

Rocío Fernández-Ballesteros

# Active Aging

The Contribution  
of Psychology



# Active Aging: The Contribution of Psychology

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# Foreword

We all age. Active Aging, aging with well-being and a high quality of life, is one of the most important issues facing science and society in our time of increasing longevity and demographic change. Never before have so many people been able to live to such an advanced age. There has been an enormous extension of the life span during the last decades in all European countries, but also across the world. We live longer and remain more active into later life than our parents and grandparents. This is due to the progress of modern medicine, the improvement of socio-economic living conditions, and it is also very much influenced by lifestyles and human behavior. It is important to not just add years to life, but also to add life to years!

This very interesting and stimulating book, based on a critical analysis of the gerontological and especially psychological research literature on aging, emphasizes a new paradigm in scientific gerontology that has a more positive view of aging processes. What is “active aging,” “healthy aging,” “quality of life,” “successful aging,” “life satisfaction,” “well-being,” “positive aging”? Amongst many other things, this book also addresses these questions of definition. An analysis of the literature of the last decades shows an interesting development: In the 1960s, there were many articles on the subject of “life satisfaction,” followed some years later by the topic of “successful aging.” In the 1970s, the subject of “quality of life” came to prominence, originally introduced by medical doctors; and then in the 1980s and beyond, the topic of “subjective well-being” became dominant. Life satisfaction (in the sense of satisfaction with the development of one’s life as well as with the current situation) is recognized as an indicator of successful aging. Life satisfaction (often measured with a so-called “life satisfaction scale”) in this context is valued as an aspect of adjusting successfully to the aging process. As is shown in the following, the definition of all these concepts is very difficult. In the literature, they sometimes overlap and it is not possible to differentiate between them, and there is some confusion regarding theoretical and methodological concepts.

In this book, Rocío Fernández-Ballesteros makes a convincing case for a multidimensional, multilevel model of active aging, including several theoretical constructs, and states: “In conclusion, positive aging can be defined as the life-course adaptation process for arriving at an optimal physical (including health), psychological (optimal cognition and emotion-motivation regulation), and social functioning of the individual. Therefore, the promotion of active aging will imply the optimization of those conditions through biomedical, physical, psychological, and socio-environmental interventions. It should also be emphasized that pro-

moting active aging is preventing illness and disability, and increasing well-being in old age.”(p. 58)

Aging is not only a biological process; it is a process determined by a number of biological, social, psychological, and ecological factors. Healthy aging is active aging! The focus of this book is on active, healthy aging and the behavioral and psychosocial factors that contribute to it. Healthy aging is the result of a lifelong process. It is therefore necessary to optimize the development of the individual from early childhood on. We know that a variety of influences in early childhood, in adolescence, during early and middle adulthood, but also in the current living circumstances of the aged determine the processes of aging and well-being in old age.

Achieving healthy aging is a challenge for society but also for every individual. Measures of health promotion and primary prevention are necessary to maintain and increase competencies in later life. What can be done to secure a high quality of life in old age?

There are many studies that demonstrate that physical activity is a prerequisite for successful aging. Age-determined physical changes – such as functional impairments of the organs, changes in the motor and muscular system as well as changes in the respiratory organs (which, of course, depending on the individual, can appear at any age) – are similar to the effects brought about by a lack of exercise. A young but physically inactive individual seems old, just as an old but active individual appears young. Physical activity also has positive effects on psychological well-being by promoting mental abilities, subjective well-being, social skills, and self-concept.

Cognitive activity is another prerequisite for successful aging. Many studies have found that mentally active individuals who have a wide range of interests, a time perspective reaching farther into the future, and a larger number of social contacts reach old age with greater feelings of psycho-physical well-being than those who lack such activity and perspective. It has been established that cognitive activity is essential for healthy aging. It is therefore, important that older people have mental tasks – they must be challenged to mental activity, as a reduction in such activity can speed up the process of aging.

Emotional and motivational functioning influences healthy and active aging. Aging is associated with life-change units and such changes require adaptation and adjustment; elderly people sometimes have to cope with multiple critical life events. Last but not least, social functioning and social participation also have an influence on healthy and active aging.

“Promoting active aging” is the main goal of this very important book, which aims to strengthen a theory- and research-based practical approach, a program for healthy active aging. Overall, we need a more positive view of aging; we have to do everything we can to change the negative image of the aged into a more realistic one. Old age is every young person’s future, so we have to strengthen every individual’s physical, cognitive, emotional-motivational, and social devel-

opment from very early on in life. In this, health promotion is the most important prerequisite for active aging. This is a challenge for psychologists, who can contribute to effecting behavioral changes towards healthier behavior. To promote aging well, to achieve long life as free of disability as possible, and to reduce morbidity at the end of life should be the aim of the necessary multidomain-based, multidimensional intervention programs. “The process of aging well, at the individual, community, and population level, depends on complex psychological self-regulation functioning because the individual is always an active agent who requires the exercise of control.” (p. 154)

Old age and longevity should not be seen as a problem but as a chance and a challenge – a challenge for everyone: for the aging individual, for their family, and for our society. We should not only talk about the losses, problems, and deficits of aging and old age. We have to talk about – and we have to open our eyes to – the potentials of the elderly, and also the competencies and potentials of the very old. We have to see the aged of the 21st century as human capital. This book will help to such a new view of the older population.

*Ursula Lehr*  
June 2008





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# **PART I**

# **CONCEPTUAL ISSUES**



# 1

## A New Paradigm in the Study of Aging

### Traditions in the Study of Aging, Age, and the Aged

Assumptions about aging have two main scopes, based in two main philosophical traditions of thinking. From Plato (427–347 BC) a tradition emerges of a positive and individualistic view of aging in which the human being ages as he/she lives, and that he/she must prepare for aging throughout the lifespan. Following this tradition, Cicero (106–43 BC) wrote “De Senectute” describing how human virtue grows through age. By contrast, from an Aristotelian (384–322 BC) point of view, it is stated that old age, as the last stage of human life, could be considered as a natural illness. In the same line Seneca (4 BC–65 AD) proposes physical and mental impairment in the individual as consequences of aging.

From these two traditions, across the history of the study of aging, theories and authors can be found who emphasized a positive view of aging (e.g., the activity theory, Havighurst, 1963; or the continuity theory, Atchley, 1989, 1999) and those who underline the negative aspects that explain the decline in social participation and engagement during old age (e.g., disengagement theory, Cummings & Henry, 1961; see also Fernández-Ballesteros, 2000; Lupien & Wand, 2004; Juengst, 2005).

Aging is a biological phenomenon and throughout aging there is a decline in the efficiency and efficacy of all biological systems, therefore, during this process there is an increase in vulnerability to chronic and acute disease. Nevertheless, it can also be stated that within the biological aging process of decline there are wide individual differences and, therefore, there are also broad differences in vulnerability.

However, a human being is not only a biological organism but he/she is also a bio-psycho-cultural entity; moreover, an active agent who is constructing him/herself throughout the lifespan, in interaction with an active world, and in an ongoing and dynamic process (Bandura, 1986; Gould, 1977, 1981). Intraindividual and interindividual differences attributed to age are not exclusively the result of age but of the ongoing and dynamic process through which the individual as a biological organism and his/her behavioral and psychological conditions interact with the external factors – sociocultural, economic, environmental, etc. During the process of aging, what the human being does, thinks, and feels and

how he/she interacts with the environmental and its historical circumstances are decisive for aging outcomes.

As Birren (1996) pointed out, the science of gerontology is mainly devoted to the multidisciplinary study of aging, age, and the aged, therefore, even the scientific subject of gerontology embraces primary aging (caused by age), secondary aging (caused by disease), and their individual differences as well as the process of aging itself and aged people. This diversity in the subject of study has influenced a certain bias in the selected topics: authors studying the “aging” process emphasize small intraindividual changes; authors studying differences between “age” groups are going to find high interindividual differences attributed to age, and finally, those authors studying “the aged” are devoted to illnesses, impairments, and needs of care, therefore, they are going to focus on impairment and suffering during the process of aging.

Moreover, the intrinsic characteristic of gerontology is to have a complex subject of study but also to be multidisciplinary; that is, aging, age, and the aged should be studied from a bio-psycho-social perspective. Nevertheless Juengst (2005) emphasized that “from a biomedical model of pathology, human senescence carries all the hallmarks of a disease process: Specific underlying molecular changes create abnormalities in cells that inhibit the functional efficiency and structural resiliency of tissues and organs, causing disabilities, deformities, and distress” (p. 3). Also, Blazer (2006), in his Introduction to a Special Issue of the *American Journal of Geriatric Psychiatry* devoted to successful aging, stated that “success in late life has, therefore, been tied to the success of physicians and other health care providers in treating the maladies of late life” (p. 3). However, although as people age biophysical systems become less efficient and illness and age are covariants, since the human being is a bio-psycho-social entity not all human functioning fits into this biomedical model. Therefore, it can be concluded that this biomedical reductionism cannot be generalized to the entire field of study.

Thus, a biomedical model of aging cannot be transferred to all aging conditions; as Gould (1981) emphasized, psychosocial functioning cannot be understood under the same principles that those guiding organisms as biological entities since human functioning is also determined by sociocultural context. In fact, as Bandura (1986) posited from his sociocognitive theory, psychological functioning is determined by the reciprocal interactions between the biological organism, his/her basic learned behavioral repertoire and the sociocultural context.

Finally, the mere concept of “age,” the process of aging, or the individual differences in how a given person, in a given society, ages are, to some extent, sociocultural phenomena. The importance of sociocultural factors on aging does not ignore – as seems to be claimed by some constructivistic authors such as Gergen and Gergen (2001) – the existence of illness, decline, or impairment linked to biological aging. Nevertheless, the ways in which the human organism ages are modulated by psychosocial and cultural factors. The process of aging cannot be reduced to biomedical conditions but neither can it be reduced to sociocultural ones.

As Lupien and Wan (2004) pointed out, gerontologists' speech is promoting the spread of negative views of age and aging and reinforcing the existing stereotypes in society as a whole. These authors recall Butler's statements accusing health professionals of promoting these stereotypes when he coined the concept of "ageism" as the process of discrimination against the elderly as a consequence of systematic stereotyping (Butler, 1969). Moreover, as is demonstrated by empirical evidence (e.g., World Health Organization [WHO], 1990b), negative views of aging have a perverse repercussion in society in a double sense: They reinforce negative beliefs and negative views at the macro and micro levels, they threaten individuals and groups, and act as self-fulfilling prophecies during aging (Levy and Langer, 1994). A common schema or script is: Illness (as a main biological condition) is unavoidable in old age, cognitive impairment is normative, old individuals cannot learn, social withdrawal is a standard situation at the end of life; social responses to these images go from nihilism to paternalism. Finally, the individual is threatened by this profile into acting as predicted and society is also threatened by an increase in the aging population under the assumption that they spend more than they contribute to society. In fact, all these assumptions come from one of the more extensive sociological theories in gerontology: the disengagement theory mentioned above.

Unfortunately, these negative images seem to be very common; for example, in one of our studies more than 60% of the individuals surveyed – from a representative sample (by age and sex) of people older than eighteen – agreed that people older than 65 are cognitively impaired, have serious memory problems, cannot learn, are rigid and inflexible, are worse than younger people in problem-solving, have bad humor, and are "as children" (Fernández-Ballesteros, 1992, 2006). Most important, after covariant analysis, no differences were found between age groups, gender, social position, and education. Although this negative view has improved in the last decade, it can be considered as a social threat and, therefore, any policy on aging should be preceded by changes in this negative view of aging (e.g., UN, 2002; UNECE, 2003; WHO, 1990b). Finally, and most important, this negative view is against scientific evidence and, therefore, comes from false beliefs.

In conclusion, from an Aristotelian tradition, gerontology (the scientific study of aging, age, and the aged), has been more devoted to those biomedical and psychosocial negative covariants that decline through age than to those that show positive development or are stable across aging. It can be assumed that this bias has been disseminated in society through negative images. However, it must be emphasized that an opposite perspective (taking into consideration only the positive conditions) would also be biased. In our view, positive aging is not a superficial, simplistic, and reductionistic conceptualization about aging, age, and the aged. On the contrary, it is an empirically based concept of aging that includes not only decline and losses but growth, stability, and positive events as part of the aging process. Moreover, without denying the probability of negative conditions,



they can be prevented and/or modified since human beings have, throughout the lifecycle, high levels of plasticity (Baltes & Baltes, 1990b; Fernández-Ballesteros, 1986, 2003; Fries, 1989; Lehr, 1980, 1982; Whitebourn, 2005).

As a result of human and social development – including biomedical and technological progress in education, health care, hygiene, nutrition, etc. – during the twentieth century, all over the world, human lifespan increased and, in those developed countries, life expectancy at birth has doubled. Also, since the second half of the twentieth century, the fertility rate has been going down all over the world, approaching the level of replacement in most of the developed countries. These two demographic changes have produced an increase of older people, both in absolute and relative numbers, all over the world. The aging population can be considered as one of the most important demographic revolution throughout human history.

Since science is *accumulative* and *historical*, new findings about a scientific subject under study can change its conceptualization. From an individual point of view, a 70-year-old man or woman born at the beginning of the twentieth century, who had about 40 years of life expectancy at birth, today has not only a high probability of living longer than his/her parents but, also, of living in better bio-psycho-social conditions. Both multicohort and family studies have shown results in this direction (Schaie, 2005a, 2005b).

In sum, these changes from both demographic and individual points of view support the existence of a new perspective in the study of aging, age, and the aged.

## Evolution in Research on Active Aging

From an evidence-based point of view, it has been during the last decades of twentieth century that the so-called “new paradigm” or “revolution” in the field of aging research and, in a broader sense, in the science of gerontology started: a positive view. Pioneers in this new paradigm are from several gerontological disciplines, including the fields of biomedicine and social sciences such as Fries and Crapo (1981); Fries (1989); Rowe and Khan (1987), or Baltes and Baltes (1990b).

This positive view of aging adopted several verbal rubrics: “healthy” (WHO, 1990b), “successful” (Thomae, 1975; Rowe & Khan, 1987; Baltes & Baltes, 1990a), “optimal” (Palmore, 1979), “vital” (Erikson et al., 1986), “productive” (Butler & Gleason, 1985), “active” (WHO, 2002), “positive” (Gergen & Gergen, 2001), or simply “aging well” (Fries, 1989) or “good life” (Bearon, 1996). It is important to emphasize that all these terms are taken almost interchangeably by experts when they review the field and in this text all of them are considered under the term “active aging” (e.g., Depp & Jeste, 2006; Lupien & Wan, 2004; Peel, McClure, & Bartlett, 2005).

Taking into consideration all these verbal key words, two searches were con-

ducted: on the Internet and within scientific literature. On the Internet (Google, May, 2007), the most often cited term was “active aging” (4,250,000) followed by “healthy aging” (2,650,000), “successful aging” (2,150,000), “optimal aging” (2,010,000), and “productive aging” (1,800,000).

The search of scientific literature was conducted in three scientific data bases: PubMed, PsycINFO, and Sociological Abstract. This search were performed from 1970 to 2007 by decades using aging/aging and successful, healthy, active, optimal, and productive<sup>1</sup> in all fields (the last period covers from 2000 through 2007).

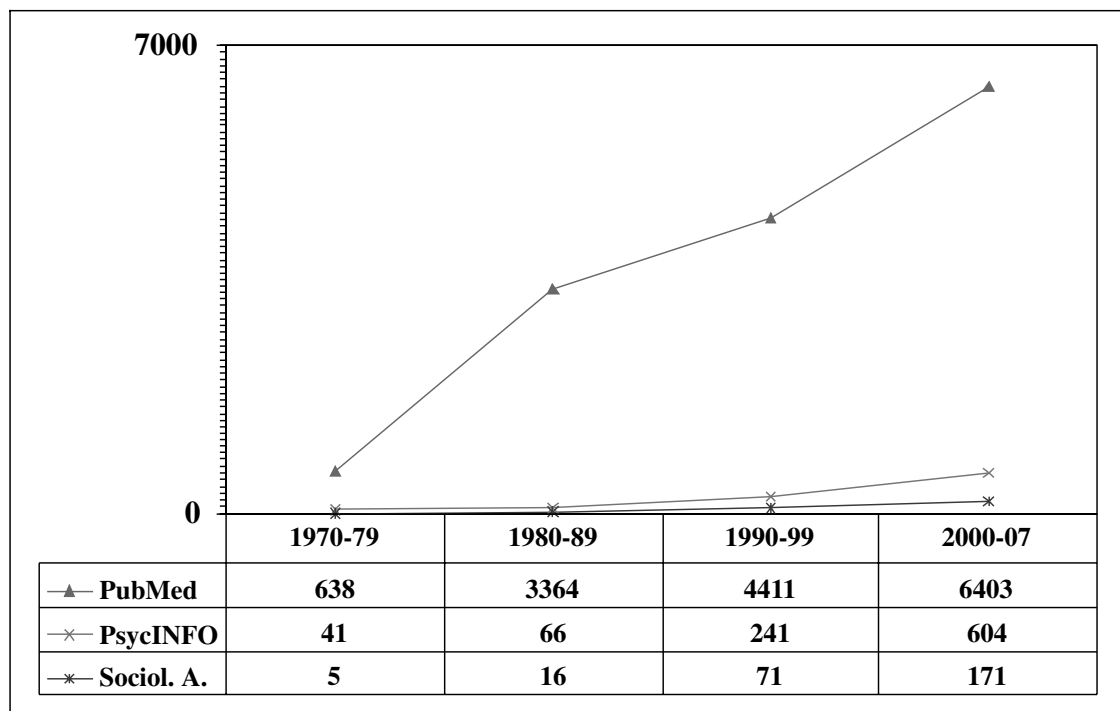


Figure 1. Active aging and related concepts in three scientific databases (1970–2007).

Figure 1 shows comparisons between the three databases. PubMed yielded the highest number of references going from 638 (70–79) to 6,403 (00–07) which is ten times more. In the same line, the PsycINFO database started from about 40 publications in the first decade and had the greatest increase, to about 600 publications, during the last period (2000–2007). Finally, Sociological Abstract yielded the lowest numbers, running from 5 to 171 publications in the whole period.

Making a comparison between the terms used, we examined these publication databases separately. Figure 2 shows references published in PubMed. As can be observed, “healthy” aging is the term most used, followed by “successful,” “active,” “optimal,” and “productive” aging. It is interesting to note that in the last period there is an inverse trend in the use of “successful” and “active”; while the use of “successful” aging is decreasing, “active” aging is increasing.

1 “Aging well” and “positive aging” were not used because they are both very general terms.

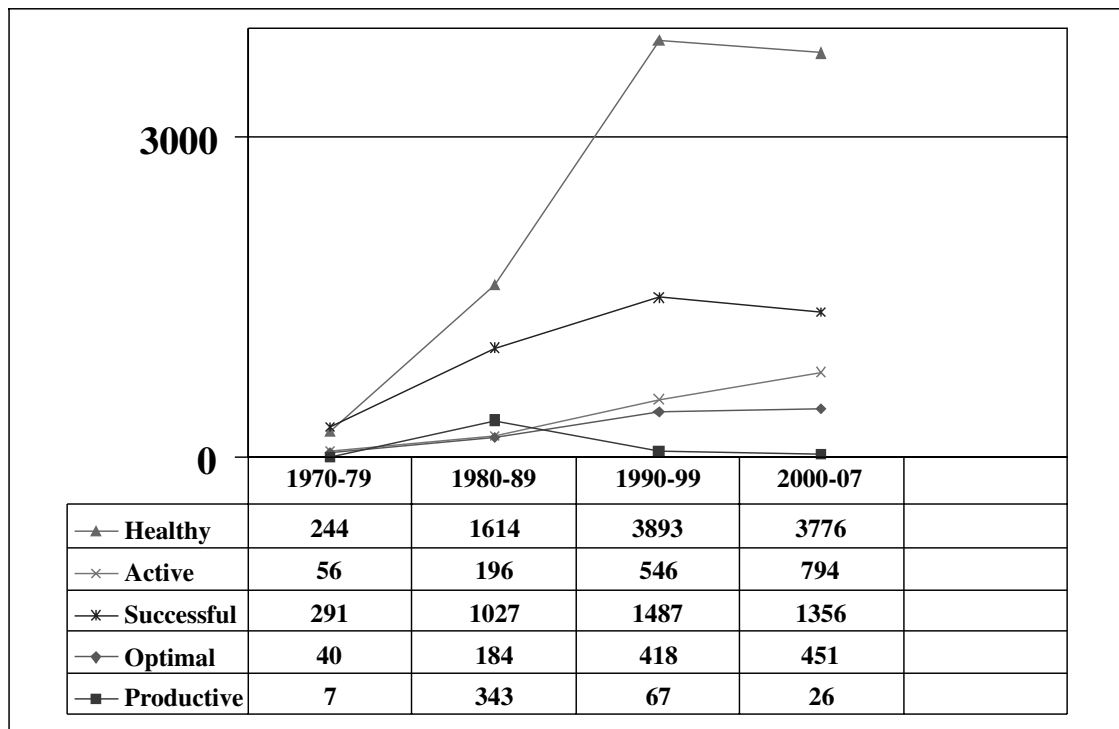


Figure 2. Active aging and related concepts research in PubMed scientific databases (1970–2007).

As we can see in Figure 3, there is an exponential growth in references to the field in PsycINFO. “Successful” aging is the most often used term, followed by “healthy” aging; there are minor references to “active,” “optimal,” and “productive” aging.

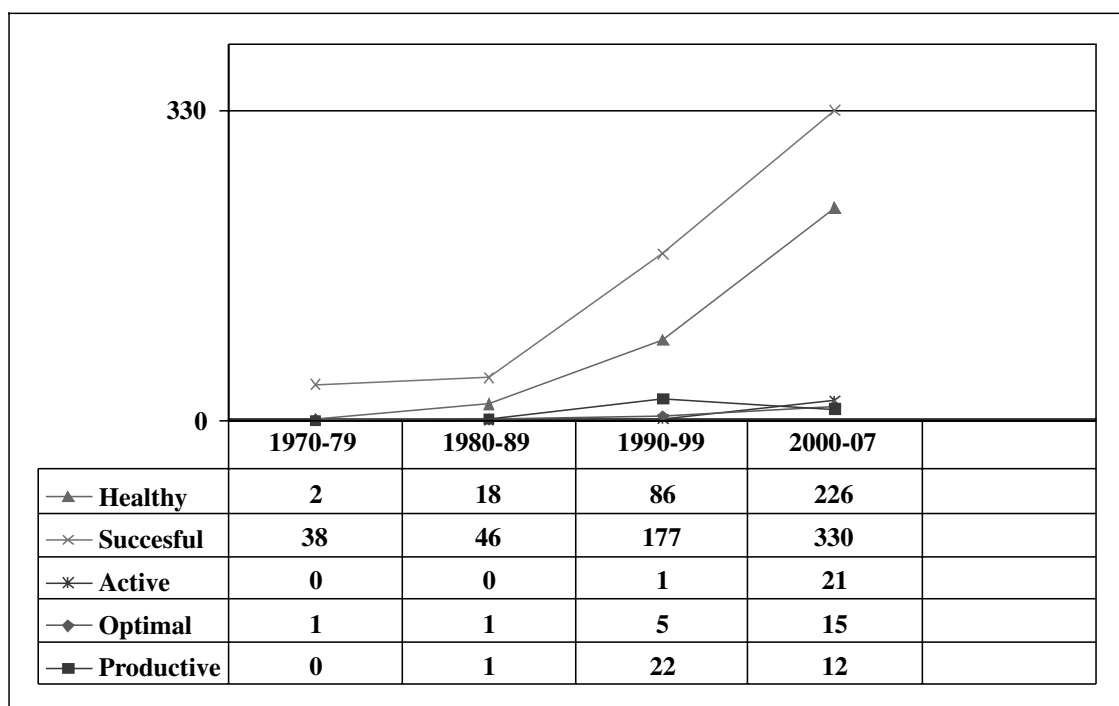


Figure 3. Active aging and related concepts research in PsycINFO scientific databases (1970–2007).

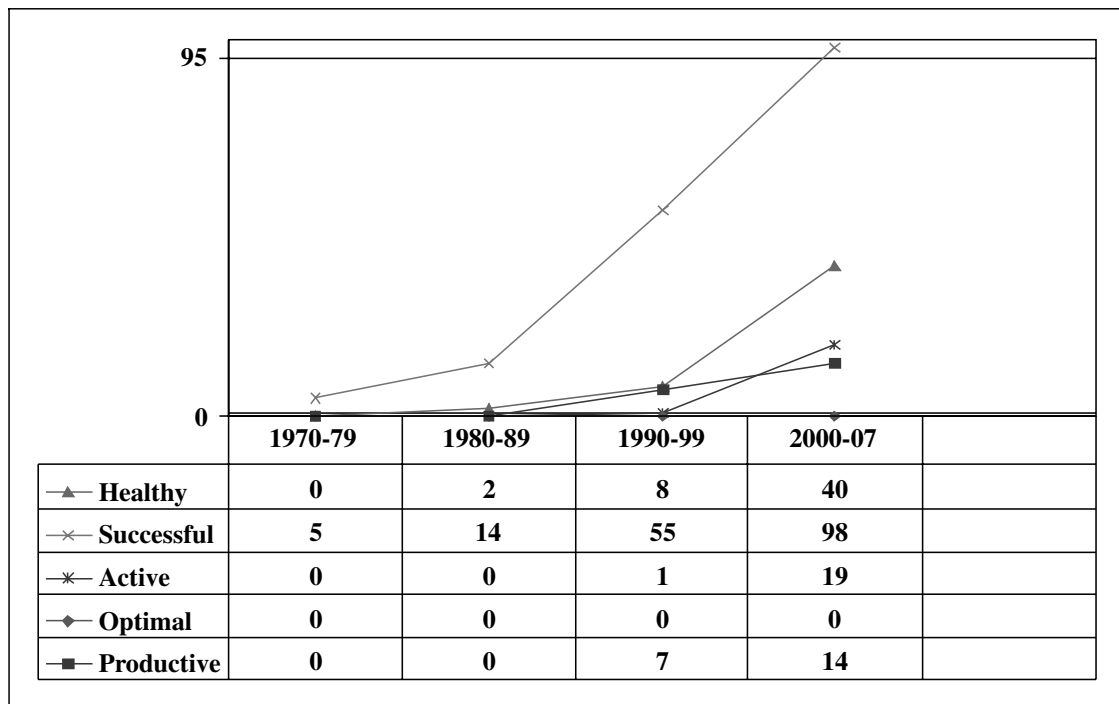


Figure 4. Active aging and related concepts research in Sociological Abstract scientific databases (1970–2007).

Finally, Sociological Abstract yielded the least results. The most often used term was “successful” aging followed by “healthy” and “active” aging (see Figure 4).

This review shows that research in the field of positive aging has increased from the 1970s to the present in all bibliographical databases. Also, it can be stated that the terms are linked to a concrete scientific field: “healthy” aging is a consolidated term within a biomedical context but use has declined in the last decade. “Successful” aging is the most extensively used term in psychological and social literature, and “active” aging appears more often in most of the databases in the last decade; this is congruent with the fact that “active aging” is linked to the *II International Plan of Action on Aging* (UN, 2002) and with the document *Active Aging* published by the WHO (2002) at the occasion of the *UN II General Assembly on Aging*, where the II International Plan of Action was approved. Also, these figures are in agreement with the search performed on the Internet where the highest figures reference “active aging.”

## Empirical Bases of Active Aging

Baltes and Baltes (1990b) in the seminal Introductory chapter to their book *Successful Aging* suggested a framework of seven propositions from a psychological point of view:

1. The first proposition emphasizes the major differences between normal, optimal, and sick (pathological) aging.
2. The second proposition emerges from the first and refers to a broad interindividual variability in level, rate and direction of change. In sum, there is much heterogeneity (variability) in aging.
3. The third proposition assumes the concept of plasticity and latent reserve across the lifespan and, therefore, in old age.
4. The fourth proposition emerges from the empirical research establishing limits for behavioral plasticity and adaptive capacity.
5. With the fifth proposition authors try to reconcile propositions 3 and 4, that is, knowledge-based pragmatics and technology can compensate for decline.
6. The sixth proposition argues that with aging the balance between gains and losses becomes less positive. This decline or negative balance is in accord with individuals' subjective evaluation as well as with social stereotypes.
7. Finally, the last proposition is based on empirical evidence that there are minor age differences between life satisfaction and other positive psychological characteristics, therefore, it is assumed that the self remains resilient in old age.

Some of these propositions have also been supported from a biomedical perspective. Fries (Fries & Crapo, 1981; Fries, 1989) emphasized the variability of the ways of aging (1 and 2), plasticity of aging under the assumption that major manifestations of senescence are shown to be modifiable (3 and 4), diseases of aging may be postponed by personal decision (for example, changing lifestyles), and, therefore, he supports the other assumptions (5 and 6). Moreover, Fries introduced a new source of information about population aging: the rectangularization of the survival curves, which means that the shapes of survival curves are expressing not only longevity but the compression of morbidity and, therefore, that *sociohistorical development coincides not only with more years to life but, also, more life to years*.

Trying to make a synthesis, this positive view on the field of aging emerges from three main observed facts supported by empirical research (demographic, epidemiological, cross-sectional, longitudinal, and experimental studies): the *compression of morbidity*; the extreme *variability* of any bio-psycho-social condition in old age, and the *plasticity* of human beings expressed through *modifiability* of most of those declined or impaired conditions.

1. The first assumption states that, at the population level, across history, human beings are living longer and in better conditions. Fries and Crapo (1981) argue against the medical model for the study of aging. Using new knowledge about aging (morbidity, mortality, and survival) they arrive at a syllogism:
  1. The human lifespan is fixed,
  2. The age at first infirmity will increase,
  3. Therefore, the duration of infirmity will decrease and, as a conclusion,
  4. The period of vitality may be prolonged.

This syllogism can be tested through the improvement of life expectancy in good health, which is supported by the *postponement* of chronic disease and morbidity and, therefore, the “rectangularization” shape of the survival curve across time, which means that survival rate in humans is increasing not only throughout history but across ages as well (see Figure 10, in Chapter 2). The decline in mortality (not only infant mortality but mortality at all ages) has raised life expectancy almost all over the planet (Kannisto, 1996; Jeune & Vaupel, 1995). But, living longer does not mean living well; and increase in life expectancy could be and increase in morbidity and disability and, therefore, in suffering at the individual, family, and population levels. Presently, the increase in life expectancy is not only a general phenomenon but, most important, there are data supporting that morbidity has been concentrated in the later years of life; disability-free life expectancy and healthy life expectancy are slowly increasing in several of the countries with high life expectancy and, at least, for severe disability (see Chapter 2, Fries & Crapo, 1981; Fries, 2002; Robine, 2003; Meslé & Vallin, 2003; Robine & Michel, 2004).

As is well known, this demographic revolution should be attributed to social development, improvements in living conditions (hygiene, health services, education, etc.) but also should be taken as a consequence of the plasticity and modifiability of human being throughout the lifecycle, at all ages.

2. Therefore, our second assumption emerged from the well-tested variability of the aging phenomenon itself, which can be classified as: usual, pathological, and optimal aging (e.g., Baltes & Baltes, 1990b; Fries, 1989; Lerner, 1984; Plomin & Thompson, 1986; Rowe & Khan, 1997). Any pattern of decline across ages has high variability and variability increases throughout the lifespan (Smith & Baltes, 1999). As Vaupel et al. (1998) said from a bio-demographic point of view, “even genetically identical populations display phenotypic differences . . . Some individuals are frailer than others, innately or because of acquired frailty” (p. 857). Therefore, there is high heterogeneity in the way of aging, as expressed at the level of individuals: from successful aging to disability.

As an example, Figure 5 shows the variability (*SD*) in three physical (speed assessed by tapping test), health (number of health problems reported), and social (social interaction frequency) conditions from the EXCELSA study performed in 7 European countries ( $N = 672$ ), ages ranging from 30 to 85 years. Standard deviation increases by age in these three measures (Fernandez-Ballesteros, Zamarrón, Rudinger, Schroots et al., 2004).

Although this heterogeneity could be considered a continuum<sup>2</sup>, under the assumption that any individual would have a true score on this continuum (based on the mean and standard deviation of a standard distribution), we are

2 For example, Smith and Baltes (1999) required 9 subgroups to describe a set of psychological dimensions in persons older than 70.

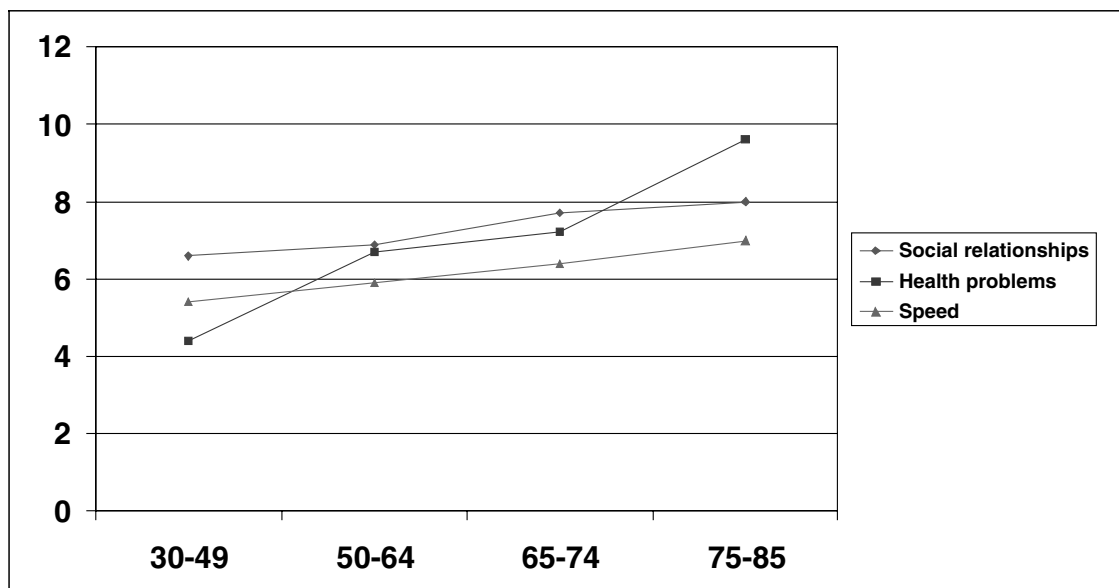


Figure 5. Variability (SD) in three bio-psycho-social conditions from the EXCELSA-P Project (30–85 years;  $N = 672$ ) (Fernández-Ballesteros, Zamarrón, Rudinger et al., 2004).

able to classify the aging process as under, over, or on the average in a standard distribution, as has been claimed by Kubik (2006). Perhaps, a cut-off in a standard distribution would be preferable than calling these three trajectories “usual,” “pathological,” and “optimal” (or active, successful, etc.) as has been commonly accepted in the field (Rowe & Khan, 1987; Whitbourne, 1985). These three broad categories seem to maintain their descriptive power even in very old persons (see for example, Baltes & Smith 2003<sup>3</sup>, for persons older than 70; Motta, Bennati Ferlito, Malafuarnera, & Motta 2005<sup>4</sup>, for centenarians). Briefly, this classification has been disseminated for expressing this variability and heterogeneity as emerging from differences in plasticity, adaptability, and resilience of the organism.

In sum, there are large individual differences in adaptive mechanisms across the lifespan, which express the diversity of aging trajectories (e.g., Baltes & Baltes, 1990a; Carstensen, 1993; Greve & Staudinger, 2006).

3. Finally, the third assumption implies a condition emerging from empirical research from psychological and neurobiological perspectives: There exists a broad plasticity and reserve capacity of human functioning. In other terms, research in gerontology supports the existence of a basic multilevel principle of plasticity at the

- 3 They considered that the oldest old are at the limits of their functioning, so the very old individuals of the BASE study could be classified following these three categories.
- 4 In their study of centenarians ( $N = 602$ ), they classified 20% as being in good health, independent, and maintaining good cognitive functioning, but they do not maintain any social or productive activity; 33.4% as having intermediate functioning, and 46.6% as being in bad health and functional status.