Successful Aging: A Concept as Alluring as Misleading?

Clemens Tesch-Römer
Deutsches Zentrum für Altersfragen
German Centre of Gerontology

Presentation at the conference “Key issues in Current Health Research: Ageing – Health – Equity”, Bremen, 29.-30. June 2017
Successful Aging – Structure of the Presentation

- What is successful aging?
- Why is the concept alluring?
- Are successful aging strategies successful?
  (a) Individual strategies
  (b) Societal strategies
- Why is the concept misleading?
- Are there alternative concepts?
- Outlook
Successful Aging:
Multiple Components, Multiple Definitions

Components
1. Low disability/physical functioning
2. High cognitive functioning
3. High life satisfaction/subjective well-being
4. High social/productive engagement
5. Absence of illness
6. Longevity
7. High self-rated health
8. Personality
9. Resourceful environment/finances
10. High self-rated successful aging

Rowe & Kahn (1987): The Most Successful Model of Successful Aging

Healthy Aging
- Low probability of disease and disability

High cognitive and physical functional capacity

Active Aging
- Active engagement in society

Successful Aging
Individual and Strategies for Successful Aging

Individual Strategies (Rowe & Kahn, 1987)
- Healthy nutrition, avoidance of excess weight, regular (at least moderate) physical activity → Prevention of modifiable chronic diseases
- Regular (at least moderate) physical activity, high self-efficacy, high social integration, high educational status → Positive impact on functional status
- Good functional health, high self-efficacy, high educational status → Active engagement in society

Societal Strategies (Rowe & Kahn, 2015)
- Health promotion: Societies should implement policies directed at health promotion and prevention.
- Use competencies of older people: Societies should implement policies of “active ageing”.
- Adjust societal institutions and develop life-course policies: Education, work and retirement in all phases of life (instead of linear sequences)
- Consider social inequality: Race, gender, education, income (→ lip service?)
Rowe & Kahn (1987): Successful Aging

Successful Aging

- High cognitive and physical functional capacity
- Low probability of disease and disability
- Active engagement in society

**Individual Strategies**
- Health behaviour (physical activity, diet)
- Social interaction and integration
- Self-efficacy and perceived control

**Societal Strategies**
- Policies on health promotion and prevention
- Policies on promoting active ageing
- Life-course policies
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Successful Aging and the Fountain of Youth: Longevity without „Growing Old“
Scientific Impact of the Concept Successful Aging: Successful Aging 2.0

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Societal Promise of Successful Aging: Compression of Morbidity

Years in poor health
(poor subjective health, disability, in need of care)

Years in good health
(good subjective health, no disability, no need for care)
Societal Promise of Successful Aging: Compression of Morbidity

- **Years in poor health**: (poor subjective health, disability, in need of care)
- **Years in good health**: (good subjective health, no disability, no need for care)

**Compression of Morbidity**
(in Subsequent Birth Cohorts)
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Individual Strategies for Successful Aging: Health Behavior

Physical Activity is associated with/predicts...

...absence of major chronic illness, depression, impairment (Hamer et al., 2014)
...improved lower limb functioning (Trayers et al., 2014)
...increased muscle strength (Crane et al., 2012)
...faster response times (Berchicci et al., 2013)
...better executive performance in people with dementia (Farina et al., 2014)
...better self-reported memory in middle- and old-aged groups (Small et al., 2013)

Diet/nutrition is associated with/predicts...

...morbidity (obesity), sarcopenia (malnutrition), cognitive impairment (Vitamin B12/Vitamin D deficiency) (Hammar & Östgren, 2013)
...cognitive performance and total brain volume (Titova et al., 2013)
...hand grip strength (Neville et al., 2013)
...self-reported memory across age groups (Small et al., 2013)
Individual Strategies for Successful Aging: Social Integration and Perceived Control

Social interaction and integration is associated with/predicts…
  …self-rated health (Ichida et al., 2013)
  …less decline in perceptual speed (Chang et al., 2013)
  …cognitive functioning (Seeman et al., 2001)

Perceived control and self-efficacy is associated with/predicts…
  …maintenance of cognitive function in high functioning older people (Albert et al. 1995)
  …self-reported health and hospital admissions (Chipperfield et al., 1999; 2012)
However: Unequal Access to Successful Aging

- **Social Inequality**
  Socioeconomic status strongly associated with an individuals' odds of successful aging (Hank, 2011)
  Socio-economic position and particular stressful life events are predictors of successful aging (Kok, Aartsen, Deeg, & Huisman, 2016)

- **Life-course perspective**
  Childhood living conditions predict elders' odds of successful aging (Brandt, Deindl, & Hank, 2012)
  Midlife socioeconomic position strongly predicts successful aging (Britton, Shipley, Singh-Manoux, & Marmot, 2008)
Individual and Strategies for Successful Aging

Individual Strategies (Rowe & Kahn, 1987)

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Successful Strategies!
As shown in intervention and longitudinal studies, but be aware of social inequality.
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Political Impact of the Concept Successful Aging: Active Ageing Index (AAI)

„Active Ageing Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age. It applies to both individuals and population groups” (WHO, 2002)

The Active Ageing Index (AAI) of UNECE and EU ist a monitoring instrument for comparatively tracking the development of countries over time. Four dimensions:

1. **Contributions through paid activities: Employment**  
   (Employment rates 55-59, 60-64, 65-69, 70-74)

2. **Contributions through unpaid productive activities: Participation in society**  
   (volunteering, care to grand/children, care to older adults, political participation)

3. **Independent, healthy and secure living**  
   (Physical exercise, access to health care, independent living, financial security, physical safety, lifelong learning)

4. **Capacity and enabling environment for active ageing**  
   (Further life expectancy at 55, health life expectancy at 55, mental well-being, use of ICT, social connectedness, educational attainment)

http://www1.unece.org/stat/platform/display/AAI/II.+Ranking
Empirical Test for Societal Strategies

– **Assumption**
  Over the last decades, societies have implemented policies on health promotion and prevention, policies on promoting active ageing, and life-course policies.

– **Expectation I**
  If these policies are effective (and have been implemented adequately), subsequent cohorts of older people should be more healthy and more active.

– **Expectation II**
  If these policies are effective (and have been implemented adequately), compression of morbidity should occur over time.
German Ageing Survey (DEAS): Cohort Analyses

Social Change:
How do the living situations of older people change over time?

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German Ageing Survey (DEAS): Cohort Analyses

Social Change:
How do the living situations of older people change over time?

Seven Age Groups

78-83
72-77
66-71
60-65
54-59
48-53
42-47

Birth Cohorts
1913-1918
1919-1924
1925-1930
1931-1936
1937-1942
1943-1948
1949-1954

Birth Cohorts
1919-1924
1925-1930
1931-1936
1937-1942
1943-1948
1949-1954
1955-1960

Birth Cohorts
1925-1930
1931-1936
1937-1942
1943-1948
1949-1954
1955-1960
1961-1966

Birth Cohorts
1931-1936
1937-1942
1943-1948
1949-1954
1955-1960
1961-1966
1967-1972

German Ageing Survey (DEAS): Cohort Analyses

Social Change:
How do the living situations of older people change over time?

Seven Age Groups

|-----------|------|------|------|------|------|------|------|------|
Subjective Health by Age, 1996 to 2014 (in Percent)

Source: DEAS 1996 (n = 4.833), 2002 (n = 3.081), 2008 (n = 6.195), 2014 (n = 5.994), weighted, rounded; Interaction Age by Wave significant, (p < .05).
Age group 42-47: Significant decrease „good“ and significant increase „poor“, 1996-2014
Age group 48-53: Changes not significant (stability)
Age group 60-65: Changes not significant (stability)
Age group 66-71: Significant increase „good“ and significant decrease „poor“ 1996-2014
Age group 72-77: Significant increase „good“ and significant decrease „poor“ 1996-2014
Age group 78-83: Significant increase „good“ and significant decrease „poor“ 2002-2014

(Spuling et al., 2017)
Individuals with Self-Reported „Good Functional Health“ by Age, 2002 to 2014 (in Percent)

Definition „Good Functional Health“: In 10 items „no“ or „little“ restrictions (Subscale SF-36).

Source: DEAS 2002 (n = 3,074), 2008 (n = 6,202), 2014 (n = 5,997) weighted, rounded.
For age groups 48-53, 72-77: no change 2002-2008, no change 2008-2014. (p<.05)

(Wolff et al., 2017)
Volunteering: Individuals with Honorary Posts, by Age, 1996 to 2014 (in Percent)

Quelle: DEAS 1996 (n = 4.808), 2002 (n = 3.039), 2008 (n = 6.194), 2014 (n = 5.993) weighted, rounded; (p < .05).
Significant interaction Wave by Age.

(Wetzel & Simonson, 2017)
Social Inequality: Higher SES, Better Functional Health

Definition „Good Functional Health“: In 10 items „no“ or „little“ restrictions (Subscale SF-36).

Source: DEAS 2014 (n = 5.997) weighted, rounded (p<.05). Differences between age groups, gender groups, and educational groups significant.

(Wolff et al., 2017)
Regional Disparities in Germany

Dimension “Economic Strength” (2008)
Quartiles of districts based on an index of three economical indicators
- Unemployment rate
- Personal income tax (per capita)
- Gross domestic product (per capita)

- District type I: economically poor districts
- District type II: economically rather poor districts
- District type III: economically rather strong districts
- District type IV: economically strong districts

Source: INKAR, 2008 (Federal Institute for Research on Building, Urban Affairs and Spatial Development)
Volunteering and Educational Activities by Region and Age (DEAS 2008)

Higher shares of volunteering and educational activities in regions with higher economic resources.

Source: DEAS 2008, weighted, n=4133 (Simonson et al. 2013)
Individual social status and regional disparities have additive effects.
German Ageing Survey: Good News, but Not for Everybody – and New Challenges Ahead

Good news…

In Germany today (2014), older people are on average healthier and more active than older people two decades ago.

…but not for everybody…

Social inequality – due to education, income or gender – has not changed over time. Moreover, there are large disparities between regions in Germany (concerning not only volunteering, but also health and use of health care services).

…and new challenges ahead (and also more resources)

Challenges: No positive health change in subsequent birth cohorts in middle adulthood. The employment and family biographies of younger birth cohorts have become more diverse and unstable (not shown).

Resources: Better education, new forms of social integration (not shown).
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  If these policies are effective (and have been implemented adequately), compression of morbidity should occur over time.
Compression of Morbidity: Absolute or Relative Compression?

Societal intervention (health promotion and prevention) and individual health behavior change (healthy life styles) lead to more years in good health.
Compression of Morbidity? Consider Not Only Changes in Health, but also Changes in Longevity

**Compression of Morbidity**
(Relatively) more years in good health

**Expansion of Morbidity**
More years in poor health (illness and disability)

**Dynamic Equilibrium**
Fewer years with serious illness or severe disability, more years with less severe illness or moderate disability
Empirical Evidence on Compression of Morbidity: Mixed, at Best

Evidence for compression of...
  ...disability (Manton, Gu, & Lowrimore, 2008)
  ...poor self-rated health (Doblhammer & Kyttir, 2001):

Evidence for expansion of...
  ... disability and morbidity (Crimmins & Beltrán-Sánchez, 2011)
  ... morbidity (Perenboom, van Herten, Boshuizen, & van Den Bos, 2005)

Type of indicator relevant?
  Measures of morbidity tend to support the hypothesis of morbidity compression,
  disease related measures tend to support the hypothesis of morbidity expansion
  (Chatterji, Byles, Cutler, Seeman, & Verdes, 2015, p. 570).

Social Inequality
  Whenever compression of morbidity is found, strong influence of socio-economic Status, favoring individuals with a higher status (Brown et al., 2012; House, Lantz, & Herd, 2005; Jagger et al., 2009).
Increase in Life-Expectancy and Increase in Years in Poor Health in 187 Countries

Increase in Life-Expectancy and Increase in Years in Poor Health in 187 Countries

Individual and Strategies for Successful Aging

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Successful Strategies?
Adding healthy and active years in the „third age“ and adding years in poor health in the „fourth age“
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Where Rowe & Kahn’s Concept of „Successful Aging“ Might be Misleading

Antagonistic effects of successful aging strategies?
Strategies of successful aging seem to be effective in the short run for individuals in their „third age“, but may not lead to healthy aging until the end of life for everybody. Strategies of successful aging may have time-delayed, antagonistic effects:
- Improved health in the „third age“
- Increased life expectancy and more time with disability in the „fourth age“

Universal – or rather exclusive concept?
1. Successful aging for the happy few: Good starting conditions in childhood and adolescence predict successful aging; high educational status, high income/wealth in middle adulthood/old age associated with successful aging.
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Toward a More Comprehensive Concept of Successful Aging: Disability and Care Needs

**Traditional Criteria** (Rowe & Kahn, 1987, 1997, 2015)
- Low probability of disease and disability
- High cognitive and physical functional capacity
- Active engagement in society

**Alternative criteria for successful aging**
Successful aging should be possible with disability, frailty, need of care – regardless of SES, race/ethnicity, gender.
- **Autonomy**: person’s ability to make his or her own decisions, even in the face of disability and need for care
- **Quality of Life**: Objective welfare and subjective well-being of individuals across the life course

(Chard et al., 2017: Diabetes; Freedman et al., 2017: Assistive Devices; Kail et al., 2017: Disablement; Molton et al., 2017: Disability; Tesch-Römer & Wahl, 2017: Care needs)
Strategies and Resources for Successful Aging When Facing Disability and Care Needs

**Individual Strategies and Resources**
Strategies based on models of developmental regulation (e.g. Baltes & Baltes‘ Model of Selective Optimization with Compensation, Brandtstädter‘s Two-Process-Modell)

**Environmental Strategies and Resources**
Strategies and resources regarding housing, technological equipment, provision of services as well as infrastructure of the neighborhood.

**Care Related Strategies and Resources**
Dyadic strategies of care giver and care receiver, taking into account different settings and diverse forms of welfare state funding/regulation.

Taking into account social inequality...
- Age
- Gender
- Race
- Education
- Income
- Wealth
- Migration Status
- Regional Disparity
- …

…and diversity
- Life style
- Behaviors
- …

(Tesch-Römer & Wahl, 2017)
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Should we Stick With the Concept „Successful Aging“?

Yes, because the concept is visionary
The concept implies that aging is not (purely) biological fate, but that the process of aging is modifiable.

Yes, because the concept is normative
The normative character of the concept is useful for discourse on developmental goals.

Yes, because it is positive and hopeful
Research on ageism has shown that negative attitudes are ubiquitous. The concept of „successful aging“ makes clear that a good life in old age is possible.
Ageism and Successful Aging

- **Stereotype embodiment theory**
  Negative age stereotypes get under your skin (Levy, 2009)
  \(\rightarrow\) e.g. black-white pictures of old, apparently not healthy individuals

- **Positive images based on the concept of “successful aging”**
  Possibly a counter-balance to negative images of old age, but images of successful aging are alluring – but they may be also misleading.
  \(\rightarrow\) e.g. colour pictures of older people who are extremely active

- **Are there alternative images?**
  Some examples from children’s books (e.g. The Little Witch, Pettersson and Findus)
http://iagger2019.se

See you in Gothenburg!
Thank You for Your Attention!

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A Concept as Alluring as Misleading?

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Neville, C. E., Young, I. S., Gilchrist, S. E., McKinley, M. C., Gibson, A., Edgar, J. D., & Woodside, J. V. (2013). Effect of increased fruit and vegetable consumption on physical function and muscle strength in older adults. Age, 35(6), 2409-2422.


