: “What are the central characteristics of aging well across older adults, across ages, and across cultures?” The 20-item Questionnaire “Your Ideas About Growing Older” developed by Phelan et al. (2004), was administered to a sample of US Caucasians ( $N = 2,581$ ) and Japanese ( $N = 1,985$ ) citizens, and also by Matsubayashi et al. (2006) in Japan ( $N = 5,207$ ). It was then administered ( $N = 1,189$  individuals; 58 percent women; mean age = 68, range = 50–100) across seven Latin American countries (Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, and Uruguay) and three European countries (Greece, Portugal, and Spain). Minor differences were found among countries and among ages. In sum, 75 percent of each sample considered that the most important conditions for aging well were the following: *remaining in good health until death, feeling satisfied with life, having friends and family, adjusting to changes related to aging, being able to take care of oneself, and remaining free of chronic diseases (including mental)*. Thus, the four-domain model seems to be supported for older lay persons for aging well.
- (2) We tested the four-factor model using the same procedure, with the ELEA (Estudio Longitudinal sobre Envejecimiento Activo) database, a multi-methods, multi-contents, multi-nature protocol containing 412 objective



RMSEA=0.095; TLI=1.01; SRMR=0.072; Chi-square=2243.91,  $gl=203$ ,  $p<0.005$ ; AIC=2343.91

(a)



RMSEA=0.058; SRMR=0.086; Chi-Square=459.65,  $df=182$ ,  $P$ -value=0.00000

(b)

**Figure 1.3.** *Structural Equations Modeling of four-domain model of aging well: (a) from lay conceptualizations ( $N = 1,189$ ) and (b) from ELEA PROJECT multi-method data base ( $N = 458$ )*  
Fernandez-Ballesteros et al., 2013

and subjective variables assessing 23 bio-psycho-social domains through multi-methods based on the EXCELSA study and protocol involving seven European countries (Fernández-Ballesteros et al., 2004, 2011; Fernández-Ballesteros, 2011). Thus, our theoretical model was tested through the ELEA Spanish sample:  $N = 458$  participants: 63.8 percent women; mean age = 66.47; range = 55–75.

Figure 1.3 shows graphical representations corresponding to both Study 1 and Study 2 of our four-domain model of aging well and the mathematical fit of this model testing the multidimensionality of successful and active aging across the lay concepts of people from three continents and considering multi-method/multi-contents study of successful aging. Also, at the same time, it can be emphasized that taking into consideration only health and functionality (such in the last definition of WHO, 2015) without social participation could be considered a reduction of aging well.

Regarding successful aging, our testing model considers Health and Functionality, Physical and Cognitive Fitness, and Social Participation and Engagement but introduces a fourth domain not included by Rowe and Khan in their proposal: affect and control comprising positive mood, life satisfaction, life control, and self-efficacy for aging.

Our analysis testing the semantic network through a four-domain model supports the construct validity of the separated domains involving a variety of criteria present in some of the definitions of *healthy*, *successful*, *active*, or *productive aging*. The first domain loaded by health and functionality, also tests a separate domain of *healthy aging* as defined by Guralnik and Kaplan (1989), Yoon (1996), Reed et al. (1998), and WHO (2015). With respect to successful aging definitions, these were confirmed by Baltes and Baltes (1990) and Baltes and Carstensen (1996), as well as by the three domains present in Rowe and Khan (1987, 1997). Along the same lines, our results confirm the four-domain model of *active aging* (Fernández-Ballesteros, 2002, 2008), but with only two components of the original definition proposed by WHO (2002), health and participation. Nevertheless, as a limitation to our study, it should be emphasized that several criteria present in some of the reviewed definitions, such as security or spirituality, were not assessed in either of the two studies introduced in the SEM, and could therefore not be tested.

## Conclusions

First of all, it can be concluded that healthy aging is not an equivalent concept to successful, active, or even productive aging. While *healthy aging* is not a multidisciplinary concept – it seems to be reduced to biomedical aspects – both *successful* and *active* aging concepts are multidimensional, including also, health and functionality. Nevertheless, it must be emphasized that, although there is high consensus in the definition of healthy aging, this consensus is in opposition to the multidisciplinary definition of health emerging from the WHO Constitution: “state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”

Second, although there is little consensus about what successful aging is, all definitions show a variety of components which can be classified in four domains: health and functionality, physical and cognitive fitness, positive affect and control, and social participation and engagement. These four domains have been confirmed through SEM.

Third, *active aging* (WHO, 2002) is the most recent construct, and is losing relevance since WHO (2015) is returning to *healthy aging*, and the political network developed by the European Union is moving to other biomedical concepts such as frailty. And, finally, the presence of *productive aging* is merely testimonial in this field.

In sum, returning to the antecedents of positive gerontology, successful aging seems to be a technical term fulfilling the objectives described by Rowe and Khan in 1987, by Fries in 1980, or by WHO in 2002. This positive view has had important consequences: the introduction all around the world of public policy for the promotion of successful aging supported by the *Madrid-Second International Plan of Action on Ageing* (United Nations, 2002) and *Active Ageing: A Policy Framework* (WHO, 2002).



Without doubt, given certain limitations, the concept of successful aging, under different terms, is at the core of the global movement of an aging society hoping and demanding to age successfully, which requires individual's commitment to this goal.

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