

# Constructing a metric of well-being among older people in the UK (for Age UK)

## Presentation by

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## Work undertaken jointly with Age UK's Policy and Research team

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**The Index of Wellbeing in Later Life will be showcased at Age UK's 'For Later Life Conference', 8<sup>th</sup> February 2017**

<http://www.ageuk.org.uk/professional-resources-home/conferences/forlaterlife/>

**More details of Age UK's research on wellbeing is available at:**

[www.ageuk.org.uk/wellbeingresearch](http://www.ageuk.org.uk/wellbeingresearch)

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# Outline

## 1. Motivation

- Learnings from the past; Filling a knowledge gap!
- Why? The objective/ What? Defining an index?/
- What is required?

## 2. Five steps involving research and consultations

- (1) Conceptual model; (2) Data preparation;
- (3) Modelling wellbeing; (4) Choice of domains; and
- (5) Calculating the Index “Wellbeing in Later Life”

## 3. What emerged? Key findings (see also the handout)

- Relative importance of individual indicators; average results
- Group-specific results and inequality in wellbeing

## 4. Conclusions/ What next?



## Part 1

# Motivation



# 1.1 Learnings from the past

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- Two previous pieces of work
  - The AAI constructed for the EC/ UNECE during 2012-2015
  - The Global AgeWatch Index for HelpAge International, 2013-2015
- Data constraints: Restricted data available because of the purpose of the work: comparative analysis
- Methodology restrictions: e.g., discussions with **Sir Tony Atkinson** who did not believe in composite indices,.....
- He also held the view that the aggregation of multidimensional macro indicators into a composite index is conceptually less defensible than the method of summation of individual attributes within an individual (see, e.g., Atkinson and Marlier 2012).



# Filling a knowledge gap

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*Lacking important, valid, and reliable instruments to assess different aspects of wellbeing... especially those that integrate all relevant dimensions of wellbeing into a single and coherent scale covering wellbeing* (Prilleltensky et al, 2015)

Review of literature also revealed that there is a need to understand better:

- What different components of wellbeing are important in later life?
- How older people are doing in the UK?
- Where and why wellbeing is low? How can we monitor the situation?
- What effects various policy and practical levers might have in improving wellbeing?



# 1.2 Why? The objectives

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- **To serve for the evidence-informed advocacy for Age UK**
  - Where and why is wellbeing for older people is low?
  - How changes in the lives of older people can be monitored?
  - Local Age UKs need data intelligence to target their support services.

**Using wellbeing as a preferred outcome of interest** – it is deemed as a preferable way to measure progress in the society (Stiglitz, Sen and Fitoussi 2009; many others)

**and**

- Focus on older persons only, rather than all ages;
  - Cover most aspects of people's lives by using multiple indicators of wellbeing in one single measure;
  - Focus on objective as well as subjective aspects of life and wellbeing
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# What? Construct a metric of Wellbeing in Later life

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**A metric (or index) summarises the information into a single composite measure**

- It combines multiple indicators across dimensions into one single measure,
- It includes tiers such as domains and indicators with different weights to signify their importance.
- It allows for disaggregation so as to understand their relative importance

An Index is nothing more than a scale (a metric), although some scales give everything an equal weight and add up answers to give you a summary score.



## 1.3 What is required?

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- Selection of a dashboard of indicators
- Determination of the relative importance of each indicator (the weights)?
- Categorisation into tiers of indicators and domains (most commonly: financial/ non-financial; individual attributes/ local age-friendly environment)
- Normalisation of indicators and aggregation

**To serve Age UK's purpose best, it was also essential to**

Undertake consultations with subject specialists (from academia/ internally); and also do 'sense checking' by discussions with older men and women



## Part 2

# Five steps involving research and consultations

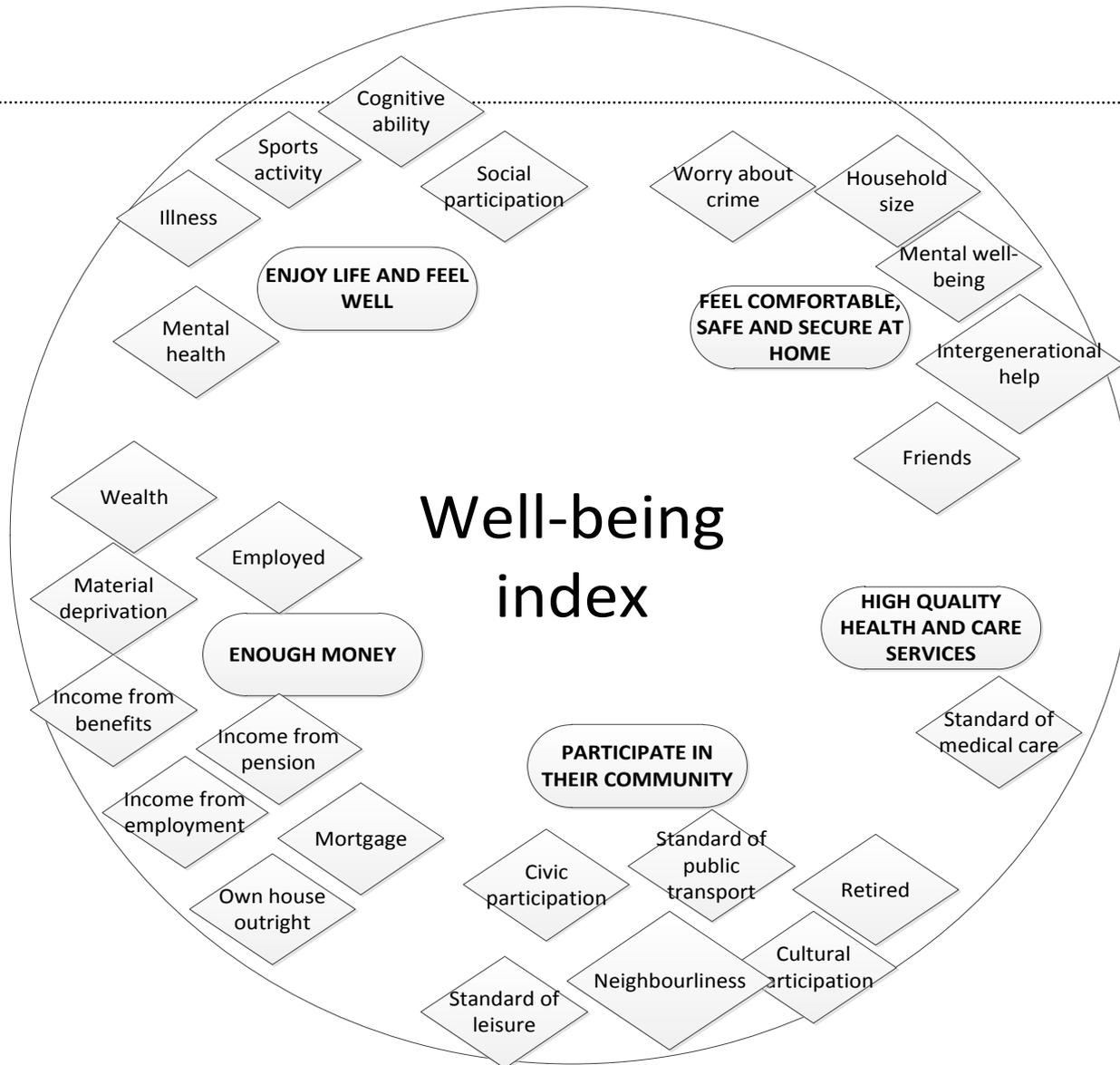


# The five steps – an overview

Step	Research activity	Consultation
1. <b>Conceptual model:</b> Identifying components of wellbeing in later life	Review of past studies	Panel of experts consulted for the comprehensive list of components of wellbeing in later life
2. <b>Data preparation:</b> Finding the most suitable dataset and variables	Review of datasets Selection of items Compilation of indicators Initial analysis	Deliberative workshops with older men/women to sense check initial findings
3. <b>Modelling wellbeing:</b> Identifying significant components and calculating wellbeing score	Structural Equation Modelling	Panel of experts consulted to present the findings
4. <b>Choice of domains:</b> Selecting five domains of wellbeing in later life	Principal Component Analysis	Panel of experts consulted for the determination of domains and domain-specific results
5. <b>Calculating the Index of Wellbeing in Later Life</b>	Determine individual indicators and their relative weights Calculate domain-specific indices Calculate overall WILL Index	Extensive discussion with policy and services experts for research translation



# Step 1: The Conceptual model



# Step 2: Data Preparation

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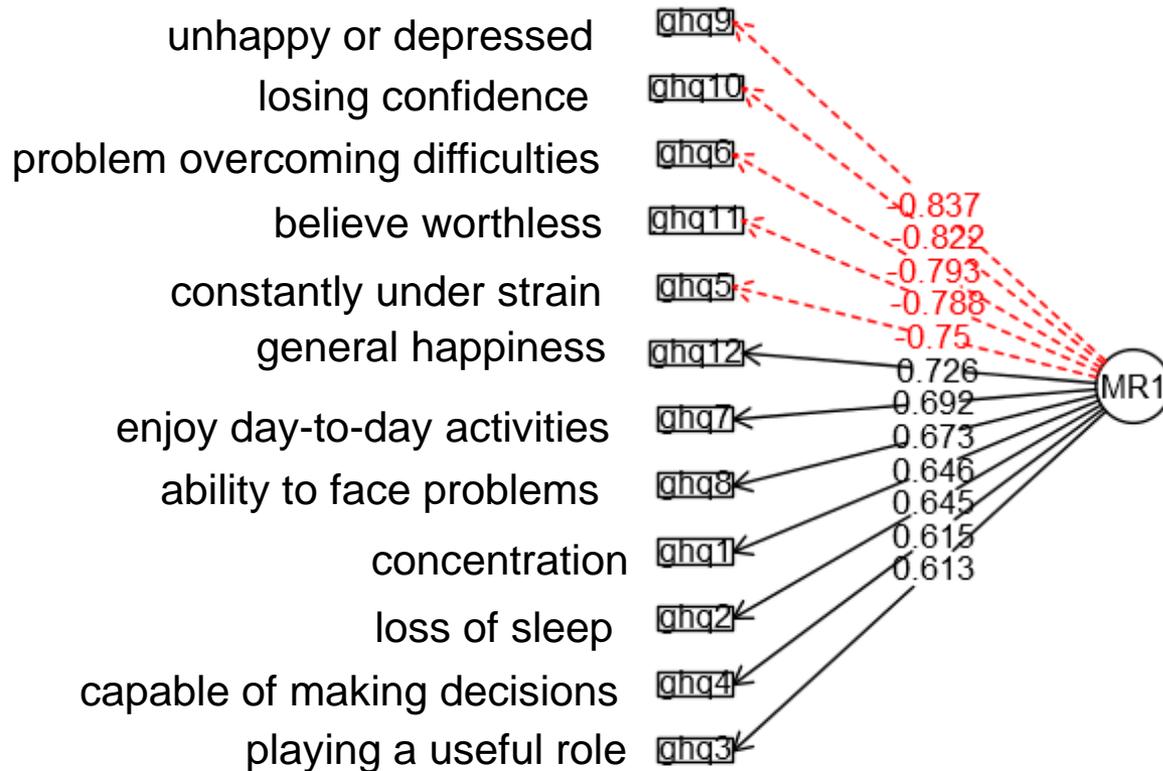
## **Choice of Understanding Society as our dataset**

- USoc preferred over ELSA, for its annual cycle and for its country coverage
- Waves 1-4 data pooled, covering the period Jan-2009 to Jan-2014 (our work started in 2015)
- Time sensitive data (such as health status) drawn from the 4<sup>th</sup> wave
- Close to 14,000 observations for older persons (age 60 or more)
- Directly observed variables/ Derived variables / synthesized variables



# Example of a synthesized variable: Factor Analysis

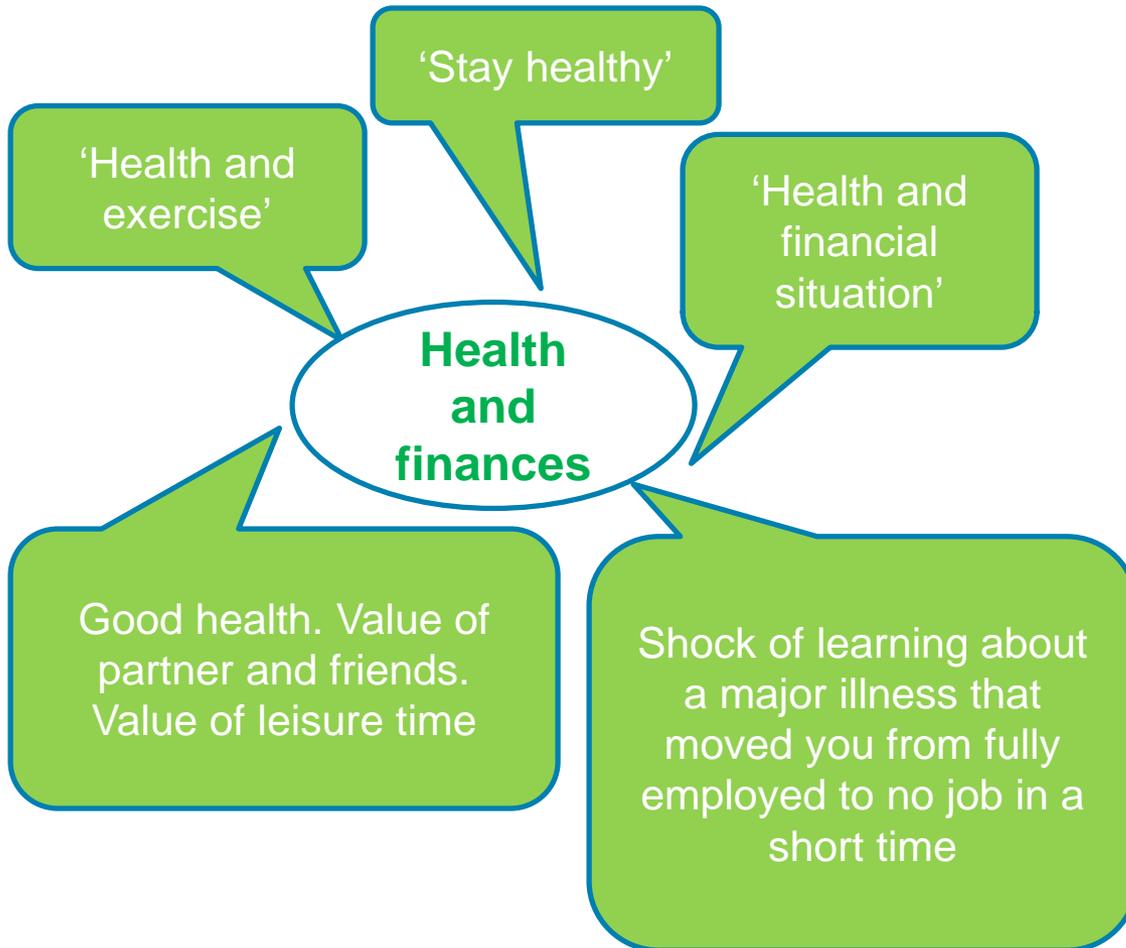
FA of Mental Illness (GHQ-12)



# Focus group discussions with older men and women

## - Factors important in later life

### Become more important...



### Become less important...



# Themes emerging from the workshops

## Themes from workshops

Good physical and mental health	Cognitive ability	Coping with ill health	Coping with stress (in general and stress of ageing)
Mental resilience	Feeling respected	Peace of mind	Religious belief
Being independent	Mobility	Mutual support with other people	Healthcare
Social care	Good family relationships	Good friendships	Not being lonely
Living in own home	Feeling safe	Enough money	Having things to do
Leisure time	Healthy lifestyle	Freedom of expression	

Independence and dignity



## Step 3 Modelling wellbeing: Structural Equation Model

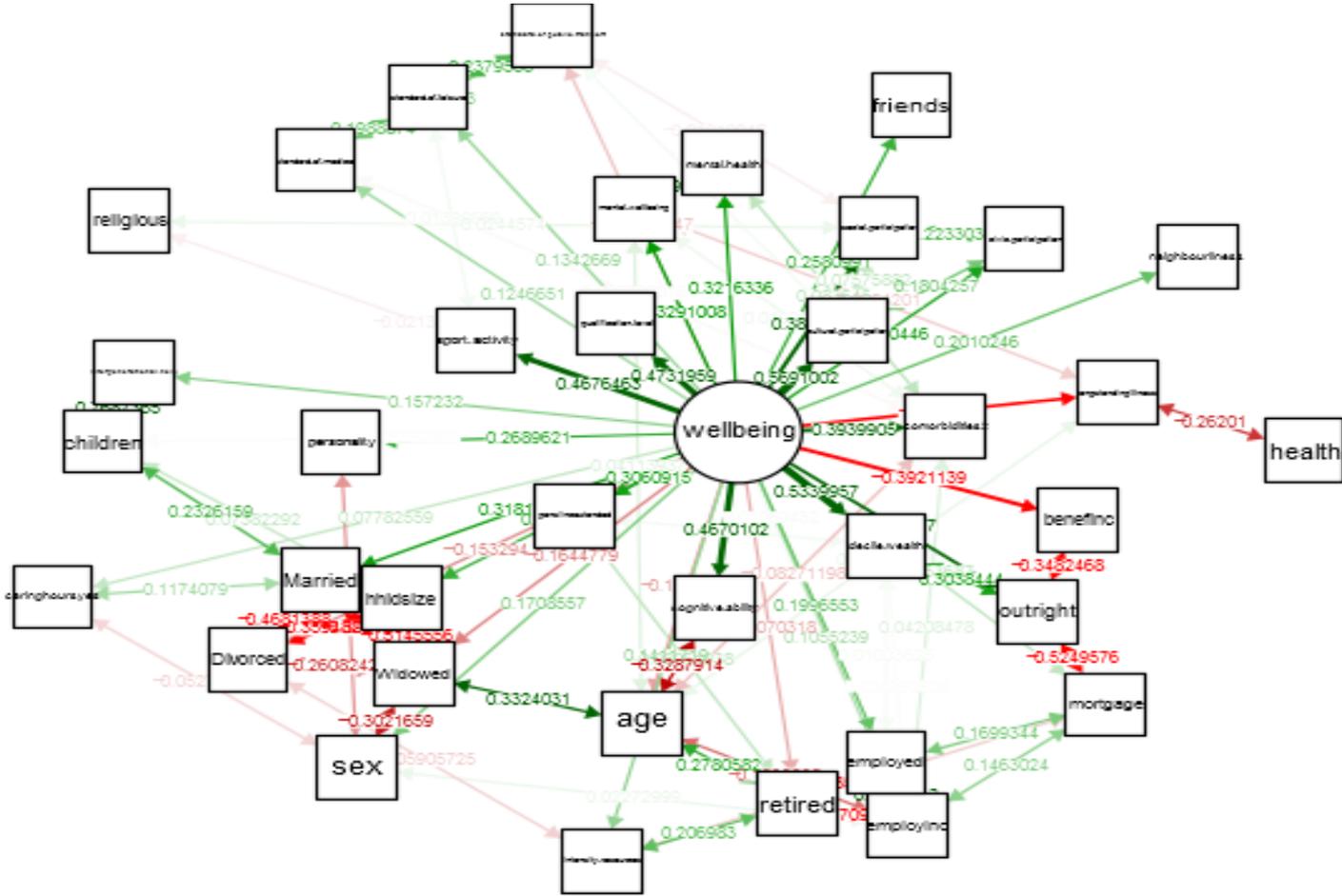
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- ✓ Wellbeing is a latent ‘unobserved’ variable
- ✓ It is defined by circa 40 variables (*our hypothesis from previous two steps*)
- ✓ Many of these variables are unobserved and inter-related.

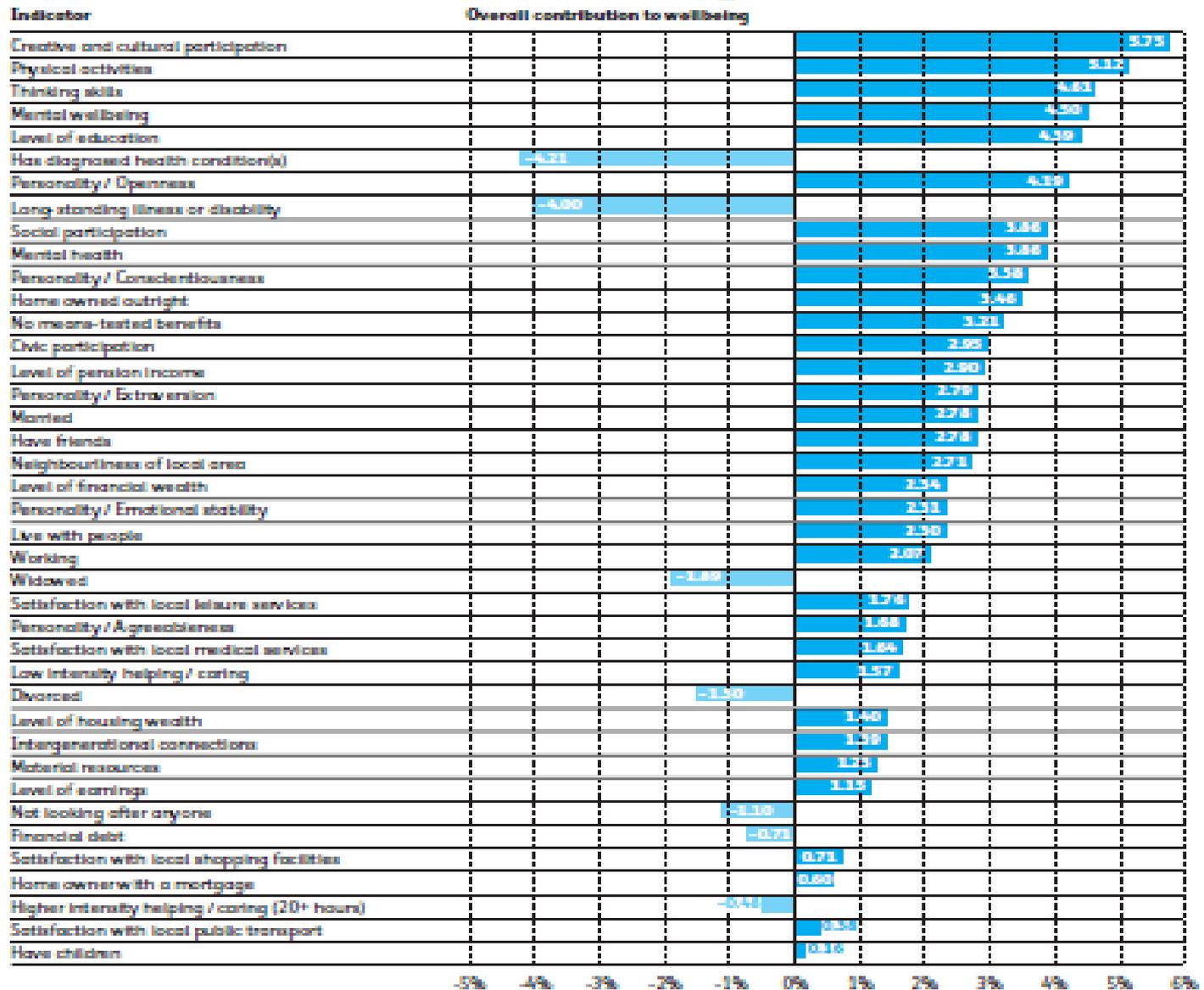
We then wrote up a Structural Equation Model, which offer us a ‘comprehensible statistical approach to testing hypotheses about relationships among observed and unobserved variables’ (Hoyle 1995; Kline 2011)



# SEM Results: visual depiction

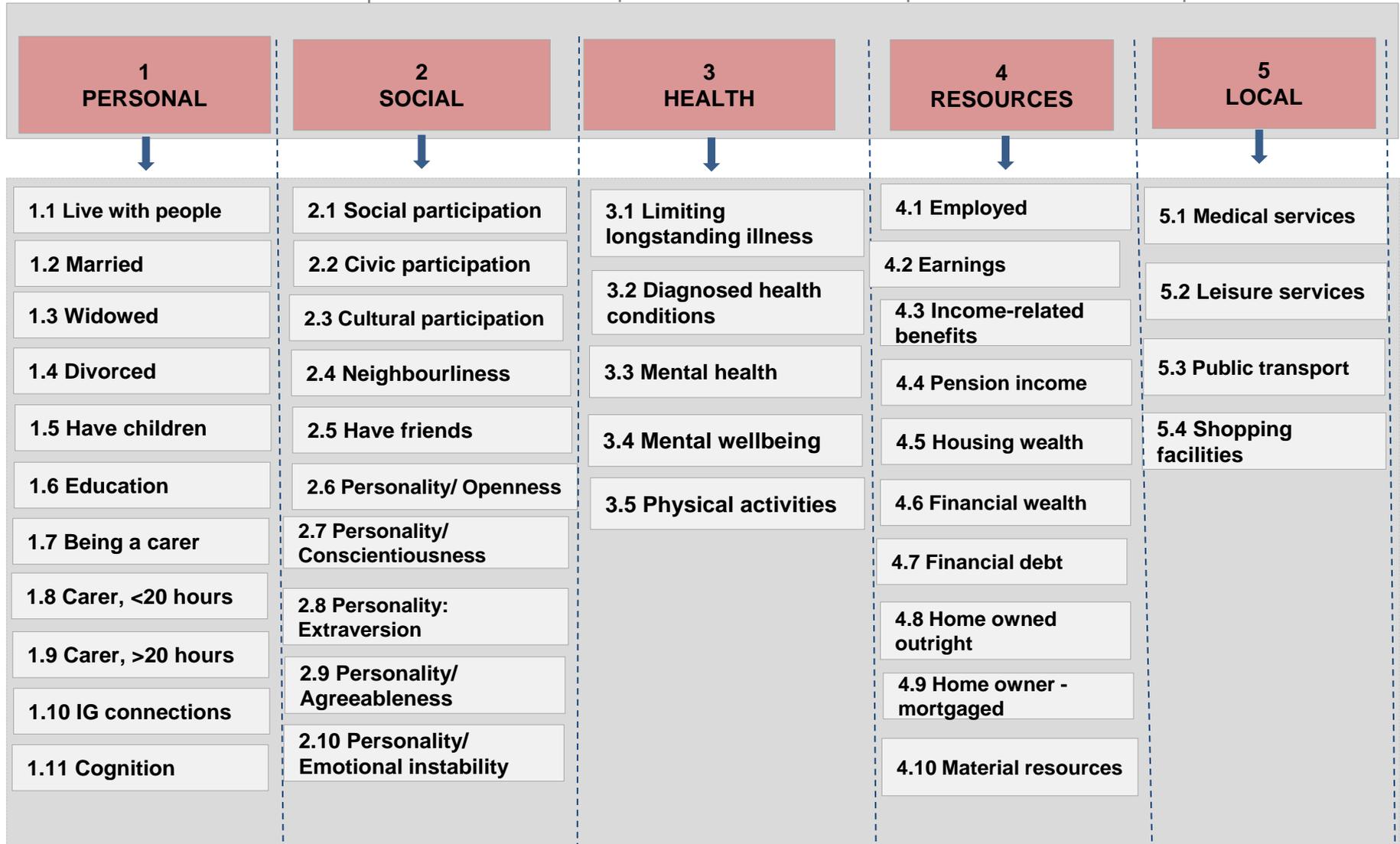


# SEM results: Relative importance of individual indicators of wellbeing

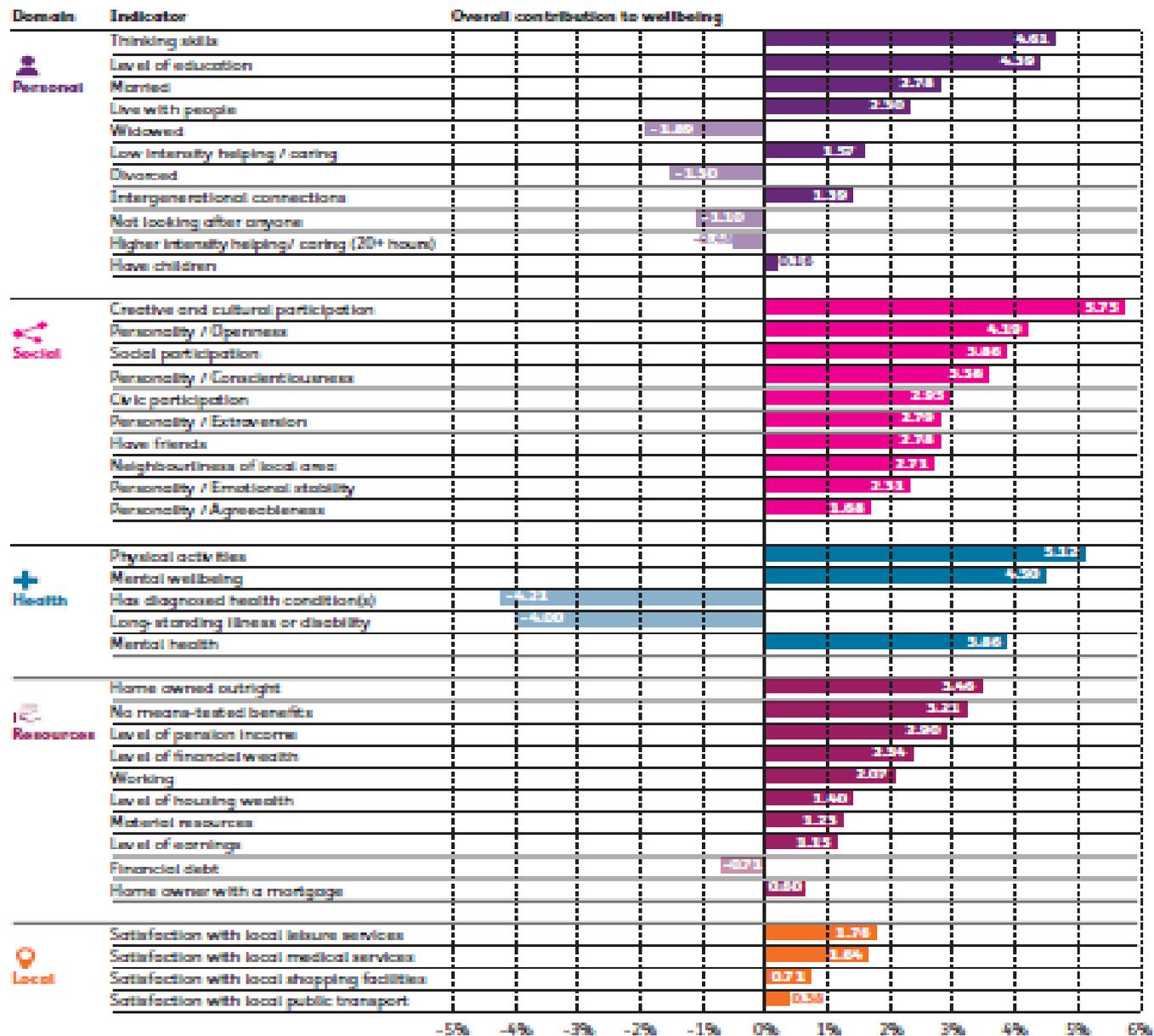


# Step 5: Choice of domains: Principal Component Analysis

## Five domains containing multiple indicators of wellbeing in later life



# Relative importance of indicators by domain (Bringing together findings of the SEM and PCA)



## Step 5 Constructing the WILL Index

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Firstly, to 'normalise' each indicator, say  $x$ , into a unit-free variable ranging between 0 and 100, the following formula is used:

$$x \text{ index} = \frac{x - \min(x)}{\max(x) - \min(x)}$$

The transformed variable uses a 0-100 scale based calculated for each indicator and for each individual.



# Step 5 Constructing the WILL Index

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- Next, all normalised indicators selected for each domain are aggregated, into domain-specific indices.
- Finally, all domain-specific indices are further aggregated into one overall index.



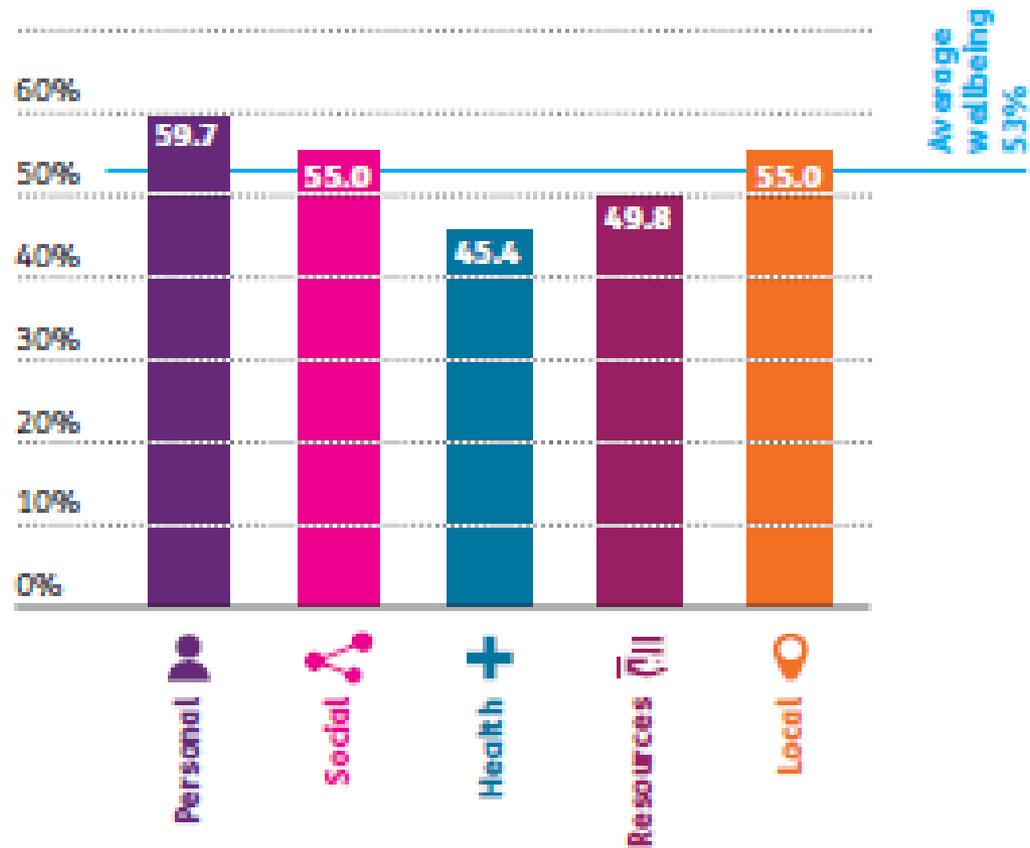
## Part 3

# Key findings



# The domain-specific and overall index

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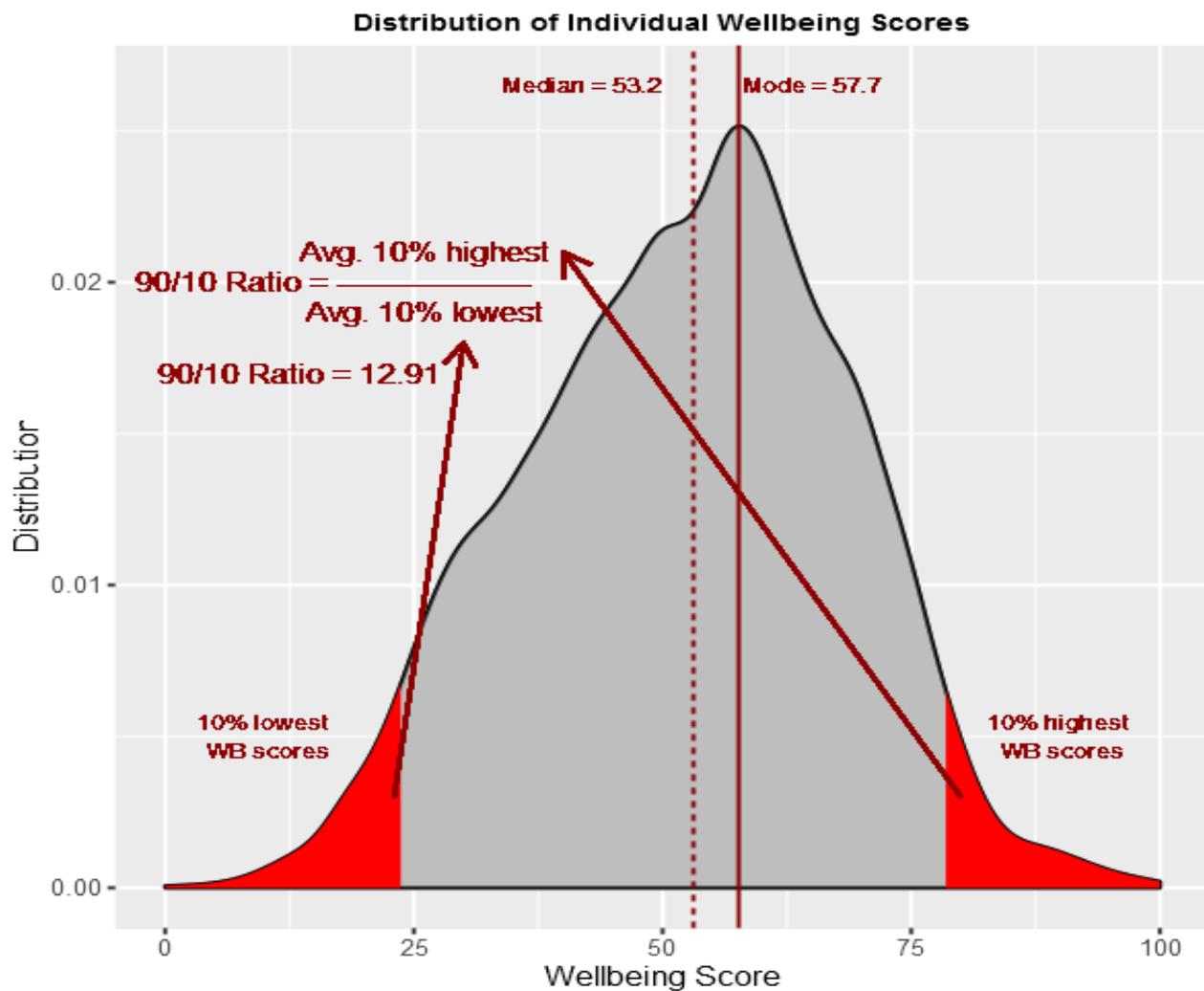
# Group- and domain-specific wellbeing score of WILL Index

	Overall	<i>Personal</i>	<i>Social</i>	<i>Health</i>	<i>Resources</i>	<i>Local</i>
<b>Total</b>	<b>53.2</b>	<b>59.7</b>	<b>55.0</b>	<b>45.4</b>	<b>49.8</b>	<b>55.0</b>
<b>Men</b>	54.0	61.5	55.0	46.8	51.6	55.6
<b>Women</b>	52.1	58.2	55.1	<b>44.3</b>	<b>48.3</b>	54.4
<b>age 60-64</b>	55.1	67.1	55.1	48.0	49.6	54.4
<b>age 65-69</b>	55.8	65.6	56.4	49.2	51.4	53.7
<b>age 70-79</b>	53.4	59.6	55.9	45.5	50.4	55.8
<b>age 80+</b>	47.3	48.4	51.6	<b>38.1</b>	47.1	55.7



# Distribution of wellbeing in later life

Comparing the top and bottom parts of the distribution



# Inequality in wellbeing in later life

## Summarising findings

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**Just managing/ struggling:** Those who are in the bottom fifth of the wellbeing score are referred to as ‘just managing or struggling’; here we can point to those attributes that can be avoided to improve wellbeing in later life.

**DOING WELL:** Those who are in the top fifth of the wellbeing score are referred to as ‘doing well’; here we can point to those attributes that be promoted to improve wellbeing in later life.



# Bottom fifth

Average wellbeing score of 32.5%

## Identifiers



## Deciding factors

### Personal

In cognitive tests involving word recall, verbal or numeric ability, over 90 per cent of this group scored less than the middle score for those in the top fifth group.

More than half of them live alone.

People in this group are significantly more likely to be helping / caring 20+ hours a week.

### Social

23 per cent do not take part in creative and cultural activities.

85 per cent are not engaged regularly in social activities, such as at a social or sports club.

80 per cent are not involved in any civic activities, such as belonging to political parties, the Neighbourhood Watch, a religious group or a pensioner's group.

12.5 per cent report having no friends.

Their sense of the 'neighbourliness' in their community is lower than in the general population – although 75 per cent still rate their community as neighbourly.

### Health

Fewer than one per cent are involved in sports and physical activities.

88 per cent have a long-standing illness or disability.

42 per cent have three or more diagnosed health conditions.

84 per cent have a mental health score which is lower than the middle score for those in the top group.

### Resources

Much more likely to rent (61 per cent) or have an outstanding mortgage (11 per cent) – less than one third are outright home owners.

27 per cent have a means-tested benefit.

### Local

Low satisfaction with local medical services and public transport as well as with local leisure and shopping facilities.

# Top fifth

Average wellbeing score of 75.8%

## Identifiers



## Deciding factors

### Personal

Considerably higher thinking skills in cognitive tests compared to those in the bottom group.

Only one out of five live alone.

One in five provide help / care, but at less intensive levels.

### Social

They all are involved in some form of creative and cultural activity.

They are also four times more likely than the bottom fifth to undertake some form of social activity.

55 per cent are involved in some form of civic activity.

95 per cent have two or more friends.

People in this group rate neighbourliness in their community more highly than those in the bottom group.

### Health

90 per cent undertake some sports and physical exercise activities.

Three out of four do not have any long-standing illness or disability.

50 per cent of them have no diagnosed health condition.

### Resources

85 per cent of them are outright home owners.

No means-tested benefits.

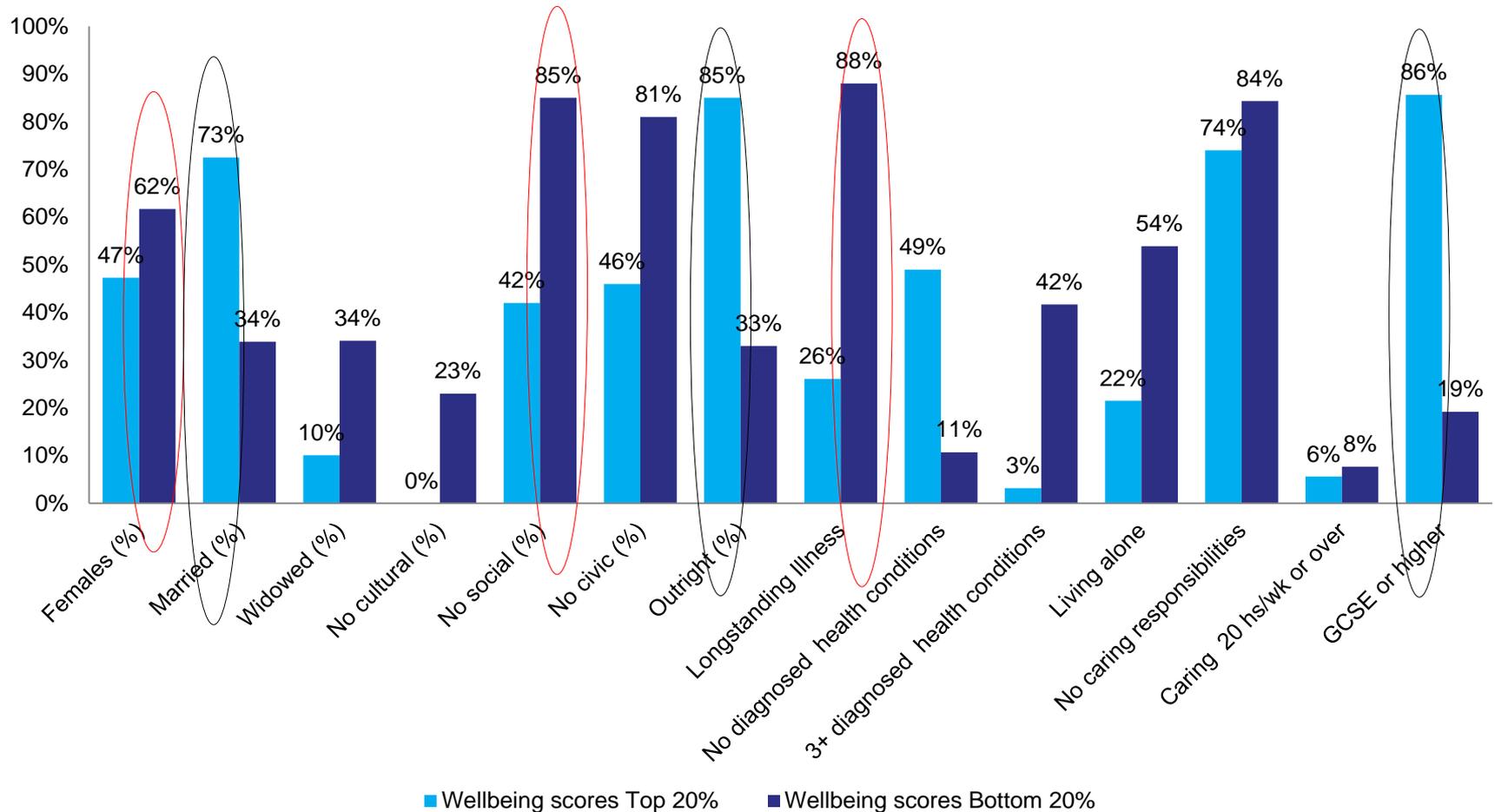
Average financial wealth in excess of £50,000.

### Local

More often satisfied with local medical services and public transport as well as with local leisure and shopping facilities.

# Inequality in wellbeing in later life

composition of bottom 20 percent compared to that of top 20 percent



## Part 4

# Conclusions/ What next?



# Conclusions

- Wellbeing of older people is influenced by a wide range of factors affecting a person's life, so we should think quite broadly when deciding how we can improve wellbeing in later life.
- Policy insights can be drawn by reviewing malleable attributes of older people and their communities to be influenced by public policies and local level programmes, (such as ensuring there is ample opportunity for people to participate in various kinds of social, cultural, and physical activities, and raising awareness about the benefits of these activities).
- Other attributes of older people can serve as identifiers for targeting (say by service providers), as they are not easily changed (if at all), such as marital status/ living arrangements.

# What next?

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There are multiple uses of Age UK's Index of Wellbeing in Later Life.

- To start with, it helps us identify high risk groups and highlight policies and programmes and individual behaviours to change, and it can serve the local Age UK offices.
- It will help us monitor changes in the lives of older people in the country and facilitate evaluation of success of certain policy instruments.
- The tool can be further developed for *ex-ante* evaluation of alternative policy packages to the goal of improving wellbeing in later life.



# Thank you



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