

# SUCCESSFUL AGEING; THE NEED FOR OBJECTIVE AND SUBJECTIVE MEASUREMENT

Francesca Farina  
Graduated 2011, Psychology  
francesca.farina.2009@nuim.ie

## ABSTRACT

Promoting greater health in old age is becoming an increasing concern globally as life expectancy continues to rise. By the year 2050, the population of individuals aged sixty and above is projected to equal the young population (fifteen or younger) for the first time (World Population Ageing: 1950–2050, 2001). Accordingly, the challenge of improving quality of life in addition to length of life faces both ageing research and policy alike. Methodologies employed to measure ‘successful ageing’ however, vary greatly across the literature. In particular, the use of objective or subjective measures has been debated. This paper aims to investigate the relative utility of these methodologies. The importance of including both criteria in measuring successful ageing will be discussed.

## INTRODUCTION

We all want to age ‘successfully’. At present however, there is no universally accepted definition of what the term ‘successful ageing’ means, nor is there a standard methodology for measuring this process (Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010). Measurement criteria for successful ageing vary greatly throughout the literature, typically reflecting the viewpoint of the investigator (Bowling, 2007). As such, definitions of ageing successfully have included; the compression of morbidity (Willcox, Willcox, & Ferrucci, 2008); happiness and life satisfaction (Dillaway & Byrnes, 2009); avoidance of disease (Rowe & Kahn, 1987) and adaptation following losses (Baltes & Baltes, 1993). As the meaning of successful ageing shifts, so too does the methodology employed to measure it. Depp and Jeste (2009), for example, found a variance of 0.4–95% in the prevalence of successful ageing among those over 60 years reported across studies, depending on the measurement criteria applied.

The issue of how to measure successful ageing continues to be debated, with researchers deliberating whether objective or subjective criteria should be used (Tan, Ward, & Ziaian, 2010). Alternatively, it has recently been proposed that a combinatory approach to the measurement of successful ageing processes be adopted, whereby objective and subjective measures would be used in tandem (Young, Frick, & Phelan, 2009). This review considers research relating to the use of both of these measurements of successful ageing and discusses the utility of both criteria in establishing a more comprehensive measurement rationale.

### **OBJECTIVE MEASUREMENTS**

The manipulated variable in this study is the music condition and has Objective, or researcher-defined measures of successful ageing have traditionally received more attention in the literature compared with subjective ones (Pruchno et al., 2010). One reason for this has been the widespread application of Rowe and Kahn's successful ageing model (1987, 1997, 1998). Rowe and Kahn (1987) emphasized the importance shifting perceptions about ageing away from physical or cognitive losses which occur, highlighting instead the possibility for maintained functionality. Thus Rowe and Kahn (1987) suggested measuring successful ageing according to absence of disease. The authors later expanded upon their model, adding in two supplementary measures; maintenance of cognitive and physical functioning and sustained engagement with life (Rowe & Kahn, 1997).

Early research using Rowe and Kahn's specifications (1987) distinguished a group of 'high' functioning older individuals aged between 70–79 (without disease) from 'usual' and 'impaired' functioning groups experiencing varying degrees of impairment (Berkman et al., 1993). Cross-sectional analyses highlighted that those ageing successfully, on average, engaged in more physical activity, spent longer in formal education, participated in more volunteer work, scored higher on self-efficacy and life satisfaction scales, and were less likely to have incomes under 5,000 dollars, or to smoke (Berkman et al., 1993).

Rowe and Kahn (1997) subsequently conducted a follow-up study of the aforementioned high functioning group approximately two years later. From this the authors established that length of education was the strongest indicator of maintained cognitive functioning (Rowe & Kahn,

1997). Additionally, successful physical ageing was influenced by physical activity and emotional support, while engagement with life was moderated by marital status (Rowe & Kahn, 1997).

### **CRITICISMS OF ROWE AND KAHN**

Primarily, Rowe and Kahn have been primarily criticised for over-estimating the prevalence of older individuals progressing through old age disease-free (Ouweland, de Ridder, & Bensing, 2007). Evidence from centenarian studies indicates that reaching advanced old age without impairment is extremely difficult (Motta et al., 2005).

Additionally, the restrictive nature of these measurement criteria has been questioned. Weir, Meisner, and Baker (2010), for example, found the prevalence of successful ageing reported using Rowe and Kahn's model (1997) to decrease markedly as age increased. Within their sample ( $n = 14,749$ , 60–80 years), disease-related disability and impaired functioning featured most heavily as barriers to ageing successfully. For example, individuals aged 80+ were over five times more likely than those ten years younger to be impaired.

Similar findings were reported by McLaughlin, Connell, Heeringa, Li and Roberts (2010) with 16.2% of 65–74 year olds reported as successful compared to a mere 1.6% of 80+ year olds. The above results suggest that the emphasis placed on disease may not allow for an accurate representation of the heterogeneity of ageing.

### **ALTERNATIVE OBJECTIVE MEASURES**

Rather than measuring successful ageing dichotomously as Rowe and Kahn had suggested, Young and colleagues (2009) propose a continuous measurement of success. The flexibility of the authors' model allows for successful ageing according to any, not just all criteria thus ensuring that individuals experiencing physical disability are not prevented from achieving success psychologically or socially (Young et al., 2009).

According to Young and colleagues (2009), the presence of compensatory mechanisms such as resilience, coping, and social support distinguish those who are ageing more successfully than others. Although promising in terms of its aim to provide a more comprehensive measure of successful ageing, further research is necessary to establish the utility of Young and colleagues model (2009).

Moreover, the low prevalence of successful ageing reported across objective measures indicates that such measures do not represent the entire successful ageing story. Meta-analytical research by Hank (2011) demonstrates this; documenting a strikingly low successful ageing prevalence of 8.5% throughout Europe and Israel. Hank's research also indicated high cultural variation, with one in six older individuals in Ireland ageing successfully compared to less than one in 50 older individuals in Poland (Hank, 2011). Taken together, this research implies the need for less constrained measures of successful ageing.

### **SUBJECTIVE MEASUREMENTS**

Subjective measures of successful ageing are lay views, or those which are defined by older individuals themselves. Advocates of subjective measures argue that objective criteria fail to incorporate older individuals' views of how successful ageing should be classified (Hilton, Kopera-Frye, & Krave, 2009). Crucially, when asked to rate their own level of successful ageing, a larger proportion of older individuals tend to categorize themselves as successful when compared to the percentages typically documented by objective measures (Doyle, McKee, & Sherriff, 2010).

Strawbridge and colleagues (2002) found that half (50.3%) of older individuals (n = 867) included in their study agreed strongly with the statement "I am aging successfully (or aging well)", while less than a fifth of participants (18.8%) met objective criteria (Rowe and Kahn's measurements).

### **OBJECTIVE MEASURES VIEWED SUBJECTIVELY**

An interesting study carried out by Phelan, Anderson, LaCroix and Larson (2004) attempted to reconcile objective and subjective measurements. The authors provided a sample of older individuals (n = 1890, mean age = 79) with a list of 20 objectively-defined successful ageing characteristics typical of the literature. Participants were required to rate each statement in terms of its importance to successful ageing.

"Remaining in good health until close to death" and "Being able to take care of myself until close to the time of my death" were the two highest ranked factors, with over 90% of participants rating them as important (Phelan et al., 2004). Of the 20 attributes, 13 were considered important to the majority of individuals. The diversity of statements

rated highly; including elements of physical, functional, psychological, and social health, highlights the multi-dimensional nature of subjectively defined successful ageing.

Although this study could suggest a consistency across objectively defined measures and those considered important by older individuals, the authors admit that open-ended questions may not have provided the same results.

### **THE OLDER INDIVIDUALS PERSPECTIVE**

A more genuine indication of older individuals' perceptions of how successful ageing should be measured can be obtained by simply asking them. A study by Bowling and Dieppe (2005) reported "having good health and functioning" as the most popular response to an open-ended question of how successful ageing might be measured, with 75% of this sample rated themselves as successful. Factors such as financial security and the availability of community facilities were mentioned less frequently as indicators of success (Bowling & Dieppe, 2005).

In a further study, Laditka and colleagues (2009) carried out a series of focus groups to examine older individuals' views of how ageing well should be quantified. Four main concepts emerged: being physically active, mentally agile, independent, and socially engaged (Laditka et al., 2009). Apart from independence, these criteria are comparable to those reported from objective measures. Additional factors mentioned by participants including; having a positive attitude, coping and adaptation, and spirituality are however less well documented objectively.

von Faber and colleagues (2001) asked Dutch individuals aged 85 and above; "Are you, in general, satisfied with your present life?" 45% of participants classified themselves as successful agers. Similar to the subjective accounts reported above, adaptability to change and the use of coping mechanisms to offset loneliness and maintain self-esteem were highlighted as appropriate measures of successful ageing (von Faber et al., 2001).

Crucially, von Faber et al. (2001) noted that in cases where physical or cognitive functioning decreased, these effects tended to be accepted as a part of growing older, rather than a failure to achieve successful ageing on the part of the individual. Contrastingly, some individuals with no

physical impairments considered themselves unsuccessful due to social context decrements.

Weir and colleagues (2010) suggest a compensatory mechanism as an explanation for these findings, whereby an individual's ability to complete a task through compensation may result in them viewing their ageing as successful. Silverstein and Parker (2002) support this view. The authors illustrated that increasing leisure activity involvement could result in participants perceiving an improvement in their life conditions. This was particularly evident among those who were older, widowed, had a weak social support network, or who experienced functional decline (Silverstein & Parker, 2002).

**Successful Ageing and Physical Impairment** The above findings invoke the question of whether successful ageing can be achieved in the presence of disease- or disability-related impairment. Addressing this, Strawbridge and colleagues (2002) found that 42.7% of over 65-year olds with one chronic condition classified themselves as ageing successfully, while 35% of those with two conditions, and 16.7% with three conditions did so.

Strawbridge and Wallhagen (2003) subsequently found that one third of older individuals ( $n = 899$ ) with chronic illness rated themselves successful, while an identical proportion of those without an illness considered themselves as not having aged successfully. However, as Strawbridge and Wallhagen (2003) point out, it remains unclear whether successful ageing in the presence of physical impairment represents a normal occurrence, or an exception to the rule.

## **OBJECTIVE AND SUBJECTIVE MEASURES**

It is clear that there are drawbacks to both objective and subjective measures of successful ageing. As Blazer (2006, in Weir et al., 2010) emphasizes, perhaps what is most important is whether successful ageing should be considered as a 'state of mind', or as maintaining good functionality physically, cognitively, and socially.

It seems unwise to ignore the views of the ageing population in considering how their own ageing process should be measured. As Scheidt, Humpherys and Yorgason (1999) eloquently proclaim; utilizing objective measures alone is reminiscent of a Boy Scout who, in attempting to aid an ageing pedestrian, pulls them unwillingly across a busy street. This

depiction emphasizes the necessity for researchers to consider a model of successful ageing which is relevant to older individuals own perspectives.

However, as Weir et al. (2010) highlight, although it is undoubtedly a positive outcome when individuals can consider themselves successful in spite of functional or other impairments, these individuals may not be maintaining a high quality of life. Therefore, an obvious limitation of subjective measures is their failure to account for factors such as performance or cognition, which provides little information to those researchers who aim to improve health and overall lifespan (Nusselder & Peeters, 2006). Furthermore, the possibility of bias within subjective accounts of ageing, as in any self-report measure, cannot be ignored (Franklin & Tate, 2009).

### **A COMBINATORY APPROACH**

Pruchno and colleagues (2010) provide an intriguing, contemporary example of a model incorporating both objective success and subjective success. Objective criteria within this model included having few chronic conditions, maintaining functional abilities, and low pain experience. Subjective measures consisted of three questions assessing participants own perceptions of their ageing process (Pruchno et al., 2010).

In comparing objectively successful and subjectively successful groups, the latter group were on average more likely to be older or female, to have higher BMI levels, to have better social support networks, to exercise, less likely to be working, and to be more religious than the former group (Pruchno et al., 2010). Findings also revealed that higher levels of education, not having been incarcerated, lower Body Mass Index, engaging in more exercise, and having better social support networks differentiated individuals who were ageing successful according to both objective and subjective criteria from those ageing successfully according to one, or neither.

Although both objective and subjective criteria outlined by the authors may be somewhat arbitrarily defined, this study represents an attempt at reconciling objective and subjective measures of successful ageing, while offering provisional evidence as to the factors which may distinguish between the two.

## DISCUSSION

The measurement of successful ageing has been debated at length within the literature. Objective measures typically report a low prevalence of successful ageing among older individuals (e.g. 18.8%; Strawbridge et al., 2002), while subjective measures have reported levels as high as 92% (Montross et al., 2006). Given the large disparity between the two, a combination of measures has been proposed in order to provide a more comprehensive account of how successful ageing might reliably be measured.

Chapman (2005, in Rozanova, 2010) argues that the measurement of successful ageing has thus far been problematic as its aim has largely been to establish how older individuals should age, rather than endeavouring to understand how people come to view themselves as having aged successfully. Worryingly, such perspectives may place blame on the individual if success according to particular criteria are not upheld (Scheidt et al., 1999).

Balancing older individuals' own perceptions of their ageing process with objectively defined measures will serve to guard against many of the limitations intrinsic to either measure used in isolation. The inclusion of both objective and subjective measures of successful ageing, considered within their cultural context and accounting for the heterogeneity of ageing can together provide a more comprehensive measure of ageing successfully (Minkler & Fadem, 2002), thus better informing future healthy ageing policy within the rapidly expanding older population.

## REFERENCES

- Baltes, P. B., & Baltes, M. M. (1993). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes, & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1–34). New York: Cambridge University.
- Berkman, L. F., Seeman, T. E., Albert, M., Blazer, D., Kahn, R., Mohs, R., Finch, C., Schneider, E., Cotman, C., McClearn, G., Nesselroade, J., Featherman, D., Garmezy, N., Mckhann, G., Brim, G., Prager, D., & Rowe, J. (1993). High, usual, and impaired functioning in community-dwelling older men and women: Findings from the MacArthur Foundation research network on successful aging. *Journal of Clinical Epidemiology*, 46(10), 1129–1140.
- Bowling, A. (2007). Aspirations for older age in the 21st century: What is successful aging? *International Journal of Aging and Human Development*, 64(3), 263–297.



- Bowling, A., & Dieppe, P. (2005). What is successful ageing and who should define it? *British Medical Journal*, 331(7531), 1548–1551.
- Depp, C. A., & Jeste, D. V. (2009). Definitions and Predictors of Successful Aging: A Comprehensive Review of Larger Quantitative Studies. *Focus*, 7(1), 137–150.
- Dillaway, H. E., & Byrnes, M. (2009). Reconsidering successful aging: A call for renewed and expanded academic critiques and conceptualizations. *Journal of Applied Gerontology*, 28(6), 702–722.
- Doyle, Y. G., McKee, M., & Sherriff, M. (2010). A model of successful ageing in British populations. *European Journal of Public Health*, 1–5. doi: 10.1093/eurpub/ckq132
- Fiocco, A. J., & Yaffe, C. (2010). Defining Successful Aging: The Importance of Including Cognitive Function over Time. *Archives of Neurology*, 67(7), 876–880.
- Franklin, N. C., & Tate, C. A. (2009). Lifestyle and Successful Aging: An Overview. *American Journal of Lifestyle Medicine*, 3(1), 6–11.
- Hank, K. (2011). How “successful” do older Europeansage? Findings from SHARE. *Journal of Gerontology: Social Sciences*, 66B(2), 230–236.
- Hilton, J. M., Kopera-Frye, K., & Krave, A. (2009). Successful Aging from the Perspective of Family Caregivers. *The Family Journal: Counselling and Therapy For Couples and Families*, 17(1), 39–50.
- Laditka, S. B., Corwin, S. J., Laditka, J. N., Liu, R., Tseng, W., Wu, B., Beard, R. L., Sharkey, J. R., & Ivey, S. L. (2009). Attitudes About Aging Well Among a Diverse Group of Older Americans: Implications for Promoting Cognitive Health. *The Gerontologist*, 49(1), 30–39.
- McLaughlin, S. J., Connell, C. M., Heeringa, S. G., Li, L. W., & Roberts, J. S. (2010). Successful aging in the United States: prevalence estimates from a national sample of older adults. *Journal of Gerontology: Social Sciences*, 65B(2), 216–226.
- Minkler, M., & Fadem, P. (2002). "Successful Aging:" A Disability Perspective. *Journal of Disability Policy Studies*, 12(4), 229–235.
- Motta, M., Bennati, E., Ferlito, L., Malaguarnera, M.,
- Motta, L., & Italian Multicenter Study on Centenarians (IMUSCE). (2005). Successful aging in centenarians: myths and reality. *Archives of Gerontology and Geriatrics*, 40(3), 241–251.
- Nusselder, W. J., & Peeters, A. (2006). Successful aging: measuring the years lived with functional loss. *Journal of Epidemiology and Community Health*, 60(5), 448–455.
- Ouweland, C., de Ridder, D. T. D., & Bensing, J. M. (2007). A review of successful aging models: Proposing proactive coping as an important additional strategy. *Clinical Psychology Review*, 27(8), 873–884.

- Phelan, E. A., Anderson, L. A., LaCroix, A. Z., & Larson, E. B. (2004). Older adults' views of "successful aging"—How do they compare with researchers' definitions? *Journal of American Geriatrics Society*, 52(2), 211–216.
- Pruchno, R. A., Wilson-Genderson, M., Rose, M., & Cartwright, F. (2010). Successful Aging: Early Influences and Contemporary Characteristics. *The Gerontologist*, 50(6), 821–833.
- Rowe, J. W., & Kahn, R. L. (1987). Human Aging: Usual and Successful. *Science*, 237(4811), 143–149.
- Rowe, J. W., & Kahn, R. L. (1997). Successful Aging. *The Gerontologist*, 37(4), 433–440.
- Rowe, J. W., & Kahn, R. L. (1998). *Successful aging*. New York: Pantheon.
- Rožanova, J. (2010). Discourse of successful aging in *The Globe & Mail*: Insights from critical gerontology. *Journal of Aging Studies*, 24(4), 213–222.
- Scheidt, R. J., Humpherys, D. R., & Yorgason, J. B. (1999). Successful Aging: What's Not to Like? *Journal of Applied Gerontology*, 18(3), 277–282.
- Silverstein, M., & Parker, M. G. (2002). Leisure Activities and Quality of Life among the Oldest Old in Sweden. *Research on Aging*, 24(5), 528–547.
- Strawbridge, W. J., & Wallhagen, M. I. (2003). Self reported successful aging: Correlates and predictors. In L. W. Poon, S. H. Gueldner, & B. Sprouse (Eds.), *Successful aging and adaptation with chronic diseases in older adulthood* (pp. 1–24). New York: Springer.
- Strawbridge, W. J., Wallhagen, M. I., & Cohen, R. D. (2002). Successful Aging and Well-Being: Self-Rated Compared With Rowe and Kahn. *The Gerontologist*, 42(6), 727–733.
- Tan, J., Ward, L., & Ziaian, T. (2010). Experiences of Chinese Immigrants and Anglo-Australians Ageing in Australia: A Cross-cultural Perspective on Successful Ageing. *Journal of Health Psychology*, 15(5), 697–706.
- von Faber, M., Bootsma-van der Wiel, A., van Exel, E., Gussekloo, J., Lagaay, A. M., van Dongen, E., Knook, D. L., van der Geest, S., & Westendorp, R. G. (2001). Successful aging in the oldest old: Who can be characterized as successfully aged? *Archives of Internal Medicine*, 161(22), 694–700.
- Weir, P. L., Meisner, B. A., & Baker, J. (2010). Successful Aging across the Years: Does One Model Fit Everyone? *Journal of Health Psychology*, 15(5), 680–687.
- Willcox, B. J., Willcox, D. C., & Ferrucci, L. (2008). Secrets of Healthy Aging and Longevity from Exceptional Survivors around the Globe: Lessons from Octogenarians to Supercentenarians. *Journal of Gerontology: Medical Sciences*, 63A(11), 1181–1185.
- World Population Ageing: 1950–2050. Department of Economic and Social Affairs, Population Division. (2001). Magnitude and speed of population ageing. Retrieved from <http://www.un.org/esa/population/publications/worldageing19502050/pdf/80chapterii.pdf>

Young, Y., Frick, K. D., & Phelan, E. A. (2009). Can Successful Aging and Chronic Illness Coexist in the Same Individual? A Multidimensional Concept of Successful Aging. *Journal of the American Medical Directors Association*, 10(2), 87–92.