Chapter 5

Good Self-Rated Health as an Indicator of Personal Capability in Old Age

Hanna Falk Erhag

5.1 Introduction

The goal of nursing research is to develop a body of knowledge that will support and advance nursing practice (Risjord, 2010). The distinctiveness of the discipline lies in its holistic and life-world perspective, focusing on subjective experiences of illness and health, as well as personal interpretations and understandings of human existence. Many nurse researchers tend to use qualitative methodology that aims to generate in-depth understandings of human existence in close proximity to those being studied.

The questions that nurse researchers ask, as well as the methods they use to answer these questions, depend on their general perspective on how the world works – a paradigm, or multiple paradigms, that help researchers to sharpen their focus on the phenomena under study (Polit & Beck, 2018; Risjord, 2010). For example, according to the constructivist paradigm, reality is not permanent but rather a construction that exists within a certain context that is interpreted differently in people's minds, and can therefore never be either verified or falsified (Polit & Beck, 2018). In order to study the multiple interpretations of reality that exist in people's minds, knowledge is said to be maximised when the distance between

H. Falk Erhag (✉)

Neuropsychiatric Epidemiology Unit, Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden

Centre for Ageing and Health – AgeCap, University of Gothenburg, Gothenburg, Sweden

Institute of Health and Care Sciences, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden

e-mail: hanna.falk@gu.se

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researcher and study participants is minimised. In contrast, according to the post-positivist paradigm, reality exists independently of human observation, nature is ordered although strict objectivity is impossible, and determinism refers to the assumption that all phenomena have antecedent causes. Within this paradigm, the nurse researcher sees objectivity as a goal and unbiased materials are gathered in order to describe and understand what reality probably is (Denzin & Lincoln, 2017).

Although there seem to be distinctive differences between these two paradigms, they have features in common. For example, that the goal of research is to seek truth regarding the phenomena under study, provide answers and solve problems. These commonalities make it possible to combine paradigms and scientific methods. For example, in nursing research, subjective experiences of health and illness have traditionally been studied using qualitative methodology within a constructivist research paradigm. However, subjective experiences can also be operationalised into quantifiable measures that can lend themselves to being studied at a collective level in large and representative samples of older adults over time. While epidemiology could benefit nursing, both as a research discipline and a clinical practice, it still seems to be significantly underused and poorly understood (Whitehead, 2003; 2000).

Epidemiology, or the study of the frequency, distribution and determinants of disease, has its roots in the scientific study of epidemics (McMahon & Pugh, 1970), and is primarily a quantitative discipline that investigates reports of multiple occurrences of a disease in close proximity to each other. Firmly embedded within medicine, and primarily adopting the postpositivist paradigm of the natural sciences, traditional epidemiology could be viewed as ill-equipped to contribute to a model of nursing. However, since its beginnings, the scope of epidemiology, its range of designs and impact on healthcare and policy have developed to also include studies of subjective experiences of health and illness in relation to a variety of factors (Jacobsen, 2021), and several healthcare-related policies influencing the practice of nurses are a consequence of epidemiological studies of health and illness (Whitehead, 2000).

Traditionally, nursing has had little time for epidemiology, perceiving it as both a discipline and a practice that is firmly embedded in positivistic science. Nursing, however, is an eclectic discipline which has drawn upon many epistemologies and methodologies in its quest for a holistic and life-world perspective (Jacobsen, 2021; Ahrens & Pigeot, 2014). Epidemiological studies can be either descriptive or explanatory. In the former, the aim is to describe the natural history of disease, the frequency or incidence of health outcomes or health determinants and their temporal or geographical variation. In the latter, the aim is to contribute to the search for the causes of health-related events, in particular by isolating the effects of specific factors (Whitehead, 2000; Ahrens & Pigeot, 2014). Both perspectives are needed in studies of self-rated health during the fourth age in order to determine whether it can be used as an indicator of personal capability to master the gains and losses of late life, given changing reference points, cultural norms and multiple comparisons. Although we have seen extensive research on self-rated health during the last 70 years, there is still limited understanding of the dimensions to which older adults refer when evaluating their own health and how those dimensions act and interact in

the evaluation process, or how these assessments reflect their resilience and capacity to maintain and regain normal levels of functioning in the face of risks and losses in late life, especially during the fourth age.

5.2 Views on Ageing and Old Age

At the biological level, ageing is a result of the impact of an accumulation of a wide variety of molecular and cellular damage over time (World Health Organisation, 2015a, 2020). Ageing can also be regarded as the process of a person living a long life extending beyond the period of reproductive fitness. However, age-related changes are neither linear nor consistent, and only loosely associated with a person's chronological age in years. Globally, people are living longer, and population ageing is one of the most significant social transformations of the twenty-first century, constituting both a great success for humanity and a global challenge (World Health Organisation, 2020; Sanderson & Scherbov, 2007). Around the world, older adults make up the fastest growing segment of the population and, by 2050, the proportion of those older than 85 years will have nearly doubled compared with today (United Nations World Population Prospects, 2019). The uncertainty over the rate and nature of ageing has been the subject of a number of debates over the years (Higgs & Gilleard, 2015). Research findings that show considerable variation between populations, trends in the delayed onset of morbidity, less steep decline, and a greater compression of morbidity, points towards the fact that we are facing a real change in the process of ageing, and that those growing old today differ greatly from those growing old at the beginning of the twentieth century. It becomes more and more evident that chronological age has lost quite a lot of its credibility as a marker of old age. While some 85-year-olds enjoy extremely good health and functioning, other 85-year-olds are frail and require significant help from others in order to manage (World Health Organisation, 2020). The variability between individuals seems to be increasing and the older population is becoming more heterogeneous.

The term 'the fourth age' was coined by gerontologists in the late 1980s (Laslett, 1987, 1991). Following a then well-established tradition of ordering the life course into different distinct stages based on chronological age-spans, Laslett coupled the term 'third age' with a 'fourth age', and in doing so drew attention to one of the most important oppositions in later life – the distinction between fit, healthy and productive late life and ill, frail, impaired and dependent late life (Higgs & Gilleard, 2015). The idea that people can be assigned to one of these two positions had previously been proposed by other researchers, for example Neugarten's distinction between the 'young old' versus the 'old-old', introduced in the mid-1970s (Neugarten, 1974). An appealing aspect of Laslett's view on ageing is that it takes little notice of chronological age. Rather, it is the functional status of the individual that determines whether a person is assigned to one or the other of these statuses (Higgs & Gilleard, 2015). Functional disability is defined by most laypersons as 'the inability to do something' (Mitra, 2006; Albrecht et al., 2001). It can be defined

and operationalised by the presence of limitations in performing the necessary activities of daily living such as eating, dressing, using the toilet, getting out of bed, walking or activities related to household maintenance such as cooking, shopping and managing bills or one's medication. Any difficulty in performing these tasks compromises a person's ability to live an independent life, their health and wellbeing and their status as an autonomous individual (Staudinger et al., 1995). According to the World Health Organisation (2015b), functional disability in old age has its origins in a health condition that gives rise to problems with body function or structure causing loss or deviation, problems in the execution of tasks, and participation restrictions within contextual factors. In relation to self-rated health as an indicator of personal capability during the fourth age, this view of disability is useful in that it incorporates both objective and subjective aspects. For example, physical losses and functional disability may be coped with by shifting from a temporal comparison of the present health status with previous health, to a social comparison with people of the same age (Spuling et al., 2015). Ultimately, comparing oneself favourably to others affects personal capability and self-rated health in that it influences cognitive coping efforts to manage stress. In addition, conceptions of health might change over historical time. What was considered good health in old age some fifty years ago might not be relevant to those growing old in 2020.

How we choose to view ageing and define old age has major implications for our research practice. In addition to Laslett's third and fourth ages, which focus on distinctions between fit, healthy and productive late life and ill, frail, impaired and dependent late life (Higgs & Gilleard, 2015), concepts such as resilience and reserve capacity play an important role because they can provide insights into why some older adults, despite chronic illness and functional disability, rate their health as good. Resilience refers to the ability to bounce back from adversity and to regain levels of functioning after setbacks such as illness, trauma or loss (Staudinger et al., 1995). It also has to do with the ability to adapt to changes, to develop and to create a 'new normal'. It could be postulated that high levels of resilience in late life can be viewed as a conversion factor that enables the individual to use his or her full potential, thus improving personal capability as well as self-rated health.

5.3 What Is Health and How Can It Be Defined?

From a nursing perspective, health is more than just the absence of illness – it is an active process in which the person moves towards his or her maximum potential, and the experience of health and illness is influenced by the psychological and social fabric of the environment as well as biological factors (Leininger, 1988). Because health is individually defined by each person, and affected by numerous factors, a standard definition is difficult. According to the World Health Organisation, health includes not only physical and mental health, but also social wellbeing (World Health Organisation, 2020). Lay definitions of health are influenced by

historical and local contexts, whether respondents are referring to health in general or to their own health and personal experiences and observations (Milte et al., 2014).

Symptoms, or the subjective experience of illness, emerge when the habitual equilibrium of the person has been disturbed and interpreted as a bodily message (Malterud et al., 2015). How this ‘bodily message’ is perceived is based on the reality of the person, including physiological, psychological, social, cultural and behavioural components (Wallström & Ekman, 2018). The relationship between subjective experiences of health and illness on the one hand, and objective indicators of disease and functioning on the other, is extremely complex and multidimensional. In contrast to illness, disease can be defined as an organic phenomenon that is detected through signs of malfunction and/or abnormality, independent of subjective experience (Dodd et al., 2001). However, disease and illness are interdependent concepts that influence each other in the sense that medical knowledge and medical terminology affect the subjective experience of illness. In many ways, the epistemic and normative differences between disease and illness provide a perspective on human ailments that distinguishes nursing from other disciplines investigating similar research problems.

When it comes to health in late life, there is a gradual decrease in physical and mental capacity and a growing risk of health problems. However, these changes are neither linear nor consistent, and they are only loosely associated with a person’s chronological age in years. In 1987, Rowe and Kahn defined successful ageing as “low probability of disease and disease-related disability and risk factors, with high cognitive and physical functional capacity, and active engagement with life” (Rowe & Kahn, 1997). Their goal was to contribute a more nuanced perspective on health in old age at a time when most researchers were only emphasising the role of chronological age in determining an individual’s health, concentrating on average age-related losses across different age-groups, and neglecting the substantial variability between individuals and heterogeneity within age-groups (Lu et al., 2019). In addition, Rowe and Kahn distinguished between ‘usual’ and ‘successful’ ageing, where ‘usual’ referred to those declines in function and fitness normally associated with advancing age. Over the years, the concept of successful ageing has paved the way for other concepts, such as ‘optimal ageing’ and ‘healthy ageing’, which are more inclusive and focused on the optimisation of opportunities for health, participation, security and quality of life, rather than emphasising the selective survivorship of successful agers (Fuchs et al., 2013).

5.4 What Is Self-Rated Health and How Can It Be Measured?

Hardly any other measure of health is more widely used or more poorly understood than self-rated health (Jylhä, 2009). It is based on the all-inclusive, sensitive, yet non-specific question: ‘In general, how would you rate your health?’ with response

options ranging from ‘very good’ to ‘very poor’ on a four- or five-point scale. Alternative wording often use reference points to anchor the assessment, such as comparing the present health status with previous health (self-comparative) or same-aged peers (age-comparative). Regardless of the exact wording, the question delegates to the individual the task of synthesising, in a single evaluation, the many dimensions (physical, mental, functional and emotional) that make up the complex concept of health. This seemingly simple question has been one of the most frequently used health indicators in research since the 1960s (Maddox, 1962; Garrity et al., 1978). However, despite its extensive use, our understanding of the processes that direct a person to rate his or her health is still limited (Lisko et al., 2020), and the measure’s most important benefit, as well as its main drawback, is the limited control over what respondents consider when rating their health. In other words, what people integrate and summarise across the health domains, as well as the psychological filters that play a vital role in any self-rating, are themselves part of the assessment rather than factors that need to be controlled for (Jylhä, 2009, 2010).

Several studies have confirmed that self-rated health is influenced by many factors, deriving from various dimensions, mainly, but not exclusively, related to health (Golini & Egidi, 2016). Chronic illness, multimorbidity, functional impairment and psychological wellbeing, as well as demographic factors such as sex, educational attainment, social networks and social class have been pointed out as major determinants of self-rated health in older adults (DeSalvo et al. 2006; Nummela et al., 2011; Verroupoulou, 2009; Jylhä et al., 2006; Jylhä, 2009). There are also studies emphasising early life factors, personality traits and mood as potential determinants in self-assessments of health (Segerstrom, 2014; Kasai et al., 2013), as well as physical and cognitive functioning (Golini & Egidi, 2016). The number of factors potentially influencing the self-rated health of older adults seems endless and, in most cases, depends on the available dataset. For example, Mantzavinis and colleagues (2005) showed that, in 57 studies on self-rated health published in 2002, 133 different determinants were considered. In addition, the relationship between self-rated health and mortality is well established in the literature (Idler & Benyamini, 1997). Several explanations for this relationship have been suggested, including the ‘trajectory hypothesis’ (Wolinsky & Tierney, 1998), which posits that self-rated health reflects changes in health and life circumstances, past experiences and expectations. These changes might be especially relevant to those in the fourth age, a population with high rates of mortality and morbidity, who thus are likely to employ evaluative processes that differ from other age groups when reporting self-rated health. Several studies have shown that the link between symptoms of illness, diagnosed conditions and functional status on the one hand, and self-rated health on the other, weakens with age (Cheng et al., 2007; Schnittker, 2005), and that, given a comparable level of disease and functioning, older olds tend to rate their health more positively than younger olds (Ferraro, 1980). It has also been proposed that older olds are less likely to change their self-evaluation of their health in response to changing disease status than younger olds (Heller et al., 2009). As a primary explanation, most studies put forward mechanisms of successful adaptation to declining health, revised expectations or comparison mechanisms.

Undoubtedly, social comparison with others (Festinger, 1954) and temporal comparison with previous health states (Albert, 1977) play an important role in the self-rating process, and comparison theories can guide studies investigating the effects of reference points on self-rated health in later life. Comparison theories propose that individuals use reference points to evaluate current personal attributes such as self-rated health. For example, according to the theory of enhanced social downgrading (i.e. comparing oneself favourably to others), older adults have been found to compare themselves favourably against negative stereotypical attributes by creating a positive distance between themselves and the comparison group (Heckhausen & Brim, 1997). There are also studies in which older adults have been asked to temporally compare their current health status with past health status, which in many cases have highlighted functional loss and impairment and therefore yielded more negative health evaluations (Heller et al., 2009).

The complex cognitive process of individual health evaluation is infused with the demographic and socio-economic characteristics of the individual, and the evaluation consists of three phases (Jylhä, 2009). In the first phase, the individual identifies the components and relevant information that need to be taken into consideration in the self-evaluation; for example, symptoms of illness, medical treatments, problems in body function or structure causing a loss or deviation, problems in the execution of tasks or maintaining control over the environment. In the second phase, the individual has to decide how these components are ordered in terms of priority, based on social and temporal comparisons as well as their interrelationships. In the third step, the person has to choose which response alternative on the four- or five-point scale corresponds best. Studies show that the health aspects that older people take into account during the first phase of the evaluation process differ to some extent from those that younger people consider when rating their health (Peersman et al., 2012). In addition, older people may downgrade their aspirations and expectations about their health, which can be regarded as highly desirable adaptive responses to health decline (Tornstam, 1975).

In addition to the cognitive processes and theories of social and temporal comparison, conceptions of health might change over historical time, and the societal value ascribed to certain aspects of life also influence how we rate our health. Different birth cohorts grow old in different societal contexts, which might be associated with varying interpretations and understandings of health. If, for example, the societal value of autonomy and independence in old age had increased during the previous century, then it would follow that functional disability may have gained importance as a marker of poor self-rated health in later-born birth cohorts compared to earlier-born cohorts. As such, the associative strength between predictors and self-rated health might depend not only on age but also on birth cohort. According to Spuling et al. (2015), predictors of self-rated health can be either invariant (i.e. having a constant influence on self-rated health across age-groups and cohorts), age contextual (i.e. having a changing influence with advancing age), or cohort contextual (i.e. having a changing influence across different birth cohorts). The complexity surrounding self-rated health as a measure can be overwhelming,

and the potentially changing reference points and different predictors across cohorts (i.e. historical time) make it challenging to study empirically. However, these challenges are also what makes self-rated health so fascinating and potentially useful as an indicator of more latent variables, such as personal capability.

5.5 Good Self-Rated Health as an Indicator of Personal Capability

The capability approach is a broad normative framework for the evaluation of individual wellbeing and social arrangements, the design of policies and plans about social change in society (Robeyns, 2005). At the individual level, this approach can be used to evaluate a wide range of aspects of health and functioning. The core characteristic of the capability approach is its focus on what people are effectively able to do and to be – their capabilities. Although a person's capabilities are dependent on a wide variety of factors, at the individual level it is the experience of symptoms, chronic illnesses and functional disability that are paramount for people's ability to function and to engage in the actions and activities they want to undertake. In addition to factors or resources at the individual micro-level, a person's capability is also conditioned by factors at several societal levels. The macro-level refers, among other things, to laws that regulate social security and healthcare systems, and affect the social imaginary of the third and fourth ages, as well as ageist attitudes and prejudice that diminish older adults. The meso-level refers, for example, to the arrangements in which everyday life is embedded. In relation to self-rated health, lack of social capital (i.e. the actual and potential social resources available to individuals, groups or communities) has been associated with poor self-rated health and adverse health outcomes in several studies (DeSalvo et al., 2006; Kawachi et al., 2008). For example, lack of social integration (i.e. actual or perceived connectedness with others within social groups, communities and networks) have been shown to be a risk factor for poor self-rated health (Engström et al., 2008), and bridging social capital have been shown to be closely related to both psychological wellbeing and quality of life (Courtin & Knapp, 2017).

According to the capability approach, conversion factors refer to a person's ability to actually convert available resources into the goals that he or she has reason to value. At the personal level, an important conversion factor is resilience. This means having the ability to adapt to changes, to develop, to bounce back from adversity and to regain levels of functioning after setbacks such as illness, trauma or loss (Staudinger et al., 1995). In relation to good self-rated health as an indicator of personal capability, an individual showing high levels of resilience is better equipped to master the gains and losses of late life compared to an individual without resilience, given the same conditions and available resources.

5.6 Epidemiological Studies of Self-Rated Health as an Indicator of Personal Capability in the Fourth Age

The Gothenburg H70 Birth Cohort Studies (H70 studies) are multidisciplinary epidemiological studies examining representative birth cohorts of older populations in Gothenburg, Sweden. The first study started in 1971. So far, six birth cohorts with baseline examination at age 70 have been followed longitudinally, and more than 700 scientific papers have been published based on these data since 1971. Examinations have been virtually identical between studies in order to enhance the possibilities of comparisons between birth cohorts and examination years. This generates an opportunity to study time trends in age-related risk and protective factors, subjective experiences such as self-rated health, preclinical markers and the prevalence and incidence of disease. In addition, new and modern types of assessment have been added over the years in order to keep the H70 studies innovative and up-to-date with modern techniques. The overarching aim of the H70 studies is to examine the impact of mental, somatic and social health on the functional ability and wellbeing of individuals aged 70 years and older, taking into account their complex interactions with age, sex, gender, socioeconomic gradients, environmental exposures, psychosocial, neurobiological and genetic factors. The self-rated health question has been included since the first examination in 1971, using either a neutral or global reference (i.e., how would you rate your health in general?), or stipulating a reference point to anchor the assessment, such as comparing current health with previous health (self-comparative) or same-aged peers (age-comparative). These reference points can have a significant effect on the health assessment process and should not be used interchangeably. So far, we have identified self-rated health questions with identical wording and response options in five birth cohorts examined at 70, 74, 79, 85, 88, 90 and 95 years of age, which enables us to combine cross-sectional and longitudinal data that allows comparison of age-group differences in cross-section with individual changes over time in the longitudinal section. The H70 study provides important insights into how predictors of self-rated health can either show a constant influence across age-groups and birth cohorts (i.e. invariant predictors), show a changing influence across different birth cohorts (i.e. cohort-contextual predictors), or show a changing influence with advancing age (age-contextual predictors). Our research programme investigating self-rated health has two main themes, one focusing on the structure of self-rated health and the other on the reweighting process, the shifting meanings of self-evaluation of health and changing reference points. In the first theme, we are identifying the direct and indirect influences of various factors that have been shown to predict self-rated health in previous studies. For example demographic factors (sex, education, social class etc.), health-related factors (i.e. number of chronic conditions, functional disability, physical activity etc.), factors related to psychological wellbeing (i.e. life satisfaction, depressive symptoms, positive affect etc.), and factors related to social capital and social integration.

Previous studies have demonstrated, for example, that individuals show stability in their self-evaluations and often maintain good self-rated health into old age despite a worsening in physical health status, suggesting that health-related factors become less important self-rated health predictors with advancing age, and that factors related to psychological wellbeing, for example positive affect or depressive symptoms, become more important (Benyamini et al., 2000). In addition, due to historically changing conceptions of health, factors related to psychological wellbeing could also be subject to cohort effects. We therefore hypothesise that health-related factors will show a decreasing association with self-rated health with advancing age (i.e. age-contextual predictors of decreasing strength), that factors related to psychological wellbeing will show an increasing association with self-rated health with advancing age (i.e. age-contextual predictors of increasing strength), and that factors related to psychological wellbeing are not only age-contextual predictors but additionally are subject to cohort effects (i.e. cohort-contextual predictors of increasing strength).

In order to examine the reweighting process, the shifting meanings of the self-evaluation of health and changing reference points, we compare whether questions using either a neutral or global reference (i.e., how would you rate your health in general?), or stipulating a reference point to anchor the assessment, such as comparing current health with previous health (self-comparative) or same-aged peers (age-comparative) are equivalent measures of health perception in older adults. We also explore how subjective age (i.e. if individuals experience themselves as younger as or older than their actual age) affects self-rated health and how this association can be mediated by life satisfaction and psychological wellbeing.

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