

Views of older people in the Netherlands on wellbeing: A Q-methodology study

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ABSTRACT

Population ageing and restricted budgets result in the need for an efficient allocation of scarce resources in care services for older people. As these services tend to address more than only health, diverse wellbeing measures have been developed to assess their benefits in economic evaluations. These measures are grounded in research on wellbeing of older people and its determinants. Little is known about possible heterogeneity in this context and the extent to which wellbeing measures cover the aspects of wellbeing that are most important to older people with different views on wellbeing. We conducted a Q-methodology study between December 2016 and October 2017 to investigate the variety in views among people aged 65 and older in the Netherlands on what is important to their wellbeing. A purposive sample of 53 respondents ranked 34 opinion statements according to importance to their wellbeing and explained their ranking during a follow-up interview. Data were analysed using by-person factor analysis to identify common patterns in the rankings of the statements. Five distinct views were extracted in which different aspects were considered important: (I) health, financial security and a life partner; (II) family, support and physical functioning (III); autonomy, mental health and helping others; (IV) social contacts, support, mental health and religion; and (V) a life partner, social contacts, living environment and adaptation. This heterogeneity in views of older people on what constitutes wellbeing supports the use of person-centered approaches in care services for older people. Arguably, (evaluations of) policies and services for older people should take this plurality into consideration.

1. Introduction

The ageing of the world population has led to an increasing need for health and social care services. In particular, long-term care expenditures are expected to at least double by 2060 (OECD, 2017). Considering that public resources are finite, priority setting regarding which care services to fund is inevitable. Increasingly, economic evaluations are used to inform such decisions by comparing the benefits of care services to their costs. In this context, benefits are typically assessed in terms of Quality-Adjusted Life Years (QALYs), which comprise both length and health-related quality of life (HrQoL). HrQoL is usually measured and valued using a generic instrument, such as the Euroqol five-dimensional questionnaire (EQ-5D). By considering costs and benefits of care services, those services can be funded that provide the most health-related quality of life in the population from the available budget (Drummond et al., 2015; Makai et al., 2014).

However, using this approach may lead to a suboptimal allocation

of scarce resources in the context of care services for older people. These services commonly aim to improve the wellbeing of older people more broadly than only via their health-related quality of life. These broader benefits should therefore also be considered when such services are evaluated (Bulamu et al., 2015; Drummond et al., 2009; Harwood, 2008; Makai et al., 2014). To illustrate this, take providing care through day-care centres as an example: this care allows older people to live independently and in the neighbourhood of their social circle for a longer period of time. Even though these benefits may not be part of the calculation of QALYs, they do represent value to the target population (Gabriel and Bowling, 2004; Wilhelmson et al., 2005). Such benefits could be captured by using broader measures of outcome than HrQoL.

In recent years, several wellbeing measures have been developed for this purpose (for an overview, see Bulamu et al., 2015; Makai et al., 2014). Important examples include the Adult Social Care Outcomes Toolkit (ASCOT) (Netten et al., 2012) and the ICEpop CAPability measure for Older people (ICECAP-O) (Coast et al., 2008; Grewal et al.,

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Table 1
Theoretical structure for the development of the opinion statements.

Domain	Content	Population heterogeneity	Statements (in Dutch available upon request) ^a
Health - Physical - Mental	<i>Health/functioning</i> [2,3,5,8–11]. <i>No morbidity/ impairments</i> [2,10]. <i>Able to do activities</i> [3,8]. <i>Be fit/ energetic</i> [9]. <i>No pain</i> [7–9]. <i>Dignity</i> [2,4]. <i>Good death/ dying</i> [7]. <i>Lifestyle</i> [11]. - <i>Physical health/functioning</i> [1,2,5,6]. <i>Freedom/ mobility</i> [2,8–11]. <i>Sensory abilities</i> [7–9]. <i>Appearance</i> [4,6]. - <i>Mental/psychological/cognitive health/functioning</i> [1,2,5,10,11]. <i>Active mind</i> [10]. <i>Able to remember</i> [9]. <i>No depression</i> [9].	<ul style="list-style-type: none"> - <i>Health/functioning</i>: (-/+) eldest [8,9,11], (+) women [9], (-) high educated women [9], (+) assisted-living [11], (+) ill women [9] - <i>No pain</i>: (+) ill [9] - <i>Physical health</i>: (+) men [9], (+) high educated men [9], (+) healthy [9], (-) ill men [9] - <i>Appearance</i>: (+) ill women (i.e. hygiene) [9] - <i>Mental health</i>: (+) eldest [11], (+) high educated women [9] 	<ol style="list-style-type: none"> 1 Being physically able to perform my daily activities 2 Having no physical illness or disability 3 Having no physical pain 4 Having the prospect of many life years ahead 5 Living a dignified and healthy life 6 Being mentally active 7 Having no problems with my ability to think 8 Being able to communicate well with others 9 Not feeling anxious or depressed 10 Not being worried about my future 11 Being able to look back on how my life went with satisfaction 12 Accepting my circumstances as they are 13 Being able to adjust to new circumstances 14 My religion or view of life 15 Having a life partner 16 Having a good relationship with my close family 17 Having contact with people I care about 18- Receiving support from family, friends or neighbours when I need it 19 Feeling valued by helping others
Emotional wellbeing	<i>Life satisfaction</i> [5,6,10]. <i>Happiness</i> [2,6,8,11]. <i>Feeling good</i> [9]. <i>Peace of mind/be content</i> [2,6,9,11]. <i>Enjoy life</i> [9,10]. <i>Be positive</i> [5,7,8,10,11]. <i>No worries/security (present/future)</i> [1–4]. <i>No stress</i> [6]. <i>Self-acceptance</i> [6]. <i>Coping</i> [3]. <i>Religion/view of life</i> [1–3,5,6,9,11]. <i>Self-realisation</i> [1]. <i>Personality (goals/values)</i> [1,6,9,11].	<ul style="list-style-type: none"> - <i>Life satisfaction/happiness/enjoy life</i>: (+) healthy [10] 	<ol style="list-style-type: none"> 20 Not being dependent on others for daily activities 21 Being able to go wherever I want to go 22 Having the freedom to make my own choices 23 Being able to spend my time as I want 24 Doing the things I consider important in life 25 Learning new skills 26 Meeting new people 27 Having the feeling that I matter 28 Staying involved in the issues at play in my community
Social contacts	<i>Social functioning/life</i> [1,11]. <i>Social relations</i> (e.g. partner, children, (great-)grandchildren, family, friends, colleagues, neighbours, acquaintances, communities/social clubs, pets) [2,3,5,6,8–11]. <i>Social participation</i> [2–5,7]. <i>Connectedness</i> [2,3,5,7]. <i>No loneliness</i> [8,10,11]. <i>Receiving support</i> [3,5,11]. <i>Helping others</i> [3,9]. <i>Health loved ones (no deaths)</i> [8,11].	<ul style="list-style-type: none"> - <i>Social relations</i>: (-) eldest [9], (+) women [9,10], (+) high educated women [9], (+) assisted-living [11], (-/+) ill [9,10] - <i>Partner</i>: (-) eldest [11], (-) women [11], (-) assisted-living [11] - <i>Diverse relations</i>: (-) eldest (i.e. friends, social clubs) [11], (-) assisted-living (i.e. social clubs, colleagues, pets, communities) [11], (+) assisted-living (i.e. neighbours) [11] - <i>Social participation</i>: (-) men [10], (+) high occupation [10], (+) healthy [10], (+) mobility [10] - <i>Helping others</i>: (+) men [11], (+) community-dwelling [11] - <i>Health loved ones</i>: (+) women [11] - <i>Independence</i>: (-) mobility [10] 	<ol style="list-style-type: none"> 29 Having no financial concerns 30 Independent living 31 Living in an area in which I feel comfortable 32 Living in an area with sufficient facilities 33 Living in a stable environment with minor risk of social unrest 34 Living in a country in which my interests are heard and represented
Autonomy	<i>Autonomy</i> [1,7]. <i>Independence</i> [1–3,5,9–11]. <i>In daily activities</i> [2]. <i>Freedom</i> [1,5,7]. <i>To make decisions</i> [7]. <i>Be in control</i> [1–5,7]. <i>To do what you want to do</i> [7,9]. <i>The way you use your time</i> [7].	<ul style="list-style-type: none"> - <i>Activities</i>: (+) youngest [10,11], (+) community-living [11] - <i>High-intensity activities</i>: (-) eldest [11], (-) assisted-living [11], (-) ill women (i.e. household work) [9] - <i>Occupation</i>: (+) youngest [11], (+) men [11], (+) community-dwelling [11] - <i>Finances</i>: (+) married [10], (+) high occupation [10], (+) home owners [10] 	<ol style="list-style-type: none"> 29 Having no financial concerns 30 Independent living 31 Living in an area in which I feel comfortable 32 Living in an area with sufficient facilities 33 Living in a stable environment with minor risk of social unrest 34 Living in a country in which my interests are heard and represented
Activities	<i>Activities</i> [3,5,7–9,11]. <i>Activity level</i> [1,7]. <i>Purpose in life/achievement/self-worth</i> [1,3,7,9]. <i>Occupation (work/volunteering)</i> [1,3,4,6,10,11]. <i>Personal development (learning new things)</i> [11]. <i>Participate in communities</i> [7,10]. <i>Pleasure/leisure activities</i> [1–3,5,6,8–11].	<ul style="list-style-type: none"> - <i>Activities</i>: (+) youngest [10,11], (+) community-living [11] - <i>High-intensity activities</i>: (-) eldest [11], (-) assisted-living [11], (-) ill women (i.e. household work) [9] - <i>Occupation</i>: (+) youngest [11], (+) men [11], (+) community-dwelling [11] - <i>Finances</i>: (+) married [10], (+) high occupation [10], (+) home owners [10] 	<ol style="list-style-type: none"> 29 Having no financial concerns 30 Independent living 31 Living in an area in which I feel comfortable 32 Living in an area with sufficient facilities 33 Living in a stable environment with minor risk of social unrest 34 Living in a country in which my interests are heard and represented
Finances	<i>Adequate finances</i> [1,3,5,8–11]. <i>Pay bills</i> [5,10]. <i>Standard of living</i> [1,6]. <i>Wealth</i> [2,3]. <i>For security</i> [3]. <i>control/independence</i> [3,9], <i>enjoyment</i> [3]. <i>No worries</i> [9].	<ul style="list-style-type: none"> - <i>Neighbourhood</i>: (-) men [10], (+) mobility [10] - <i>Home</i>: (+) eldest [11], (+) assisted-living [11] - <i>Keep own home</i>: (+) eldest [9], (-) high educated men [9] - <i>Safety</i>: (-) eldest [11], (+) women [11] - <i>Amenities</i>: (+) eldest [11], (-) assisted-living [11] - <i>Outside</i>: (-) eldest [11], (+) women [11] 	<ol style="list-style-type: none"> 29 Having no financial concerns 30 Independent living 31 Living in an area in which I feel comfortable 32 Living in an area with sufficient facilities 33 Living in a stable environment with minor risk of social unrest 34 Living in a country in which my interests are heard and represented
Environment	<i>Environment</i> [1,5,10,11]. <i>Surroundings</i> [3]. <i>Societal criticism</i> [11]. <i>Political situation</i> [11]. <i>Community</i> [1,2,10]. <i>Neighbourhood</i> [1,5,10]. <i>Resources/facilities</i> [5,10,11]. <i>Accessibility</i> [2]. <i>Comfort</i> [4,9,11]. <i>Security/safety</i> [1,3,4,11]. <i>Home</i> [2–5,8,9,11]. <i>Keep own home</i> [9]. <i>Keep own things</i> [11].	<ul style="list-style-type: none"> - <i>Neighbourhood</i>: (-) men [10], (+) mobility [10] - <i>Home</i>: (+) eldest [11], (+) assisted-living [11] - <i>Keep own home</i>: (+) eldest [9], (-) high educated men [9] - <i>Safety</i>: (-) eldest [11], (+) women [11] - <i>Amenities</i>: (+) eldest [11], (-) assisted-living [11] - <i>Outside</i>: (-) eldest [11], (+) women [11] 	<ol style="list-style-type: none"> 29 Having no financial concerns 30 Independent living 31 Living in an area in which I feel comfortable 32 Living in an area with sufficient facilities 33 Living in a stable environment with minor risk of social unrest 34 Living in a country in which my interests are heard and represented

Note: [1] Makai et al., (2014), [2] Bulamu et al., (2015), [3] Grewal et al., (2006), [4] Netten et al. (2012), [5] Bowling et al., (2013), [6] Ferrans and Powers (1985), [7] Power et al., (2005), [8] Farquhar (1995), [9] Wilhelmson et al., (2005), [10] Bowling (2006), [11] Douma et al., (2017). Jopp et al. (2015) was not included, as their study sample to identify the most important aspects to ageing also consisted of young adults. We do acknowledge that views on wellbeing may differ to respondents' cultural background.

^a Initial long-list of opinion statements based on the ICECAP-O (Coast et al., 2008; Grewal et al., 2006), ASCOT (Netten et al., 2012), Older People's Quality of Life questionnaire (OPQOL-35-13) (Bowling et al., 2013; Bowling and Stenner, 2011), Control Autonomy Self-realisation and Pleasure (CASP-19) (Hyde et al., 2003), Ferrans and Powers Quality of Life instrument (Ferrans and Powers QLI) (Ferrans and Powers, 1985), World Health Organisation Quality of Life instrument (WHOQoL-Old, -Bref) (Power et al., 2005; The WHOQOL Group, 1998).

2006). The ASCOT aims to capture outcomes in social care settings, including eight domains: personal safety, control over daily life, occupation, social participation and involvement, personal cleanliness and comfort, food and drink, accommodation cleanliness and comfort, and dignity. The ICECAP-O was designed as a more generic measure of wellbeing, covering the broad domains: attachment (love and friendship), security (thinking about the future without concern), role (doing things that make you feel valued), enjoyment (enjoyment and pleasure) and control (independence). Several studies have shown that these measures appear to be valid and have sufficient power to differentiate between relevant subgroups of older people (Hackert et al., 2017, 2019; Van Leeuwen et al., 2015), suggesting they could be useful to assess the broader wellbeing benefits of policies and services for older people.

However, some studies have also indicated that the ASCOT and ICECAP-O may not cover all potential benefits of care services for older people. Prior to the development of wellbeing measures, explorations of aspects of life relevant to older people's wellbeing have been carried out which show some common denominators: physical health, mental health, emotional wellbeing, social contacts, autonomy, activities, finances and environment (Bowling et al., 2013; Bulamu et al., 2015; Ferrans and Powers, 1985; Grewal et al., 2006; Makai et al., 2014; Netten et al., 2012; Power et al., 2005). In this context it is important to note that measures like the ASCOT and ICECAP-O do not ask older people directly about their health (Grewal et al., 2006; Netten et al., 2012), while at the same time they also do not seem to fully cover physical health through the items they do include (Davis et al., 2013; Hackert et al., 2017, 2019; Van Leeuwen et al., 2015). Furthermore, the developers of the ICECAP-O acknowledge the influence of finances and environment on the wellbeing of older people, but the instrument measures their impact indirectly as well (Grewal et al., 2006). Consequently, the current guideline in the Netherlands is to use a HrQoL measure like the EQ-5D alongside the ASCOT or ICECAP-O in economic evaluations of care services for older people (Makai et al., 2014; Versteegh et al., 2016a). Obviously, using two partially overlapping measures side-by-side instead of a single all-encompassing measure of outcome makes decision-making more complex (Hackert et al., 2017).

Another important point to consider is that the views of older people on what constitutes wellbeing are likely to be heterogeneous and adjusted to personal and contextual circumstances. Only a few studies considered this heterogeneity directly (Bowling, 2006; Douma et al., 2017; Farquhar, 1995; Jopp et al., 2015; Wilhelmson et al., 2005), as previous studies mostly focused on 'averages' and overall rankings of aspects of wellbeing.

Therefore, this study aims to contribute to the identification of aspects of life that should be covered by a comprehensive measure of wellbeing of older people, taking into consideration the variety in views in this group about what is important for wellbeing. This study uses Q-methodology to describe the views regarding what constitutes wellbeing among people aged 65 and older in the Netherlands. Its results may be relevant for the (further) development of comprehensive wellbeing measures for use in economic evaluations.

2. Materials and methods

Q-methodology combines qualitative and quantitative approaches for the systematic study of subjective phenomena, i.e. opinions, values

or beliefs (McKeown and Thomas, 2013; Watts and Stenner, 2012). Generally, a purposively selected group of respondents is asked to rank a set of opinion statements, according to importance or agreement, and to explain their ranking in an interview. By-person factor analysis is used to identify distinct patterns in the rankings of the statements, the quantitative data, which are then interpreted and described as shared views on the topic of study. These interpretations are validated and can be illustrated using the qualitative data obtained from respondents. Over the past ten years, Q-methodology has increasingly been applied in health and social sciences on a variety of topics, for example on views on priority-setting in healthcare (e.g. Van Exel et al., 2015; McHugh et al., 2015).

2.1. Development of the statement set

To be able to explore what older people consider important to their wellbeing, the set of opinion statements presented to them in the card sorting exercise needed to represent all potentially relevant aspects. To ensure this, a review of the literature was conducted taking two recent, related reviews on wellbeing measures in care for older people as a starting point (Bulamu et al., 2015; Makai et al., 2014). They provided an overview of the aspects that were most important to older people. In addition, from their reference lists, articles were retrieved that described aspects important to older people's wellbeing as used in the development of the wellbeing measures that were indicated to be most promising in these reviews (for an overview, see Table 1). Articles examining possible heterogeneity in the importance of wellbeing aspects were also added (Bowling, 2006; Douma et al., 2017; Farquhar, 1995; Jopp et al., 2015; Wilhelmson et al., 2005). An overview was compiled and categorised by one researcher and then reviewed by two other researchers. The list resulting from this iterative process (see Table 1) was adopted as the theoretical structure for the development of a representative set of opinion statements. One researcher compiled a long-list of 150 opinion statements, categorised according to the theoretical structure, after which three researchers extensively discussed and refined this list into a comprehensive and manageable set of 34 statements (see the right column of Table 1). Each domain included as many statements as needed to cover the variety of aspects considered relevant within that domain. The statements were numbered and printed on equally sized and styled cards. A forced-choice sorting grid was defined, consisting of a quasi-normal and symmetrical distribution ranging from 1, the least important aspects, to 9, the most important aspects to older people's wellbeing (see Fig. 1).

Twenty individual pilot interviews were conducted with people aged 65 years and older to ensure that the statements covered all relevant aspects contributing to wellbeing in old age and the research materials were clear and practical. Respondents first performed the ranking exercise, after which they were asked to reflect on the representativeness of the statement set and the feasibility of the sorting procedure. Based on these individual interviews no changes in content or wording of statements and instructions were needed.

2.2. Sampling strategy

A total of 53 interviews were conducted by one researcher in the Netherlands between December 2016 and October 2017. Through

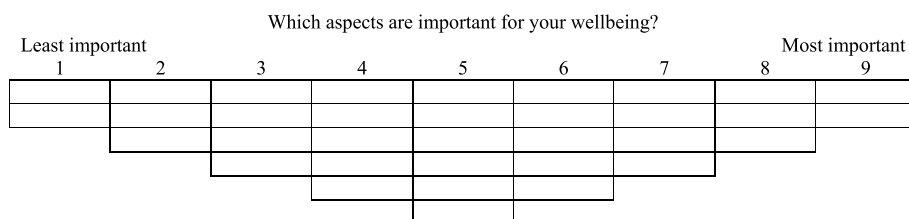


Fig. 1. The sorting grid.

purposive sampling, we aimed to recruit respondents that jointly would present the variety of views on wellbeing prevalent among older people. Recruitment was based on a set of socio-demographic characteristics that were shown to be related to wellbeing within this population (see Table 1). A sampling agency recruited 33 respondents, all living independently, in two waves. First, twenty respondents were selected based on their age and gender for inclusion in the pilot tests. They could be retained for the main study as no changes were needed in the study materials. Secondly, thirteen additional respondents were recruited based on their education level and cultural background (e.g. Surinamese and Antillean). As some relevant groups of older people (e.g. living in a nursing home, with a Turkish or Moroccan background) were underrepresented in the panel of the sampling agency, additional respondents were recruited by contacting nursing homes, day-care facilities and interest groups for the target population. In each of three nursing homes located in three different regions (Swalmen, Zeist and Zwolle) four respondents were included. To complete the study sample, eight respondents were recruited through two day-care centres in Amsterdam and through snowballing. Interviews took place at the Erasmus University in Rotterdam, at the day-care centres or at older people's own homes. A small financial incentive (i.e., a gift voucher of €20) was used to recruit respondents from underrepresented groups.

2.3. Data collection

A similar data collection process was used in the pilot study and the main study. Specifically, data were collected in an individual interview setting. Respondents were each provided with an introduction letter, an informed consent form, the statement set on cards and the sorting grid. Before the interview started, respondents were informed about the objective of the study, the process of the ranking exercise and the intended use of the data. They were able to stop the interview at any time. After respondents signed the informed consent form, they first were asked to read the 34 statements considering wellbeing in order to acquaint themselves with the complete set of wellbeing aspects (see Table 1). Next, to facilitate the ranking of all the statements in accordance to their relative importance, they divided the statements into three piles: important, neutral/do not know and not important to their wellbeing. Then, they read the statements in the important pile again, and ranked them from most to least important on the sorting grid (see Fig. 1), generally working from the right side to the middle. After finishing, they repeated this step for the statements in the not important pile, placing them from the left side of the sorting grid to the middle. Lastly, they placed the statements from the neutral/do not know pile in the remaining open spots in the middle of the sorting grid. Respondents then were asked to check their ranking of the statements and make adjustments until they felt satisfied that it reflected their view on what

is important for wellbeing. Next, respondents were asked to elaborate on their ranking, always including those placed in the two extreme columns of the sorting grid. If time allowed, the interviewer asked respondents to further explain the placement of other statements, for example when statements belonging to the same domain (see Table 1) were ranked remarkably differently. Permission was granted by all but one respondent to audio record this part of the interview. Finally, respondents provided information on their health and background characteristics through a questionnaire. All respondents finished the ranking exercise. However, due to lack of time, two of the 53 follow-up interviews were not completed. In addition, due to language restrictions, the interviews with the Turkish and Moroccan respondents were less elaborate and specific. While these interviews were still useful for helping with interpretation of the data, they proved less useful for extracting quotes.

2.4. Ethics

The study protocol was approved by the Medical Ethics Committee Erasmus MC of Rotterdam, the Netherlands, MEC-2016-667.

2.5. Analytic strategy

To identify patterns in the rankings of the statement set, by-person factor analysis was conducted using the package *qmethod* (Zabala and Held, 2018) in R (R Foundation for Statistical Computing, Vienna, Austria). The range of the sorting grid from 1 to 9 was rescaled from -4 to $+4$. The data were placed in a matrix with rows and columns containing statements and respondents, respectively, with cell values representing respondents' score on the sorting grid for each statement. A correlation matrix between respondents' sorts was built, after which Principal Component Analysis (PCA) was applied to reduce this matrix into factors, ordering them by the total variability that they explain. Oblimin rotation was administered to obtain a clearer and simpler structure of the data. Oblimin rotation permits statistically correlated factors to emerge, which seemed appropriate in the current study as, for example, we anticipated that health could be important in more than one view. The following criteria were used for selection of the number of factors: (i) Scree test, (ii) Kaiser-Guttman criterion (eigenvalues > 1), (iii) at least two respondents that load significantly at $p < 0.05$ on one factor only (i.e. factor loadings are not confounded, as these best exemplify the viewpoint represented by the factor and hence are called 'exemplars' for that factor) (for details, see Table 3) and (iv) the most interpretable and coherent reduction of the data (Watts and Stenner, 2012; Zabala, 2014). Using a mixed methods approach, the factors were interpreted and described as views on wellbeing. This approach first entailed considering the characterising and distinguishing statements.

Table 2

Descriptive statistics of the study sample (N = 53).

		N	%	Mean	SD	Min.	Max.
Age				74.68	9.49	65.00	98.00
Sex	Male	24	45.28				
	Female	29	54.72				
Education level	None, primary school (ULO/MULO), secondary school (VMBO)	18	33.96				
	Secondary school (HAVO/VWO), community college (MBO)	18	33.96				
	Higher education (HBO/WO)	17	32.08				
Housing	Independent living	40	75.47				
	Nursing home (incl. sheltered housing)	13	24.53				
Cultural background	Predominantly Dutch	38	71.70				
	Turkish	4	7.55				
	Moroccan	3	5.66				
	Surinamese	4	7.55				
	Antillean	4	7.55				
EQ-5D-5L ^a				0.76	0.24	0.01	1.00

^a Versteegh et al. (2016b).

Table 3
Factor loadings (N = 53).

ID	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	-0.54*	0.20	0.19	0.41	0.20
2	-0.20	-0.10	0.24	-0.32	0.43
3	0.51*	0.25	0.10	-0.19	0.10
4	0.24	-0.21	0.29	-0.20	0.33
5	-0.13	0.26	0.59*	0.33	0.06
6	0.14	0.14	0.55*	-0.14	0.08
7	-0.09	-0.01	0.82*	0.00	0.01
8	0.35	0.27	0.31	0.38	0.04
9	0.08	0.69*	0.17	-0.47	-0.17
10	0.50	0.06	0.51	-0.11	-0.16
11	0.30	0.16	0.25	-0.37	0.35
12	-0.01	0.54*	0.31	0.13	-0.07
13	0.03	0.68*	0.25	0.07	0.03
14	0.44	0.40	0.04	-0.15	0.42
15	0.59*	0.38	0.02	-0.11	0.11
16	0.56*	0.40	0.06	-0.29	0.25
17	0.07	-0.02	0.36	-0.10	0.59*
18	0.59*	0.04	0.39	0.12	0.14
19	0.03	0.34	0.63*	0.07	-0.02
20	0.36	0.25	0.24	0.05	0.20
21	0.25	0.50*	0.18	0.17	-0.10
22	0.35	-0.06	0.07	-0.16	-0.54*
23	0.04	-0.09	0.59*	0.11	0.33
24	0.80*	-0.23	-0.21	-0.01	-0.03
25	-0.04	-0.27	0.47*	0.34	0.14
26	0.67*	0.22	-0.20	-0.08	0.12
27	0.56*	0.27	0.13	-0.01	0.11
28	0.16	-0.06	0.46	-0.43	0.36
29	0.48	0.50	0.12	-0.01	0.08
30	-0.10	0.66*	-0.18	0.15	0.07
31	0.70*	-0.05	0.23	-0.07	-0.07
32	0.10	0.07	0.52*	-0.25	0.08
33	0.27	-0.19	-0.13	0.43	0.29
34	-0.27	0.76*	-0.26	0.04	0.18
35	0.35	0.28	-0.27	0.24	0.48
36	-0.01	0.68*	-0.05	0.24	-0.02
37	0.37*	-0.16	0.08	0.26	0.12
38	-0.40	0.07	0.22	0.48*	0.03
39	-0.17	-0.09	0.11	0.70*	0.26
40	0.01	0.08	-0.05	0.75*	0.16
41	0.37	-0.05	-0.44*	0.10	0.21
42	0.67*	0.00	0.21	0.14	-0.12
43	0.86*	-0.07	-0.03	0.16	-0.15
44	0.67*	-0.05	0.02	0.42	0.25
45	0.49	0.24	0.23	-0.02	0.38
46	0.15	-0.05	0.14	0.31	0.69*
47	0.09	0.03	0.19	0.24	0.60*
48	-0.06	0.26	-0.14	-0.14	-0.31
49	0.55*	0.04	0.36	-0.33	0.07
50	0.05	0.62*	0.34	0.17	-0.26
51	0.25	-0.01	0.38	0.13	-0.67*
52	0.40	0.14	-0.09	0.45	-0.43
53	0.19	0.20	0.05	0.82*	-0.18

Note: * Denotes defining Q-sort (or exemplar) for factor, which holds that Q-sort loads statistically significantly on factor ($p < 0.05$; formula to calculate significance threshold $(-1)1.96 * (\frac{1}{\sqrt{34}})$ i.e. loading < -0.336 or > 0.336); and is not confounded between factors (i.e. square loading is larger than sum of the squares of the loadings of the Q sort on the other four factors). For example, respondent 1 is an exemplar for factor 1 because the factor loading (-0.54) exceeds the threshold value of -0.336 (and therefore meets criterion 1) and the square loading $(0.54)^2 = 0.292$ is larger than the sum of the squares of the loadings on the other factors: $(0.20)^2 + (0.19)^2 + (0.41)^2 + (0.20)^2 = 0.288$ (and therefore meets criterion 2).

Characterising statements are those with a score of -4, -3, +3 and +4 in the factor, whereas distinguishing statements are those with a statistically significantly different score as compared to the other factors. Second, verbal explanations of respondents loading on that factor from the follow-up interviews were used to check and refine the interpretation of each factor.

3. Results

3.1. Study sample

The descriptive statistics of the study sample are presented in Table 2. The age of respondents ranged between 65 and 98 years, but most respondents were aged between 65 and 79 years old (77%). Gender and educational levels were fairly equally represented in the sample, as intended. 25% was living in a nursing home, and 28% was recruited on their non-western background.

3.2. Views on wellbeing

Analysis of the 53 rankings of the statement set indicated that the data supported five factors, i.e. five distinct views on what constitutes wellbeing for older people. Table 3 presents the factor loadings: fourteen respondents were associated with factor 1, eight with factor 2, eight with factor 3, four with factor 4 and five with factor 5. Next to these thirty-nine exemplars, twelve respondents were mixed loaders (i.e. confounded) and two respondents were null loaders (i.e. no significant loadings). Table 4 shows the composite sorts of the statements for the five factors. In total, the factors explained 52 per cent of the variance in respondents' rankings. Correlations between the factors were low to moderate and ranged between 0.10 and 0.46.

Next to the positively loading exemplars, factors 1, 3 and 5 also had negatively loading exemplars (see Table 3). Factors 1 and 3 each had only one negatively loading exemplar, which, as single loaders, were both insufficient to determine a separate factor. Factor 5 had two negatively loading exemplars, which had a low mutual correlation (0.26), and also did not identify a separate factor. Exploration of solutions with more than five factors also showed there was no additional factor based on these negative loaders. The negatively loading exemplars were not used in the calculation of the statement factor scores and the interpretation of the factors, as they hold different, to some extent opposite views to the other exemplars on these factors.

In the description of the factors (see Table 4), the positioning of important statements on the sorting grid is given in parentheses with the statement number indicated by #. Thereafter, the position on the sorting grid is presented with an indication of significant differences in relation to the other factors (in Table 4, followed by */[†] to indicate differences at p-levels 0.05/.01, respectively); e.g., (#2, +4^{†ALL}) means that for that view, statement 2 had a factor score of +4 and that this score was distinguishing as compared to all other factors at 0.01 level of statistical significance. In addition, verbatim quotes from exemplars are presented as illustration. They are noted in "..." with respondent ID numbers.

3.3. Viewpoint 1: Health, financial security and a life partner

Respondents defining this view emphasised the importance of health to their wellbeing (#1, +2^{4,5}; #2, +4^{ALL}; #3, +2^{3,5}; #5, +3³⁻⁵; #6, +2^{2,3}; #7, +3²). Some cited the intrinsic value of health as rationale: "[Having no physical illness or disability is] the most important thing there is!" (id 27) Also, many reported health to enable them to pursue all things that contributed to their wellbeing: "I am rather active in the field of sport for example, I need to be able to continue my walks, [...] to swim my laps, to participate in groups, to discuss. I want to stay involved." (id 18) In this context, financial security was stressed as well (#29, +3^{ALL}): "I do not need much, I do not have to be rich, but I need to be able to meet my basic needs." (id 27).

These respondents also valued having a partner (#15, +4²⁻⁴) above all other social relationships (#16, +1^{ALL}; #17, +2^{3,4}): "You have your children, you have your family, but they are always at a distance. Your wife, or partner, is near." (id 18) They showed little interest in developing new activities, including learning new skills, staying involved in community issues and meeting new people (#25,

Table 4
Factor scores per statement (N = 53).

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1- Being physically able to perform my daily activities	+2 ^{†4} *5	+3 ^{†4,5}	+3 ^{†4,5}	-3 ^{†ALL}	+1 ^{†2-4} *1
2- Having no physical illness or disability	+4 ^{†ALL}	+3 ^{†1,4,5*3}	+1 ^{†1,5} *2,4	-1 ^{†1,2} *3	-2 ^{†1-3}
3- Having no physical pain	+2 ^{†3,5}	+1	0 ^{†1}	+1	0 ^{†1}
4- Having the prospect of many life years ahead	0 ^{†ALL}	-3 ^{†1} *3	-4 ^{†1,5} *2	-4 ^{†1,5}	-2 ^{†1,3,4}
5- Living a dignified and healthy life	+3 ^{†3-5}	+4 ^{†3-5}	+1 ^{†1,2}	+1 ^{†1,2}	0 ^{†1,2}
6- Being mentally active	+2 ^{†2,3}	-1 ^{†ALL}	+4 ^{†1,2}	+2 ^{†2}	+2 ^{†2}
7- Having no problems with my ability to think	+3 ^{†2}	+1 ^{†1,3} *4	+4 ^{†2} *5	+3 ^{†2}	+2 ^{†3}
8- Being able to communicate well with others	-1 ^{†5} *2-4	0 ^{†1}	0	0	+1
			*1	*1	†1
9- Not feeling anxious or depressed	0	0	-1 ^{†2,4}	+2 ^{†3,5} *1	-1 ^{†4}
	*4	†3			
10- Not being worried about my future	+1 ^{†2,3,5}	+2 ^{†ALL}	-3 ^{†1,2,4}	0 ^{†2,3,5}	-3 ^{†1,2,4}
11- Being able to look back on how my life went with satisfaction	-3	+2 ^{†ALL}	0 ^{†1,2,5}	-1 ^{†1,2}	-3 ^{†2,3}
	†2-4				
12- Accepting my circumstances as they are	-2	-1 ^{†1,3,4*5}	-2 ^{†2,4,5}	+2 ^{†1-3}	+2 ^{†1,3} *2
	†2,4,5				
13- Being able to adjust to new circumstances	-2 ^{†2,4,5}	-1 ^{†1,5*3}	-2 ^{†4,5*2}	+1 ^{†1,3} *5	+3 ^{†1-3} *4
14- My religion or view of life	+1 ^{†ALL}	-3 ^{†1,4} *5	-4 ^{†1,4}	+4 ^{†ALL}	-4 ^{†1,4} *2
15- Having a life partner	+4 ^{†2-4}	-4 ^{†ALL}	-1 ^{†ALL}	-3 ^{†ALL}	+4 ^{†2-4}
16- Having a good relationship with my close family	+1 ^{†2,4,5*3}	+4 ^{†1}	+2 ^{†1}	+3 ^{†1}	+4 ^{†1}
17- Having contact with people I care about	+2 ^{†3} *4	+2 ^{†4}	+1 ^{†1,4} *5	+4 ^{†2,3} *1	+3 ^{†3}
18- Receiving support from family, friends or neighbours when I need it	-1 ^{†2,4,5}	+3 ^{†1,3}	0 ^{†2,4,5}	+3 ^{†1,3}	+2 ^{†1,3}
19- Feeling valued by helping others	-2 ^{†3,5*4}	-2 ^{†3-5}	+3 ^{†ALL}	0 ^{†2,3} *1	0 ^{†1-3}
20- Not being dependent on others for daily activities	0 ^{†3-5}	0 ^{†3-5}	+3 ^{†ALL}	-2 ^{†1-3}	-2 ^{†1-3}
21- Being able to go wherever I want to go	0 ^{†2,4}	+2 ^{†1,4,5}	+1 ^{†4,5}	-3 ^{†ALL}	-1 ^{†2-4}
22- Having the freedom to make my own choices	0 ^{†2}	+1 ^{†3,5} *1	-1 ^{†2}	0	-1 ^{†2}
23- Being able to spend my time as I want	-1 ^{†2}	-1 ^{†1}	-1	-1	0
24- Doing the things I consider important in life	+1 ^{†3} *2	+1 ^{†1}	+2 ^{†1}	+1	+1
25- Learning new skills	-4 ^{†4}	-4 ^{†4}	-3 ^{†4}	-2 ^{†1,3,5*2}	-4 ^{†4}
26- Meeting new people	-4 ^{†2,4,5}	-1 ^{†1,3} *5	-3 ^{†2,4,5}	-2 ^{†1,3} *5	0 ^{†1,3} *2,4
27- Having the feeling that I matter	-3 ^{†3,4*2,5}	-2 ^{†3,4} *1	+2 ^{†1,2,5}	+1 ^{†1,2,5}	-1 ^{†3,4} *1
28- Staying involved in the issues at play in my community	-3 ^{†2-4} *5	0 ^{†1,3,5}	-2 ^{†1,2} *4	0 ^{†1} *3,5	-2 ^{†2} *1,4
29- Having no financial concerns	+3 ^{†3,4*2,5}	+1 ^{†3,4} *1	-2 ^{†1,2,5}	-1 ^{†1,2,5}	+1 ^{†3,4} *1
30- Independent living	+1 ^{†4,5}	0 ^{†4,5}	+1 ^{†4,5}	-4 ^{†ALL}	-1 ^{†ALL}
31- Living in an area in which I feel comfortable	0 ^{†3-5}	0 ^{†3} *5	+2 ^{†1,2}	+3 ^{†1}	+3 ^{†1} *2
32- Living in an area with sufficient facilities	-1 ^{†2}	-2 ^{†1,3,5}	0 ^{†2}	-2 ^{†5}	0 ^{†2} *4
33- Living in a stable environment with minor risk of social unrest	-2 ^{†2}	-3 ^{†1,3,4}	-1 ^{†2}	-1 ^{†2}	-3
34- Living in a country in which my interests are heard and represented	-1 ^{†2}	-2 ^{†ALL}	0 ^{†2}	0 ^{†2}	+1 ^{†2}
Percentage of explained variability	15.15	9.83	9.72	8.85	7.97
Correlation with Factor 2	0.29				
Correlation with Factor 3	0.36	0.37			
Correlation with Factor 4	0.10	0.22	0.17		
Correlation with Factor 5	0.35	0.15	0.46	0.27	

†p < 0.01; *p < 0.05.

-4⁴; #28, -3^{ALL}; #26, -4^{2,4,5}): “That time has passed.” (id 24) “It is not a necessity in my life.” (id 49) The feeling that they matter was emphasised by these respondents to a lesser extent (#27, -3^{ALL}), often because their self-worth came ‘from within’: “I do not have to prove myself or put myself in the centre of attention. I know what I am worth.” (id 27) Partly for this reason, they focused less on looking back upon life with satisfaction (#11, -3²⁻⁴): “That would feel self-congratulatory. Look at me, I have done this and that.” (id 18) However, other reasons were mentioned as well, including not wanting to look back or finding it less relevant.

3.4. Viewpoint 2: Family, support and physical functioning

Respondents defining this view attached great importance to family for their wellbeing (#16, +4¹): “They are the people that are closest to me.” (id 21) “I am always welcome there.” (id 13) In contrast to view 1, having a partner was one of the least important aspects for their wellbeing (#15, -4^{ALL}), mainly because their life partner had already died, they were divorced, or preferred to be single: “I can manage myself. [Being alone] also increases my autonomy.” (id 30) Many experienced health limitations, which made them value having help (#18, +3^{1,3}):

“When I broke my arms, I asked my neighbour to put my laundry in the machine, but she said she would wash all of my laundry instead.” (id 12) In that context, they valued health (#1, +3^{4,5}; #2, +3^{ALL}; #3, +1; #5, +4³⁻⁵). Mental health was considered slightly less important (#6, -1^{ALL}; #7; +1^{1,3,4}): “[My ability to keep up with things] has decreased over the last couple of years. [...] That is part of the ageing process.” (id 12) They attached little importance to longevity (#4, -3^{1,3}), partly due to (a fear of) health issues or the feeling that they had no control over that.

Compared to the other views, looking back and forward in life without any concerns was more important (#10, +2^{ALL}; #11, +2^{ALL}): “[Not having to worry] that you will run out of money, or that you are forced to leave your house.” (id 30) “[Looking back upon life with satisfaction] makes you feel happy.” (id 36) These respondents attached little importance to religion or view of life (#14, -3^{1,4,5}) or issues that played at the macro level (that only affected them indirectly), including living in a stable environment and political representation (#33, -3^{1,3,4}; #34, -2^{ALL}): “It does not ring a bell.” (id 13) “I believe that social unrest is widespread. How can I worry about that?” (id 9) As in view 1, learning new skills (#25, -4⁴) was less important for their wellbeing.

3.5. Viewpoint 3: Autonomy, mental health and helping others

Respondents defining this view stressed the importance of autonomy to their wellbeing (#20, +3^{ALL}). Many did not want to rely on others for help: “[I want] to be in control and decide for myself what is right.” (id 5) Also, people feared not having help: “[If you are not able to do things yourself] what will you do then?” (id 6) Some discussed autonomy to be well: “You have to energise yourself and keep going.” (id 25) Mental health was necessary for exercising autonomy (#1, +3^{4,5}; #6, +4^{1,2}; #7, +4^{2,5}): “[Being mentally active means] that I can still do a lot myself.” (id 23) Mental health was generally considered more important to wellbeing than physical health (#2, +1^{ALL}, #3, 0¹): “If you have a physical disability, your mental health will help you cope with that.” (id 32). “Physical pain can often be treated to greater extent. Also, there are many assistive devices.” (id 19) Like longevity (#4, -4^{1,2,5}), not feeling anxious or depressed (#9, -1^{2,4}) was considered less important: “I think health is more important. Not feeling anxious or depressed could be a part of that, but I am not [anxious or depressed].” (id 6) “I am not very afraid of that.” (id 7).

These respondents valued helping others (#19, +3^{ALL}), mainly because of their taste for it, and previous experience: “I have always helped other people. [...] I did not only do that for them, but also for my sense of self-worth. Because I enjoy it, but also because it is sometimes a societal obligation.” (id 6) Being able to think about the future without any concerns was believed to be less relevant (#10, -3^{1,2,4}), as well as religion or view of life (#14, -4^{1,4}): “I no longer believe in a God. [...] My view of life is represented [in other statements].” (id 32) “I do believe, but I am not part of any religious community.” (id 7) As in previous views, learning new skills (#25, -3⁴) and meeting new people (#26, -3^{2,4,5}) were of little importance to their wellbeing.

3.6. Viewpoint 4: Social contacts, support, mental health and religion

Respondents defining this view valued contact with others in general, including contact with family (#16, +3¹; #17, +4¹⁻³). As in view 2, they also valued their social contacts as a potential source for receiving help (#18, +3^{1,3}), if needed. Also, as in view 2, having a partner (#15, -3^{ALL}) was considered to be of little importance for their wellbeing. Respondents defining this view placed lower importance on longevity (#4, -4^{1,5}), physical health (#1, -3^{ALL}; #2, -1¹⁻³; #21, -3^{ALL}) and independence (#30, -4^{ALL}), as these aspects were generally accepted to deteriorate as part of their ageing process: “[Living independently] has passed.” (id 39) In contrast, mental health was valued highly (#7, +3²); in becoming physically frail, this aspect of health became much more important: “At this age, you cannot do anything because of your limited physical condition. However, mentally you can do so much.” (id 40) Religion (#14, +4^{ALL}) was very important for them, also as a coping mechanism: “I get my strength from [religion]. [...] All my life, through all periods, I got much help from that.” (id 40).

3.7. Viewpoint 5: A life partner, social contacts, living environment and adaptation

Respondents defining this view prioritised having a partner (#15, +4²⁻⁴): “We have been together for 60 years, raising the kids” (id 47). In line with view 2 and 4, they valued contact with others in general, including contact with family (#16, +4¹; #17, +3³; #18, +2^{1,3}). These respondents stressed the importance of feeling comfortable in the living environment (#31, +3^{1,2}) and, also, adaptation (#12, +2¹⁻³; #13, +3^{ALL}): “I have to accept [my health]. It is what it is.” (id 46) Adaptation was also mentioned across their life course: “My whole life, I had to [take life as it comes]. When I was eleven, the war started. [...] When the war ended, everything was gone. [...] I also experienced the 1930s. [...] That was horrible as well, with the unemployment and all things related to it.” (id 47) In this context, these respondents focused

less on concerns about the future (#10, -3^{1,2,4}): “I will adapt [to any situation].” (id 17) “I do not have any concerns about the future, since my time here is up.” (id 47) Also, looking back on their life was considered less important (#11, -3^{2,3}): “I do not think it is that important, because those years have passed.” (id 17) As in other views, religion (#14, -4^{1,2,4}), learning new skills (#25, -4⁴) and living in a stable environment (#33, -3) were also considered to be of little importance to their wellbeing.

4. Discussion and conclusions

4.1. Main findings

This study revealed five shared views on what constitutes wellbeing among people aged 65 and older in the Netherlands. The first view focused on health, financial security and having a life partner as requirements to pursue all things that contributed to their wellbeing. The second view focused on physical functioning and having a social network, especially contact with family, and the possibility to receive support when needed. The third view emphasised the importance of autonomy and helping others, and mental health as a means to this end. The fourth view emphasised mental wellbeing, religion and a support network to help them cope with their physical frailty. Finally, the fifth view emphasised the social network as well, with an emphasis on having a life partner and a comfortable living environment, and being able to adapt oneself.

4.2. Comparability with previous studies

The ranking exercise revealed that longevity did not seem to be of great importance to older people's wellbeing, whereas opinion statements related to good health were prioritised in four out of five views. The only exception was related to the fifth view, presumably because the respondents defining this view often had health issues which may have caused them to focus on other aspects to remain well. These findings support previous research that health is frequently mentioned when older people define wellbeing (Bowling, 2006; Douma et al., 2017; Wilhelmson et al., 2005). More importantly, physical health is explicitly mentioned in the first and second view and even deemed more important than mental health in the latter. All views prioritised statements related to social contacts, this variably referring to a life partner, family or friends, which is in line with previous research that reported this aspect to be at least as important as health to older people's wellbeing (Douma et al., 2017; Farquhar, 1995; Wilhelmson et al., 2005). As illustrated by exemplars, developing new activities, including learning new skills, staying involved in community issues and meeting new people were placed in the middle or the left side of the sorting grid in all views. The same goes for diverse statements about environment, including having sufficient facilities nearby and living in a stable environment. Being in control of your time was not deemed important, as many felt that it was normal not to have this due to for instance, work and family obligations.

Notwithstanding the shared importance of health and social contacts, the five views did not correlate strongly with each other, partly because they focused on different statements within these domains, indicating (subtle) differences in importance of aspects within those domains. Consequently, no consensus statements were identified across the five factors. In addition, all factors had characterising statements in unique domains. To illustrate this, financial security, religion and living environment were only valued in the first, fourth and fifth view, respectively, which is in line with previous research showing that these aspects were less frequently mentioned (Jopp et al., 2015; Wilhelmson et al., 2005). Mixed results were derived regarding the importance of autonomy, as mentioned in the third view (Grewal et al., 2006; Jopp et al., 2015). Adaptation was only emphasised in the fifth view, and to a lesser extent in the fourth view, whereas it was one of the main pillars of wellbeing in previous research (Jopp et al., 2015).

4.3. Study limitations and strengths

Some study limitations need to be considered when interpreting the results of this study. Due to the use of a sampling agency, we did not have access to the response rate and socio-demographic characteristics of older people who did not want to participate. We acknowledge that this may limit our insight in possible issues regarding the ranking exercise, selective non-participation, and the coverage of all possible views on wellbeing. We tried to determine respondents' educational level as accurately as possible. However, due to the retrospective, self-reported nature, education was sometimes less evident, especially since a few attended classes after their formative years. Respondents with severe health issues (e.g. visual or hearing impairments) received help with placing the statements on the sorting grid from the interviewer or a family member. Moreover, while we felt it was important to include respondents with different cultural and ethnic backgrounds, it proved hard to find Turkish and Moroccan respondents who mastered the Dutch language sufficiently. Consequently, these respondents were accompanied by either a close family member or a translator during the interview. Due to financial constraints, we were not able to translate the study materials a priori. The language barrier may have hampered respondents understanding of the statement set, but we found no indication for this as respondents provided coherent explanations of their rankings. The occasional presence of family members may have influenced respondents' placement of the social contact statements. However, at least in the Dutch-spoken interviews, we again found no evidence for this.

Notwithstanding these limitations, we did succeed in including these harder-to-reach people that are often left out of this type of research. Even though some received help in the process, the lower educated and non-western older people were satisfactorily able to perform the ranking exercise. Therefore, we believe that the five distinct views on wellbeing presented in this paper sufficiently capture the broad diversity in views on what is important to the wellbeing of people aged 65 and older in the Netherlands. The statement set was carefully constructed using diverse studies on what constitutes wellbeing at an older age, considering the possible heterogeneity in views. Each domain of wellbeing was presented at a comparable level of abstraction and detail to limit the influence of our selection on the possibility for respondents to disclose their view. In the pilot study respondents were explicitly asked if any essential aspects of wellbeing were left out of the statement set, and in the main study respondents were given the opportunity to reflect on the study materials as well. We have no indication that any important aspects were missing. Considering that the development of the statement set was informed by a considerable number of qualitative studies that examined what matters for the wellbeing of older people before (see Table 1), we sought no further validation for the completeness of the statement set (e.g. through in-depth interviews) after this pilot. We do emphasise that different choices could have been made in the selection of statements. However, whether a different statement set representing the same life aspects would be likely to expose substantially different views is unclear.

As a robustness check, we explored the implications for our findings of selecting a four- or six-factor solution. In the four-factor solution, aspects like not being dependent, feeling valued by helping others, and adjusting to new circumstances, which are now highlighted in factor 3 and 5, no longer emerged as important for wellbeing among older people. As these aspects were identified as relevant during the interviews, we considered it important to retain them (and, hence, opted for the five-factor solution). The six-factor solution did not identify a new view on wellbeing, and also no shared view among the negative loaders in the current factors emerged (hence, the six-factor solution was not considered an improvement).

4.4. Research and policy recommendations

This study did not investigate the prevalence of the five views

among older people in the Netherlands, since Q-methodology does not intend to do so. Both for the further development of relevant and sensitive wellbeing measures, as well as for the development of wellbeing improving care services, more knowledge on the percentage of older people holding each view may be useful. This can be done using one of many techniques available to connect Q-methodology to survey research (e.g. Baker et al., 2010). In such studies, it may also be interesting to examine the relation of views on wellbeing with socio-demographic characteristics of people, and their opinion with respect to specific choices in care for older people, as faced by policy makers. Moreover, while we purposively sampled respondents using a carefully designed sampling frame, it remains hard to ensure that all different viewpoints on wellbeing in old age have been identified here. Such a study could thus indicate that certain views have been missed in the current study, for example if sizeable proportions of the population would not associate themselves with any of the five views presented here. At the same time, such a study may probably point out how the sampling frame could be improved to uncover those views in a similar study as the present one.

As indicated by Bulamu et al. (2015) and Makai et al. (2014), the ASCOT (Netten et al., 2012) and ICECAP-O (Coast et al., 2008; Grewal et al., 2006) may be used in economic evaluations to assess the broader wellbeing effects of interventions, to promote effective and efficient care services for older people. In line with our study outcomes, both measures stress the importance of social relations through one item. Only the ICECAP-O includes an item related to security, which may capture aspects of importance to specific groups of older people, including financial security, having social support and coping and adaptation mechanisms through for instance, religion. Both measures have an item about control, which is linked to autonomy in the third view we identified. Both also have an item related to role and occupation which may cover the aspect of being of value to others. The ASCOT and ICECAP-O lack direct measures of health, and may not adequately cover physical health (Davis et al., 2013; Hackert et al., 2017, 2019; Van Leeuwen et al., 2015). The current study emphasises that health is a very important determinant of wellbeing among older people in four out of five views reported here. We note that the ASCOT, unlike the ICECAP-O, was originally intended to be used alongside a health measure like the EQ-5D. Whether using the ASCOT or the ICECAP-O in combination with the EQ-5D in evaluative studies can be a solution to overcome this omission, remains to be seen as it may risk double-counting of elements like mental health, and would require appropriate weighting of both measures relative to each other. Therefore, the possibility to extend wellbeing measurement to include health next to all other aspects considered important by older people for their wellbeing, should be explored further.

Concluding, this study has highlighted the heterogeneity in views of older people in the Netherlands on what constitutes wellbeing. Ideally, instruments used to measure and value wellbeing of older people, also in the context of economic evaluations, comprise the variety of relevant domains portrayed by these wellbeing views, as this would allow older people adhering to any wellbeing view to meaningfully express their wellbeing with the instrument. Whether existing instruments, like the ASCOT and ICECAP-O, fully capture all these domains needs to be investigated further. In that context, it is for instance important to emphasise that (physical) health is important in most views, while this may not be sufficiently covered in current instruments (Davis et al., 2013; Hackert et al., 2017, 2019; Van Leeuwen et al., 2015). Moreover, finances and living environment seemed to be important as well; however, they are often not included in current instruments (Bulamu et al., 2015; Makai et al., 2014) or their impact is measured indirectly (Grewal et al., 2006). Hence, further validation of existing instruments in different contexts remains important. In addition, any initiatives for developing alternative measures are advised to capture the plurality in what is important for older people to their wellbeing, as portrayed in this study.

References

- Baker, R., van Exel, J., Mason, H., Stricklin, M., 2010. Connecting Q and surveys: three methods to explore factor membership in large samples. *Operant Subj.* 34 (1), 38–58. <https://doi.org/10.15133/j.os.2010.003>.
- Bowling, A., 2006. Lay perceptions of successful ageing: findings from a national survey of middle aged and older adults in Britain. *Eur. J. Ageing* 3 (3), 123–136. <https://doi.org/10.1007/s10433-006-0032-x>.
- Bowling, A., Hankins, M., Windle, G., Bilotta, C., Grant, R., 2013. A short measure of quality of life in older age: the performance of the brief Older People's Quality of Life questionnaire (OPQOL-brief). *Arch. Gerontol. Geriatr.* 56 (1), 181–187. <https://doi.org/10.1016/j.archger.2012.08.012>.
- Bowling, A., Stenner, P., 2011. Which measure of quality of life performs best in older age? A comparison of the OPQOL, CASP-19 and WHOQOL-OLD. *J. Epidemiol. Community Health* 65, 273–280. <https://doi.org/10.1136/jech.2009.087668>.
- Bulamu, N.B., Kaambwa, B., Ratcliffe, J., 2015. A systematic review of instruments for measuring outcomes in economic evaluation within aged care. *Health Qual. Life Outcomes* 13, 179. <https://doi.org/10.1186/s12955-015-0372-8>.
- Coast, J., Flynn, T.N., Natarajan, L., Sproston, K., Lewis, J., Louviere, J.J., Peters, T.J., 2008. Valuing the ICECAP capability index for older people. *Soc. Sci. Med.* 67 (5), 874–882. <https://doi.org/10.1016/j.socscimed.2008.05.015>.
- Davis, J.C., Liu-Ambrose, T., Richardson, C.G., Bryan, S., 2013. A comparison of the ICECAP-O with EQ-5D in a falls prevention clinical setting: are they complements or substitutes? *Qual. Life Res.* 22 (5), 969–977. <https://doi.org/10.1007/s11136-012-0225-4>.
- Douma, L., Steverink, N., Hutter, I., Meijering, L., 2017. Exploring subjective well-being in older age by using participant-generated word clouds. *Gerontol.* 57 (2), 229–239. <https://doi.org/10.1093/geront/gnv119>.
- Drummond, M., Brixner, D., Gold, M., Kind, P., McGuire, A., Nord, E., 2009. Toward a consensus on the QALY. *Value Health* 12 (Suppl. 1), S31–S35. <https://doi.org/10.1111/j.1524-4733.2009.00522.x>.
- Drummond, M.F., Sculpher, M.J., Claxton, K., Stoddart, G.L., Torrance, G.W., 2015. *Methods for the Economic Evaluation of Health Care Programmes*, fourth ed. Oxford University Press, New York.
- Farquhar, M., 1995. Elderly people's definitions of quality of life. *Soc. Sci. Med.* 41 (10), 1439–1446. [https://doi.org/10.1016/0277-9536\(95\)00117-P](https://doi.org/10.1016/0277-9536(95)00117-P).
- Ferrans, C.E., Powers, M.J., 1985. Quality of Life Index: development and psychometric properties. *Adv. Nurs. Sci.* 8 (1), 15–24. <https://doi.org/10.1097/00012272-198510000-00005>.
- Gabriel, Z., Bowling, A., 2004. Quality of life from the perspectives of older people. *Ageing Soc.* 24 (5), 675–691. <https://doi.org/10.1017/S0144686X03001582>.
- Grewal, I., Lewis, J., Flynn, T., Brown, J., Bond, J., Coast, J., 2006. Developing attributes for a generic quality of life measure for older people: preferences or capabilities? *Soc. Sci. Med.* 62, 1891–1901. <https://doi.org/10.1016/j.socscimed.2005.08.023>.
- Hackert, M.Q.N., van Exel, J., Brouwer, W.B.F., 2017. Valid outcome measures in care for older people: comparing the ASCOT and the ICECAP-O. *Value Health* 20 (7), 936–944. <https://doi.org/10.1016/j.jval.2017.03.012>.
- Hackert, M.Q.N., van Exel, J., Brouwer, W.B.F., 2019. Does the ICECAP-O cover the physical, mental and social functioning of older people in the UK? *Qual. Life Res.* 28 (3), 761–770. <https://doi.org/10.1007/s11136-018-2042-x>.
- Harwood, R.H., 2008. Economic evaluations of complex services for older people. *Age Ageing* 37 (5), 491–493. <https://doi.org/10.1093/ageing/afn154>.
- Hyde, M., Wiggins, R.D., Higgs, P., Blane, D.B., 2003. A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19). *Aging Ment. Health* 7 (3), 186–194. <https://doi.org/10.1080/1360786031000101157>.
- Jopp, D.S., Wozniak, D., Damarin, A.K., De Feo, M., Jung, S., Jeswani, S., 2015. How could lay perspectives on successful aging complement scientific theory? Findings from a U.S. and a German life-span sample. *Gerontol.* 55 (1), 91–106. <https://doi.org/10.1093/geront/gnu059>.
- Makai, P., Brouwer, W.B.F., Koopmanschap, M.A., Stolk, E.A., Nieboer, A.P., 2014. Quality of life instruments for economic evaluations in health and social care for older people: a systematic review. *Soc. Sci. Med.* 102, 83–93. <https://doi.org/10.1016/j.socscimed.2013.11.050>.
- McHugh, N., Baker, R.M., Mason, H., Williamson, L., van Exel, J., Deogaonkar, R., Collins, M., Donaldson, C., 2015. Extending life for people with a terminal illness: a moral right and an expensive death? Exploring societal perspectives. *BMC Med. Ethics* 16, 14. <https://doi.org/10.1186/s12910-015-0008-x>.
- McKeown, B., Thomas, D.B., 2013. *Q Methodology*, second ed. Sage Publications, Newbury Park.
- Netten, A., Burge, P., Malley, J., Potoglou, D., Towers, A.-M., Brazier, J., Flynn, T., Forder, J., Wall, B., 2012. Outcomes of social care for adults: developing a preference-weighted measure. *Health Technol. Assess.* (1366-5278) 16 (16). <https://doi.org/10.3310/hta16160>.
- OECD, 2017. *Health at a Glance 2017: OECD Indicators*. OECD Publishing, Paris. https://doi.org/10.1787/health_glance-2017-en.
- Power, M., Quinn, K., Schmidt, S., WHOQOL-OLD Group, 2005. Development of the WHOQOL-Old module. *Qual. Life Res.* 14 (10), 2197–2214. <https://doi.org/10.1007/s11136-005-7380-9>.
- The WHOQOL Group, 1998. Development of the world health organization WHOQOL-BREF quality of life assessment. *Psychol. Med.* 28 (3), 551–558. <https://doi.org/10.1017/S0033291798006667>.
- Van Exel, J., Baker, R., Mason, H., Donaldson, C., Brouwer, W., EuroVaQ Team, 2015. Public views on principles for health care priority setting: findings of a European cross-country study using Q methodology. *Soc. Sci. Med.* 126, 128–137. <https://doi.org/10.1016/j.socscimed.2014.12.023>.
- Van Leeuwen, K.M., Bosmans, J.E., Jansen, A.P.D., Hoogendijk, E.O., van Tulder, M.W., van der Horst, H.E., Ostelo, R.W., 2015. Comparing measurement properties of the EQ-5D-3L, ICECAP-O, and ASCOT in frail older adults. *Value Health* 18, 35–43. <https://doi.org/10.1016/j.jval.2014.09.006>.
- Versteegh, M., Knies, S., Brouwer, W.B.F., 2016a. From good to better: new Dutch guidelines for economic evaluations in healthcare. *Pharmacoeconomics* 34 (11), 1071–1074. <https://doi.org/10.1007/s40273-016-0431-y>.
- Versteegh, M.M., Vermeulen, K.M., Evers, S.M.A.A., de Wit, G.A., Pregner, R., Stolk, E.A., 2016b. Dutch tariff for the five-level version of EQ-5D. *Value Health* 19, 343–352. <https://doi.org/10.1016/j.jval.2016.01.003>.
- Watts, S., Stenner, P., 2012. *Doing Q Methodological Research: Theory, Method and Interpretation*. SAGE Publications, London. <https://doi.org/10.4135/9781446251911>.
- Wilhelmsen, K., Andersson, C., Waern, M., Allebeck, P., 2005. Elderly people's perspectives on quality of life. *Ageing Soc.* 25 (4), 585–600. <https://doi.org/10.1017/S0144686X05003454>.
- Zabala, A., 2014. qmethod: a package to explore human perspectives using Q methodology. *R J.* 6 (2), 163–173. <http://journal.r-project.org/archive/2014-2/zabala.pdf>.
- Zabala, A., Held, M., 2018. Package 'qmethod'. Available from: <https://cran.r-project.org/web/packages/qmethod/qmethod.pdf> and for a description of the package see: <https://cran.r-project.org/web/packages/qmethod/index.html>.