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Measuring attitudes to age in Britain: Reliability and validity of the indicators

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Contents

List of tables

Lust of figures

Acknowledgements

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Abbreviations

CIS	Core Indicator Set
DWP	Department for Work and Pensions
ESS	European Social Survey
RMSEA	Root Mean Square Error of Approximation
SCM	Stereotype Content Model
SD	Standard deviation
UK	United Kingdom
VQ	Validation Questionnaire

Summary

This report presents the findings from the analysis of two data sources used to measure attitudes to age and experiences of ageism in Britain. The aim of the analyses was to understand in greater detail how well these data sources captured attitudes to age and experiences of ageism and use this to develop a reliable and short set of indicators for further use in an omnibus survey. The indicators analysed allowed the evaluation of nine aspects of age attitudes and experiences:

1   perceived permeability of age categories and boundaries;

2   perceived status of age categories;

3   social distance;

4   perceived threat of age categories;

5   stereotype content associated with age categories;

6   direct prejudice towards age groups;

7   experienced discrimination;

8   contact with different age categories; and

9   seriousness of prejudice.

In order to develop and establish a reliable limited set of indicators to measure attitudes to age in the United Kingdom (UK), potentially relevant indicators were evaluated in a stepwise procedure. Firstly, data from UK respondents to the Age Attitudes module of Round 4 of the European Social Survey (ESS) were analysed in order to reach initial recommended indicators to test further. Secondly, the recommended indicators were included in a questionnaire together with a number of additional related indicators measuring the same concepts. This analysis allowed an examination of the reliability or interconnectivity of the indicators respectively. Data on these indicators were collected from a new sample of 200 young and 200 older people. The analyses of this data showed that the reliability and validity of recommended indicators was fully sufficient to advocate their use in the Core Indicator Set (CIS). A final set of recommendations were made for the organisation of relevant sets of indicators for future national surveys measuring attitudes to age.

1   Background

This report presents the research undertaken by the University of Kent to develop a reliable and short set of questions to be used in an omnibus survey measuring attitudes to age and experiences of ageism in Britain. The ESS includes a rotating module on Ageism (designed by Professor Dominic Abrams, University of Kent) with data from the UK in its fourth round. However, the fifth and sixth round will not include this module and therefore, data on attitudes to age will not be available for at least the next four years.

Nevertheless, in light of the ageing population, it is crucial to monitor age-based discrimination (i.e. ageism) and attitudes to age in society over time. Age, along with sex and ethnicity, serve as primary bases on which people categorise one another in everyday life. Thus, age serves as a perceptual indicator of abilities, competence, skills, experience and even health status. Ageism arises in relation to specific age points, particular age ranges, and also in terms of general category labels such as 'young' or 'old'. Ageism permeates people's reactions to physical appearance, their use of language; and imagery in advertising, employment and healthcare practice (cf. Wilkinson and Ferraro, 2002). Previous research revealed that over a quarter of respondents in Britain experienced ageism (Abrams, Eilola and Swift, 2006), and that ageism was experienced by more people than any other form of prejudice.

The term ageism was introduced in 1969 by Robert N. Butler, the then Director of the National Institute on Aging in the United States. He defined it as involving prejudicial attitudes towards older persons, old age and the ageing process, along with discriminatory practices and institutional policies that perpetuate stereotypes about older people. While this definition is generally accepted, it should also be considered that 'ageism' encapsulates unwarranted assumptions about people of any age on the basis of their age alone.

In light of the steadily ageing population in Britain, it is important to monitor changes that may influence attitudes to age in society. For instance, changes in legislation, such as changes to the state pension, have the potential to create a greater divide between the different generations. A national survey on attitudes to age, at this point in time, is a unique opportunity to monitor any of these changes. Measurement of the psychological aspect of ageing and attitudes to age (e.g. age stereotypes), as well as comparable intergenerational attitudes, will be important in revealing much of the social environment of change that could occur in Britain over the coming years.

Hence, the research in this report was conducted to ensure that attitudes to age could continue to be monitored in an efficient and reliable way. For this purpose, it was necessary to develop and establish a set of indicators that could be used in omnibus surveys with representative samples in Britain. This report summarises the analysis that led to the final proposed CIS to be used as measures of attitudes to age in the UK.

The research project consisted of two phases. Preliminary analyses with data from the ESS were conducted in Phase I with the aim of identifying a CIS. A total of ten components were analysed that cover a variety of important social psychological concepts on attitudes to age and ageism. These components have been used in previous research in a UK context and proven to be useful to provide a benchmark on attitudes to age (Abrams and Houston, 2006; Age Concern England, 2004; Ray, Sharp and Abrams, 2006). The ten components are: (1) perceived permeability of age categories and boundaries, (2) perceived status of age categories, (3) social distance, (4) perceived threat of age categories, (5) stereotype content associated with age categories, (6) intergroup emotions towards age groups, (7) direct prejudice towards age groups, (8) experienced discrimination, (9) contact with different age categories, and (10) seriousness of prejudice. The analyses and results are reported in Chapter 2.

Despite the high quality of the ESS data and its substantial sample size, there are important limitations to be addressed before recommending an indicator set for longer-term use in the UK context. Some of the content and indicators that were originally envisaged for inclusion in the ESS were ultimately dropped owing to considerations that included cross-country applicability, translation ambiguities, or the need to pare down the total item set. Hence, evaluations of this set of indicators are restricted in regard to establishing reliabilities of the indicators. Consequently, it was desirable and valuable to establish greater certainty over the reliability of the indicators for inclusion in UK omnibus surveys in future. For this reason, in Phase 2, a new questionnaire (the 'Validation Questionnaire,' hereafter referred to as the VQ), was designed and run to provide further evaluation of the recommended indicators. The number of indicators for each measured concept was expanded so that the reliabilities of each individual indicator could be examined. The analysis was designed to establish whether the statistical and substantive properties of each indicator and groups of indicators suggested from Phase I, were sufficiently good for them to be used as reliable single item measures in a national indicator set for attitudes to age. The statistical analysis from Phase II also allowed different combinations of the CIS to be developed to address different strategic policy focus. The analyses and findings are reported in Chapter 3.

2   Phase I: Examining the European Social Survey indicators

The age module in the ESS contains a total of ten concepts, assessed by 55 indicators measuring attitudes to age and experiences of ageism. By analysing the properties and interconnectivity of the indicators used within the ESS age module, a reduced CIS was developed covering all important aspects of ageism and attitudes to age in Britain.

Analyses, based on the content of the indicators and further statistical findings from ageing research, revealed nine concepts that should be measured in a national survey on age. Through the research the number of indicators was reduced to 23, to provide a CIS that would be able to assess attitudes to both young and old age. The following sections introduce each concept and the respective ESS indicators, followed by the analyses and recommendations for reducing the number of indicators. Appendix A provides a further overview of all ESS indicators in the ESS age module as well as the recommended indicators based on Phase I of the project.

2.1   Analytic strategy

In Phase I of the project, UK data[1] from the Age module in the ESS were analysed. The module contains 55 items assessing attitudes to age corresponding to ten different constructs.

The main aim of this research was to recommend a reduced set of items covering all important constructs measuring attitudes to age. All ten theoretical constructs are likely to provide useful indicators. Hence, the objective was to test whether single items or pairs of items can represent each of the constructs. For example, the survey includes three different items to measure the extent to which people experience ageism against themselves (the construct being 'experience of prejudice'). Preliminary analyses have shown that a single item will serve well. Another example is the construct of 'stereotypes', involving 16 items. Six items (three relating to older people and a parallel set for younger people) have been identified that appear to capture the relevant information.

Initially, a standard statistical procedure for reducing the length of questionnaire scales (e.g. Stanton, Sinar, Balzer and Smith, 2002) was followed in the main analyses in Phase I. However, comparisons of ESS age module items with items from the core and other modules in the ESS indicated that the latter indicators could not be used for validity checks. For instance, items in the age module were tested against a question from the core ESS that asked about experiences of age discrimination. This revealed little consistency but this could have been because of serious measurement problems with the core indicators of the ESS.

Hence, this research adopted a different approach by looking into how items assessing each construct compare in terms of response distributions (e.g. means and variance). The research also covered inter-correlations among items (how items assessing one construct relate to items assessing another construct). For instance, when evaluating items for experiences of age discrimination, distributions of responses were compared on the various indicators and how these

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[1]   Data collected between 1 September 2008 and 19 January 2009, with a sample size of 2,342 (response rate = 54 per cent).

indicators were related to the age of respondents was further analysed. Another example was the comparison between reported attitudes (prejudice) towards age groups and reported contact across generations.

Exploratory and confirmatory factor analyses aimed to examine the reliability of specific constructs (e.g. items on stereotypes). However, a factor analytical approach was not compatible with the indicator set because of insufficient or diversely measured indicators. Therefore, an approach based on more detailed item and inter-item analysis was pursued, informed by earlier work on the Age Concern England data (Abrams, Eilola, *et al.*, 2006).

2.2   Measured concepts in the European Social Survey and recommendations for the Core Indicator Set

2.2.1   Perceived permeability of age categories and boundaries

Age categorisation is the process of classifying people as belonging to a certain age group, and by implication not to other age groups. Age categorisation is highly relevant to the issue of age-based discrimination. Ageism arises in relation to specific age points, particular age ranges, and also in terms of general category labels such as 'young' or 'old'. People also apply ageist stereotypes to themselves, sometimes without being aware they are doing so (Levy and Banaji, 2002). Socially and psychologically, the use of age categorisation can be highly problematic because it may cause people to restrict their own horizons based on ageist assumptions (e.g. they see themselves as 'too young' or 'too old' to pursue particular activities or roles). For this reason, the very act of categorising others into different bands and the way people define those bands has significant implications for people's choices and actions.

Although age categories are based on natural and physical attributes, the boundaries between the categories are fuzzy and the representations (stereotypes) about the categories are centred on prototypes (the image of a 'typical' member of the category). There is already evidence from within the UK that older and younger people use substantially different boundaries for classifying people as young and old.

A concept that is also relevant in regard to age categorisation is intergenerational categorisation. There has been considerable effort in the last decade to measure how people categorise one another into the same and different groups. A number of techniques have been developed, partially based on Gaertner and Dovidio's (2000) 'common ingroup identity model'. Their extensive research shows that prejudice is lowered when people from another group are perceived either purely as individuals or as sharing a common group with oneself rather than as belonging to distinctive and separate groups. These perceptions also shape the way people might react when they think those people are victims of prejudice. Moreover, it should be the case that positive intergroup contact creates the potential for better understanding of the outgroup and perhaps establishment of a common ingroup, or superordinate, identity, as well as linking a member of the outgroup to the self-concept (Brown and Hewstone, 2005).

The age module in the ESS includes five items on perceived permeability of age categories and boundaries, three of which were recommended to be included in the VQ:

• generally, at which age do people stop being described as young;

• at which age do people start being described as old;

• how respondents describe people in their 20s and in their 70s (as one group, two separate groups, individuals).

These three items define the perceived age boundaries. The other two items assess age identification. Measuring age boundaries is more valuable for longitudinal research in order to investigate changes in perceived boundaries between these age categories.

2.2.2   Perceived status of age categories

Age groups are associated with different roles, status, power and social responsibilities. Previous research (with limited samples) suggests that the middle-aged age group is perceived as having the highest social status, followed by young, and old age groups (Garstka, Schmitt, Branscombe and Hummert, 2004).

The ESS age module includes three items that ask directly for perceived social status (for people in their 20s, for people in their 40s, and for people over 70). These items were adapted from Garstka, *et al.* (2004).

The data show that people in their 40s are perceived to have the highest social status among the three target groups. All three indicators should be included in a national survey, but if necessary they could be reduced to two indicators by using 'people in their 40s' as a reference category and asking respondents the following two questions:

• Compared to most 40-year-olds, do you think people in their 20s have higher or lower status?

• Compared to most 40-year-olds, do you think people above 70 have higher or lower status?

The response scale could range from 'extremely low status' to 'extremely high status' or alternatively from 'much lower status' to 'much higher status'.

2.2.3   Social distance

Social distance assesses the willingness to have close contact with different age groups. Older people may be stigmatised through the creation of social distance and avoidance, as well as displays of disapproval (e.g. see Nelson, 2002). Hence, social distance is an important variable that assesses ageist attitudes and should be included in a survey monitoring changes in attitudes to age.

The ESS survey contains two questions assessing social distance: "How acceptable or unacceptable do you think most people would find it if their boss was a suitably qualified 25-year-old/70-year-old?". Both of these questions are recommended for the CIS.

2.2.4   Perceived threat of age categories

Perceived threat is the perception of other groups and their members as posing a challenge to important ingroup goals. Stephan and Stephan (2000), focusing on inter-ethnic prejudice, developed items related to realistic threat (safety, security, health), symbolic threat (culture), and economic threat. These same constructs can be used in relation to age. Evidence from the UK (Age Concern England) surveys (Abrams, Eilola, *et al.*, 2006) suggests that older people currently pose little realistic or symbolic threat, but there is substantial concern about their economic impact, particularly among younger people. Hence, assessing people's perceptions of intergroup threat and their views regarding principles of equality and justice relating to age differences provides a benchmark of current attitudes to age.

It is reasonable to expect that not only older people pose a threat to younger people, but that also younger people may be seen as posing both an economic threat (as cheaper labour) and possibly a symbolic threat (e.g. through the loss of national traditions). Hence, to assess whether relations between different age groups are negatively affected by conflicts, it is essential to include measures of threat. Based on previous research, economic conflicts should be the most salient concern and lead to ageist attitudes, because they provide a basis for resentment and prejudice.

The age module in the ESS included seven items on perceived intergenerational threat. Four items assessed perceived threat from people in their 20s and three items assessed perceived threat from people over 70. The relevance to the growing need for pension provision as well as competition for part-time work from older people suggested that, of the seven items, the reduced indicator set should use only the two items referring specifically to economic threat.

In some of the following analyses, younger or older sections of the sample are focused on separately. This is because focal tests of anticipated relationships are directed at contrasting age groups. Indeed, the data sometimes show curvilinear relationships with age, confirming the need to pursue analyses of this type.

Table 2.1 presents correlations between items on perceived threat and the overall attitude towards the target group (scaled from negative to positive) as well as its perceived social status. The economic threat item was a stronger predictor for both measures compared to the other items, which supports the view that the economic threat item is likely to be a good choice among the threat items.

Table 2.1   Correlations between items referring to perceived threat and overall attitude and perceived social status of the target group

	People in their 20s as target group		People over 70 as target group	
	Overall attitude	Social status	Overall attitude	Social status
People in their 20s/over 70 contribution to the economy these days	.36***	.24***	.08**	.16***
People in their 20s/over 70 effect on customs and way of life	.04	.00	.12***	.00
How worried about level of crime committed by people in their 20s	-.10***	.07*	—	—
How worried that employers prefer people in their 20s rather than 40 or older	-.03	.07*	—	—
People over 70 are a burden on UK's health service these days	—	—	-.15***	-.06*
			Responses from respondents over 40 (N = 1,473)	Responses from respondents under 50 (N = 1,265)

Note: * p < .05, ** p <. 01, *** p< .001.

2.2.5   Stereotype content associated with age categories

Stereotypes are socially shared beliefs about the characteristics of the members of a social group, which are learned from socialisation and automatically activated in situations where the attributes of the social group are salient. They 'essentialise', maintain, accentuate and justify the differentiation between social categories.

Recent research shows that, apparently positive stereotypes ironically serve to justify the exclusion or oppression of certain groups in society. Fiske, *et al.*'s (2002) Stereotype Content Model (SCM) sets out the basic elements of all stereotypes (Cuddy, Norton and Fiske, 2005), demonstrating that these

could be generally classified along the two dimensions of warmth and competence. Groups that are the target of 'envious' and more overtly hostile prejudice are perceived as higher in competence but lower in warmth. In contrast, groups that are targets of 'paternalistic prejudice' are perceived as relatively low in competence but high in warmth. These perceptions were also associated with socio-structural relationships among the groups. High status groups were often perceived as competent but cold (e.g. men and Jews), whereas low status groups were perceived as warm but incompetent. High-status groups may find it beneficial to attribute traits of warmth (but not competence) to low-status groups.

Using the SCM, Cuddy and colleagues (2005) conducted a cross-cultural study involving non-representative but comparable samples of students showing that in many cultures (i.e. USA, Belgium, Costa Rica, Hong Kong, Israel and South Korea) older people are systematically perceived by younger people as warm but incompetent. As expected, this perception was linked with the view that older people have low status as a group. Studies have shown that both in England (Age Concern England, 2004) and in Portugal, older people are systematically viewed as a group with lower competence and higher warmth than younger people. However, the existence of differences between countries in the absolute levels of perceived competence (e.g. of older people) underlines that these perceptions can be strongly affected by social/cultural factors and hence that they are potentially changeable.

Previous UK research indicates that older and younger people are also victims of different types of prejudice. Older people tend to be perceived paternalistically and these perceptions are associated with 'benevolent' feelings such as pity and sympathy that are positive in tone. They have serious implications (e.g. for employment) if identical failures in performance are explained in terms of lack of competence in the old but lack of effort among the young. Moreover, prejudice cuts both ways – younger people are judged to be relatively cold, which is likely to result in their being excluded from other activities and opportunities. Understanding the stereotype content applied to different age ranges, therefore, provides clear insight into the likely differences in opportunities that these groups will be afforded.

Eight items in the ESS age module assessed stereotype content associated with age categories using people in their 20s and people over 70 as target groups. These items were analysed extensively, both in terms of how they were related to each other and how they were related to other items in the module. Stereotype items were compared with items on perceived social status and whether people would accept a person from the target group as their boss. Moreover, it was tested how stereotype items related to theoretically associated emotions (envy, admiration, pity, contempt).

Mean values for stereotype items were as expected (e.g. people over 70 scored substantially higher for having high moral standards and respect). However, factor analysis did not support a model assuming a clustering of apparently warmth-oriented items (friendly and having high moral standard) and a clustering of competence items (competent and viewed with respect).[2] Instead, factor analysis of the four stereotype-related items indicated that **friendly** and competent loaded on one factor, whereas **high moral standards** and **viewed with respect** loaded on a different factor.

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[2]   Attempts to model all eight stereotype items and the hypothesised factors with confirmatory factor analysis failed. Estimations resulted in non-positive definite covariance matrices, a not admissible solution. Moreover, goodness-of-fit indices, such as Root Mean Square Error of Approximation (RMSEA) (which should be around .06) was relatively high (.08) with this model. Factor loadings were also lower with this model than the alternative model developed based on the data.

This model had good fit with the data when estimated with confirmatory factor analysis (with all stereotype items for people in their 20s and for people over 70 estimated in one model).[3]

The grouping of **high moral standards** and **respect** seems intuitively reasonable (people are likely to have respect for those whom they regard as having high moral standards). The clustering of these two items suggests that one of them might be dropped in the reduced indicator set. The clustering of friendly and competent, however, may not be intuitive. It is recommended that both these items are included, even in the reduced item set. Consequently, a reduced item set could focus on three stereotype items: viewed as friendly, viewed as competent, and viewed as having high moral standards.

As a further reduction, the item 'viewed with respect' was dropped because it did not directly refer to a stereotype and analyses supported the assumption that viewing a particular age group with respect may be an effect both of perceived warmth and of perceived competence, making it difficult to distinguish the role of these two stereotypes.

When applied to each age category (20s and over 70) the three stereotype items selected were all statistically significant predictors of respondents' overall attitude towards that age category ($p < .001$). However, regression weights were small for single stereotype items (with standardised regression weights between 0.09 and 0.13). In contrast, a factor (latent variable) developed based on the three selected stereotype items was substantially associated with the overall attitude (for both target groups, the estimated factor correlated at 0.31 and 0.30 with the item assessing the overall attitude). This confirms that the three items do work together in the expected fashion, and that they can potentially also be combined into a reliable superordinate stereotype index.

2.2.6   Intergroup emotions towards age groups

As already laid out in the previous section, stereotypes are closely related to intergroup emotions, representing a form of indirect prejudice. Cuddy *et al.* (2005) found that older people are usually viewed as 'warm' but incompetent and are, therefore, **pitied**. Younger people may be seen as competent, but rather 'cold' and may, therefore, be **envied**.

There are eight items in the age module in the ESS that assess emotions. Respondents indicated to what extent they believed that 'most people' maintain envy, admiration, pity, contempt towards people in their 20s and people above 70. Correlations, multivariate associations between stereotype and emotions, and also potential two- and three-way interactions between stereotypes as predictors of the four emotions, were all inspected. Perhaps disappointingly, the conclusion was that a reduced questionnaire could omit questions that ask people for their perception of most people's emotions towards age groups, in part because the emotion items had weak associations with stereotype content associated with age categories.

2.2.7   Direct prejudice towards age groups

Ageism assumes a different pattern than other forms of prejudice in the sense that in certain situations, or when thinking of particular contexts, people generally seem to be less cautious about expressing age prejudice explicitly (Nelson, 2002). In this way, ageism is quite distinctive from prejudice based on race or gender.

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[3]   For example, RMSEA = .048 for a model with all eight items, using four factors. In this model, factor loadings were high (standardised over .70) for all items referring to people in their 20s. Items referring to people in their 70s had factor loadings varying between .56 (high moral standards) and .73 (respected); factor loadings for items friendly and competent were strong (.66 and .68).

Since ageism seems to be expressed more freely, it is important to understand who feels more (and less) inhibited about expressing ageism and why. For this reason, it is valuable to include these items, tapping into direct forms of prejudice against younger and older people.

One item in the ESS age module assesses the respondent's overall attitude (positive-negative) towards people in their 20s; another item assesses the respondent's overall attitude towards people over 70. These items are easily understood and unambiguous measures that can be repeated over time.

2.2.8   Experienced discrimination

Negative discrimination is the behavioural denial of a benefit or right to someone, based on the classification of a person as a member of a social category. In order to assess age discrimination, it is essential to also record people's experience of prejudice, not just against a group they happen to belong to, but against themselves as a result of their membership of that group.

The age module in the ESS uses three items on perceived age-based discrimination:

- How often, in the past year, has anyone shown prejudice against you or treated you unfairly because of your age?

- How often, if at all, in the past year have you felt that someone showed you a lack of respect because of your age, for instance by ignoring or patronising you?

- How often in the past year has someone treated you badly because of your age, for example by insulting you, abusing you or refusing you services?

The three items were strongly correlated (with correlations at 0.56 or higher). A reduced item set may reasonably use only one of these items. The first item – **How often, in the past year, has anyone shown prejudice against you or treated you unfairly because of your age** – is a reasonable choice among the three. Figure 2.1 shows how the respondents' age was related to answers to this item. The graphical presentation includes a so-called cubic regression line to estimate the relationship between the two items (the R^2 of 0.111 means that 11 per cent of the variance in perceived prejudice because of age was explained by respondents' age). Analyses of the two other items on perceived discrimination (felt lack of respect, treated badly) resulted in a very similar regression line, however, with lower explained variance in perceived prejudice (i.e. lower R^2 for perceived prejudice).

The association between respondents' age and their experiences of age discrimination can also be described by splitting the sample into two sub-samples based on age – up to 40 and older than 40. For people up to 40, the analysis uncovered a substantial negative correlation between age and experiences of age prejudice because of age ($r = -0.38$, $p < .001$, $n = 847$). The younger people were, the more likely they were to experience prejudice because of age. In contrast, the analysis of answers from respondents over 40 uncovered no association between age and experienced prejudice ($r = -0.04$, $n = 1476$). Analyses of the two other items referring to age-based discrimination gave similar results, although with weaker associations between reported discrimination and age among those below 40 ($r = -0.30$ and $r = -0.27$, $ps < .001$).

Figure 2.1   Regression line (non-linear) for the association between age and experienced prejudice, based on the item 'How often, in the past year, has anyone shown prejudice against you or treated you unfairly because of your age'
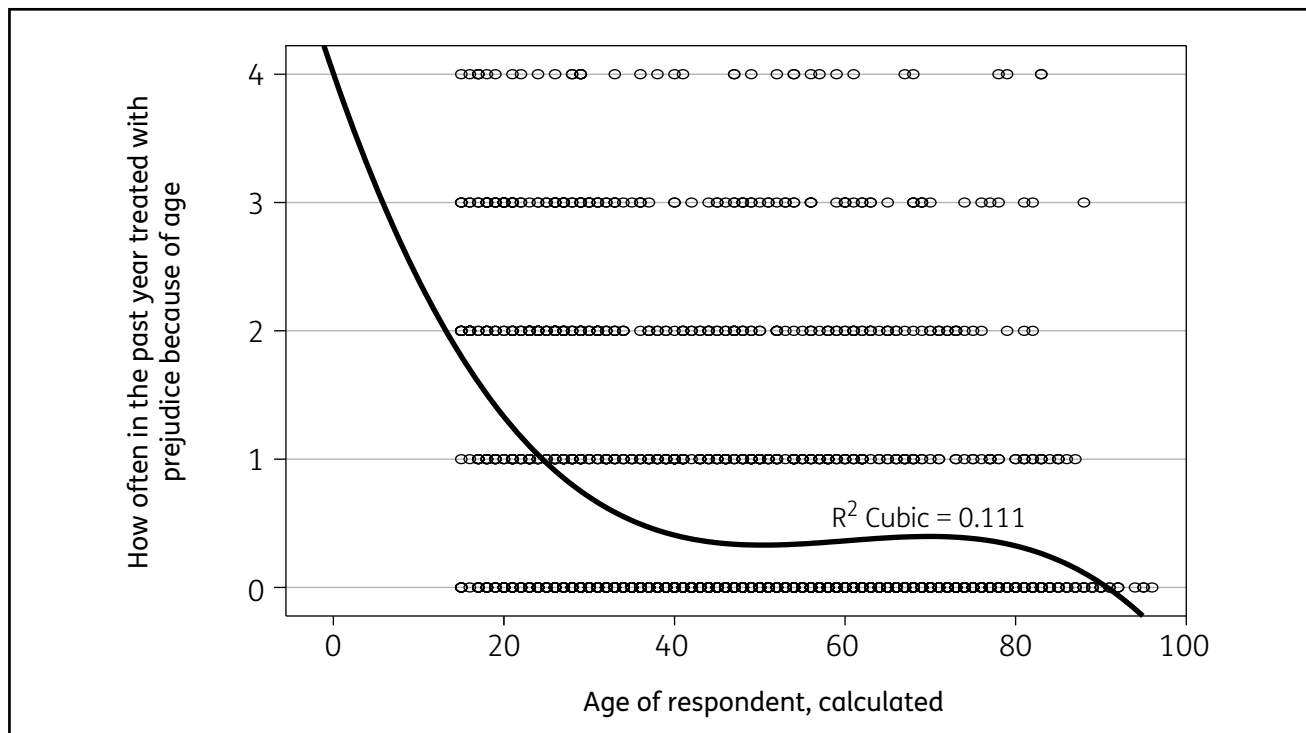
This indicates that the first item should be used, although it was also noted that there was more variability in the item tapping respect. These items are best viewed as threshold items, which is to say, it is of greater interest whether a person experienced **any** age prejudice than how much they experienced. This is justified because people will probably reliably recall the most recent or most vivid instances and are less likely to make very accurate frequency estimates.

There was also an important measurement effect on experiences of discrimination. In the core (i.e. not the age module) section of the ESS, very few respondents indicated that they had been discriminated against because of age – only 2.7 per cent. As shown in Figure 2.2, responses to this item were not consistent with the comparable prejudice item from the age module. (Similar results were obtained for the two other age module items assessing experienced prejudice.) Nearly one-third (27.3 per cent) of those who indicated they had not experienced age discrimination in the core section of the ESS indicated that they had experienced prejudice because of age when answering the age module questions. Moreover, nearly one half (44.4 per cent) of those who said they had experienced discrimination because of age in the core section, said they had not experienced age-related prejudice in the age module.

Table 2.2 **Cross tabulation of the item on age discrimination in the core section of the ESS and the selected item on experienced prejudice from the age module. (Percentages for responses to the item from the age module)**

	ESS core item on discrimination because of age	
	Not marked %	Marked %
Item from the age module		
How often past year treated with prejudice because of age		
Never	72.7	44.4
1	12.9	14.3
2	8.1	22.2
3	4.9	11.1
Very often	1.4	7.9
Total	100.0	100.0

It appears that the very low numbers who said they experienced age prejudice in response to the ESS core item are attributable to measurement problems associated with that item. The item asks whether respondents belong to a group that has experienced prejudice. However, it is likely that respondents interpreted this as meaning a physical group of people not a social category. The item in the age module asks whether prejudice was experienced because of their age. It is plausible that this provides a much more accurate estimate of experiences of ageism. Indeed, evidence from an earlier Department for Work and Pensions (DWP) report (Abrams, Eilola, *et al.*, 2006) indicates that the measures are consistent with previous evidence, and are meaningfully related to other variables (e.g. age). There are other limitations associated with the ESS core item. One is that it is integrated in a long list of possible sources of discrimination. It is highly likely that this list format also contributed to underreported discrimination because of cognitive overload on respondents. In addition, the core item is dichotomous (i.e. yes or no), which also produces measurement error.

2.2.9 Contact with different age categories

Perhaps the most important basis for age stereotypes and prejudice will be people's specific experiences in relation to others of different ages. The extensive literature on intergroup contact (Pettigrew, 1998) demonstrates that positive experiences of contact between members of different groups can lay the ground for positive attitudes and behaviour. Positive personal relationships, especially friendships, across intergroup boundaries are likely to generalise to produce more positive attitudes and less stereotyping of the outgroup as a whole. Related to research on contact is the idea from socioemotional selectivity theory (Krauss, Whitbourne and Sneed, 2002) that because of increased psychosocial maturity gained with age, older people are able to successfully control potentially negative experiences. Instead of putting themselves into situations where they could come into contact with strangers (who may hold ageist views and thus react negatively), older people surround themselves with family and friends who will provide positive responses and help maintain the older person's positive emotional state. Recent research also shows that older people with closer intergenerational contacts are less vulnerable to age 'priming' effects (i.e. activating negative associations with age in memory) on their performance. When told their performance on a cognitive test was being compared with that of younger people, older people with less

intergenerational contact performed significantly worse than those with more intergenerational contact (Abrams, Eller and Bryant, 2006). Therefore, an important indicator of a group's risk of discrimination or social exclusion is the extent to which its members are in regular positive contact with others.

The age module in the ESS included several items assessing contact across age groups. Age attitudes may differ from other forms of group prejudice by potentially being more affected by contact within families than between friends. People tend to seek friends who are of similar age (McPherson, Smith-Lovin and Cook, 2001), whereas families provide an opportunity for contact over age differences (only rarely between ethnic groups).

The age module in the ESS asked about contact with friends other than family members, whether it is possible to discuss personal issues with any of these friends, whether the respondent has younger or older family members, and whether it is possible to discuss personal issues with any of these family members. The survey also asked about work experience with people in their 20s and with people over 70.

Table 2.3 presents results from a multivariate regression analysis of contact items and the overall attitude towards the target group. The analysis of attitudes towards people in their 20s used the sub-sample of respondents older than 40 years; analyses of attitudes to people over 70 years used the sub-sample of respondents up to 50 years old.

Attitudes to people in their 20s was positively associated with the opportunity to talk with children or grandchildren aged 15 to 30 and work experience with colleagues in their 20s. Having children or grandchildren did not itself predict respondents' overall attitude towards people in their 20s. Instead the ability to discuss personal issues (i.e. actual contact) was important. Friendship (including the opportunity to discuss personal issues) had no association with the overall attitude towards people in their 20s.

Table 2.3   Contact variables as predictors of overall attitude

	Target group	
	People in their 20s[a]	People over 70[b]
Having friends in the target group (family members excluded)	.02	.09***
Can discuss personal issues with friend(s) in the target group	.00	.03
Having family members in the target group	.02	.13*
Can discuss personal issues with family members in the target group	.16***	.04
Time working with colleagues from the target group	.11**	.07

a Responses from respondents older than 40 ($n = 1476$).
b Responses from respondents up to 50 ($n = 1266$).

A subsequent analysis of answers from respondents older than 70 years ($n = 354$) uncovered that the possibility of discussing personal issues with family members of the target group was a moderate predictor (beta = .18, $p < .05$) of attitudes towards people in their 20s. Time working with colleagues from the target group was a stronger predictor (beta = .26, $p < .05$), the other contact predictors did not explain attitudes towards people in their 20s.

An analysis restricted to respondents up to 50 and using people over 70 as the target group (see Table 2.3) supported the assumption that having older family members positively affects attitudes towards elderly people. Having friends who were over 70 had a minor association with improved

attitudes towards people over 70. A similar analysis restricted to people below 30 (n = 416) or below 40 (n = 814) uncovered no significant associations between contact items and the overall attitude towards people older than 70.

Based on the analyses of contact items, two new items were developed and tested as part of the test survey for the reduced indicator set. These combined four of the items used in the ageism model of the ESS (friends, family members, opportunity to discuss personal issues with friends or with family members from the target group). The suggested items were:

• Do you have a friend or family member below 30 with whom you can you discuss personal issues such as feelings, beliefs or experiences?

• Do you have a friend or family member above 70 with whom you can you discuss personal issues such as feelings, beliefs or experiences?

A discussion point is whether it is valuable to retain a separate item about contact through work. In the ESS data, 14 per cent of respondents younger than 30 years of age reported to have worked with people over 70. Among people over 70, 31 per cent reported working with people under 30 years. These results suggest that there is already substantial intergenerational contact at work places, a form of contact that may increase in the future. This topic might require a separate investigation, involving comparison of employer statistics as well as probing of the contexts in which work contact happens (e.g. it might be voluntary work among older people and care work among younger people). Since the aim is to recommend a relatively short set of indicators, this question was not included; however, the nature of contact across age ranges through work is an important avenue for further research.

2.2.10   Seriousness of prejudice

By asking people about the seriousness of age prejudice, a benchmark of the extent to which ageism is viewed as an important issue in society by different age groups can be obtained. This has resulted in important insights in past surveys (Age Concern England (ACE), ESS) and will be of equal importance for future assessments of attitudes to age in the UK.

The ageism model in the ESS includes three indicators assessing awareness and seriousness of prejudice towards other age groups. These items ask for:

• the importance of being unprejudiced;

• the importance of being seen as unprejudiced;

• how serious discrimination against people because of age is.

The last item – How serious is discrimination against people because of their age – constitutes the most interesting item for a reduced questionnaire, but the response format could be revised to expand from the current six-point response format to at least a seven-point format (from 0 to 6) in order to increase variance in responses. In its current format, this item is moderately non-linearly associated with age, with its peak among older people and a moderate increase among younger people (see Figure 2.2).

Figure 2.2   Regression line (non-linear) for the association between age and reported seriousness of age-based discrimination
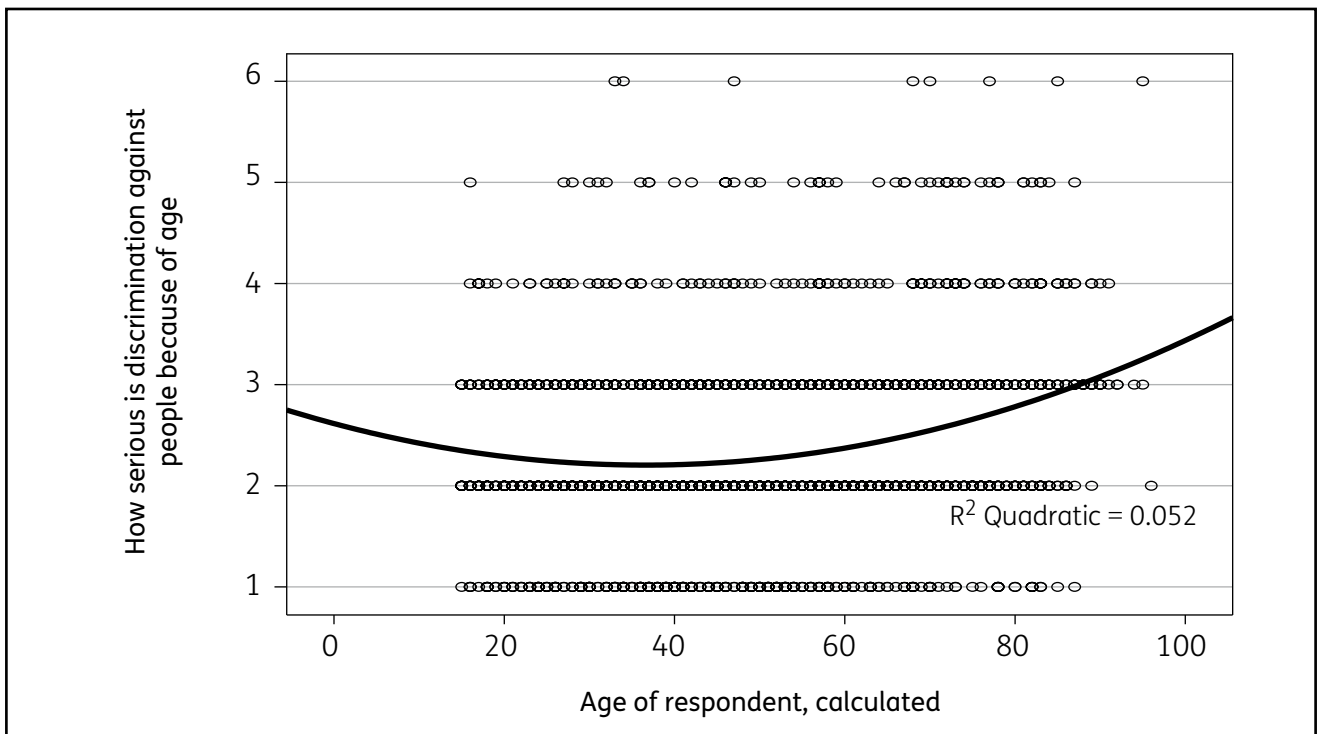
2.3   Conclusion

The recommended items based on the Phase I analyses are summarised in Appendix A. The preceding analyses point to some fairly clear decisions about prospective items in a reduced indicator set but they also point to several areas where new items need to be developed and tested to establish the reliabilities of the indicators pursued in Phase II of the project.

3   Phase II: Testing the reliability of the Core Indicator Set

In Phase II, the reliability of the indicators recommended in Phase I were evaluated to enable an understanding of the properties of the preliminary items suggested for the CIS, and to consolidate decisions about their suitability as single item measures in a national survey assessing attitudes to age.

The concepts for the CIS were drawn from the ESS 2008 Ageism module. In this module most of the constructs were measured using single or few items. However, the ESS data permitted only a limited evaluation of reliability. Hence, the purpose of the present work is to test the reliability of the CIS by including a larger number of potential indicators for each concept. Items were drawn from previous work in the UK context (Abrams, Eilola, *et al.*, 2006; Age Concern England, 2004; Ray, Sharp and Abrams, 2006) alongside some newly generated items. Furthermore, systematic validity tests were conducted on the CIS questions that would reveal whether what was intended to be measured was what was actually being measured.

In order to conduct these analyses, a VQ was designed including multiple items per concept. Data were gathered through the VQ from a sample of young people and a sample of older people (because these are the age groups that have the lowest perceived status and that most commonly experience age discrimination). All indicators should be measured consistently on seven-point response scales in line with best research practice (Oppenheim, 1992) and the optimal capacity of processing information (Miller, 1956).

Across all concepts, the recommended CIS indicators were among those that showed the highest reliabilities corroborating the choice of items for the reduced indicator set. Furthermore, the validity analyses confirmed the main hypotheses in regard to the interrelationships of CIS items. These analyses are an important contribution in establishing the usefulness of the CIS items for an omnibus survey on attitudes to age in Britain. The following sections describe the empirical study and summarise the main findings.

3.1   Method

3.1.1   Participants

The study involved 400 participants who were students and older people. The aim was to assess the covariance among items rather than to find differences between members within the age groups, so the purpose of the sampling was not to achieve representative samples of the population but simply to provide contrasting groups. Each sample should be as homogeneous as possible, being from the same region and social class, ethnic and gender mix. This was an appropriate strategy for testing reliabilities because it minimises error variance associated with sample heterogeneity. Respondents completed a self-report survey that added additional items to the central indicator items for each key construct. The reliabilities were verified statistically, with the analyses revealing how well the indicators capture the construct of interest.

Within the time and budget constraints the aim of the survey was to achieve 200 respondents within each sub-sample. The 200 students that participated in the study had an average age of 17.55 (standard deviation (SD) = 1.43). A total of 78.7 per cent were male and 21.3 per cent were female. They were mostly recruited from a school in Gravesend. A small proportion of young respondents (six per cent of the sample) were recruited from Canterbury city centre.

Two hundred people over 55 with an average age of 70.16 (SD = 8.14) participated. A total of 28.2 per cent were male and 71.8 per cent were female. They were recruited from among: a) students at the University of the Third Age; b) visitors to charity shops; c) Age Concern centres; and d) visitors to a coffee shop in Canterbury city centre.

3.1.2   Procedure

To increase motivation to participate in the study, a number of incentives were aimed at the separate age groups. For the young sample there was a prize draw for a £25 clothing voucher. For the older people there was a prize draw for an £80 food hamper, a second prize of £50 and a third prize of £25.

For the young sample, 184 questionnaires were handed out during several tutorial periods in Gravesend. A further 12 questionnaires were completed by young people, under 23, in Canterbury city centre. The questionnaires contained detailed instructions on the procedure for the study and how to complete the sections. There was a 100 per cent response rate.

For the older sample, people over 55 were contacted in numerous ways. Ninety-five participants were contacted through several University of the Third Age centres, where the researcher gave a short talk at each venue before setting up a stall for the questionnaires to be collected by the participants. The completed questionnaires were then mailed back via a supplied prepaid envelope. Participants were also recruited through charity shops in Canterbury. Questionnaires were displayed at the front till where customers could either complete them in store, or take them home and mail them via a supplied prepaid envelope. Participants were also recruited via a fabric shop in Canterbury where participants were offered a free hot beverage if they completed the questionnaire. Some participants were recruited via an Age Concern centre in Canterbury and passers by in the city centre, and in North Yorkshire. Both consent and debrief forms were included within the detachable cover sheet of the questionnaire. For the 800 questionnaires distributed, a 25 per cent response rate was received.

3.1.3   Items

The response scales for each measure are shown in Appendix B which shows the VQ.

(1) Perceived permeability of age categories and boundaries:

The recommended indicators for the CIS were:

- At what age do you think people generally start being described as old? (CIS1)

- At what age do you think people generally stop being described as young? (CIS2)

- Taking all things into account, how you see those in their 20s and those over 70? (CIS3, the response scale was a choice between four categories: 'as one group', 'two separate groups who are part of the same community', 'two separate groups who are not part of the same community', 'only as individuals, rather than groups')

In addition to these questions, the following questions were also asked:

- In your own opinion, at what age does youth end?

- In your own opinion, at what age does old age start?

(2) Perceived status of age categories:

The recommended indicators for the CIS were:

- How do you think most people in Britain would place the status of people in their 20s? (CIS4)
- How do you think most people in Britain would place the status of people in their 40s? (CIS5)
- How do you think most people in Britain would place the status of people over 70? (CIS6)
- What, in your view, is the social status of your age group compared to people in their 40s? (CIS7)

In addition to these questions, the following questions were also asked:

- How do you personally view the status of people in their 20s?
- How do you personally view the status of people in their 40s?
- How do you personally view the status of people over 70?
- In about five years from now, how much do you think the status of people in their 20s will improve or get worse?
- In about five years from now, how much do you think the status of people over 70 will improve or get worse?

(3) Social distance:

The recommended indicators for the CIS were:

- How acceptable or unacceptable do you think most people would find it if their boss was a suitably qualified 25-year-old? (CIS8)
- How acceptable or unacceptable do you think most people would find it if their boss was a suitably qualified 70-year-old? (CIS9)

In addition to these questions, the following questions were also asked:

- How comfortable would you feel if your boss was a suitably qualified 25-year-old?
- How comfortable would you feel if your boss was a suitably qualified 70-year-old?
- How comfortable would you feel if you had a neighbour who was 25 years old?
- How comfortable would you feel if you had a neighbour who was 70 years old?
- How comfortable would you feel with spending an entire day alone with a 25-year-old?
- How comfortable would you feel with spending an entire day alone with a 70-year-old?

(4) Perceived threat from age categories:

The recommended indicators for the CIS were:

- How much do you think people in their 20s contribute to the economy these days? (CIS10)
- How much do you think people over 70 contribute to the economy these days? (CIS11)

In addition to these questions, the following questions were also asked:

- Compared to people in their 40s, to what extent do you agree people in their 20s should receive special treatment in terms of education?

- Compared to people in their 40s, to what extent do you agree people in their 20s should receive special treatment in terms of health care and services?

- Do you think that equal employment opportunities in Britain for people in their 20s have gone too far or not gone far enough?

- How worried are you by the level of crime committed by people in their 20s these days?

- Do you think that most people in their 20s have a good or a bad effect on Britain's customs and way of life?

- Do you think that people in their 20s contribute very little or a great deal to upholding Britain's traditions and moral values?

- Compared to people in their 40s, to what extent do you agree people over 70 should receive special treatment in terms of education?

- Compared to people in their 40s, to what extent do you agree people over 70 should receive special treatment in terms of health care and services?

- Do you think that equal employment opportunities in Britain for people over 70 have gone too far or not gone far enough?

- Do you think that people over 70 take out more from the economy than they have put in?

(5) Stereotype content associated with age categories:

The recommended indicators for the CIS were:

- To what extent do you think most people in this country view those in their 20s as friendly? (CIS12)

- To what extent do you think most people in this country view those in their 20s as competent? (CIS13)

- To what extent do you think most people in this country view those in their 20s as having high moral standards? (CIS14)

- To what extent do you think most people in this country view those over 70 as friendly? (CIS15)

- To what extent do you think most people in this country view those over 70 as competent? (CIS16)

- To what extent do you think most people in this country view those over 70 as having high moral standards? (CIS17)

In addition to these questions, the following questions were also asked:

- To what extent do you personally view those in their 20s as friendly?

- To what extent do you personally view those in their 20s as competent?

- To what extent do you personally view those in their 20s as having high moral standards?

- To what extent do you personally view those over 70 as friendly?

- To what extent do you personally view those over 70 as competent?

- To what extent do you personally view those over 70 as having high moral standards?

(6) Intergroup emotions towards age groups:

This indicator was not recommended for use in the CIS.

(7) Direct prejudice towards age groups:

The recommended indicators for the CIS were:

- Overall how positive or negative do you feel towards people in their 20s? (CIS18)

- Overall how positive or negative do you feel towards people over 70? (CIS19)

Additional questions were not asked on this concept.

(8) Experienced discrimination:

The recommended indicator for the CIS was:

- How often in the past year has anyone shown prejudice against you or treated you unfairly because of your age? (CIS20)

In addition to this question, the following questions were also asked:

- How often in the past year has anyone showed you a lack of respect because of your age, for instance by ignoring or patronising you?

- How often in the past year has anyone treated you badly because of your age, for example by insulting you, abusing you or refusing you services?

- How often in the past year has anyone ignored you or not taken you seriously because of your age?

- How often in the past year has anyone treated you like a child because of your age, for example, by speaking slowly to you or making decisions for you?

(9) Contact with different age categories:

The recommended indicators for the CIS were:

- About how many friends or family members do you have who are younger than 30 and with whom you can discuss personal issues such as feelings, beliefs or experiences? (CIS21)

- About how many friends or family members do you have who are older than 70 and with whom you can discuss personal issues such as feelings, beliefs or experiences? (CIS22)

The response scale consisted in five categories defined as 'none', 1, 2-5, 6-9, and 10 or more. In addition to these questions, the following questions were also asked:

- How pleasant or unpleasant is contact for you with people in their 20s?

- To what extent would you like to have more regular contact with people in their 20s?

- How pleasant or unpleasant is contact for you with people over 70?

- To what extent would you like to have more regular contact with people over 70?

(10) Seriousness of prejudice:

> The recommended indicator for the CIS was:

- How serious, if at all, would you say discrimination is in Britain against people because of their age – whether they are old or young? (CIS23)

Additional questions were not asked on this concept.

3.2   Analytic strategy

Descriptive analyses were conducted first with a specific focus on examining age group differences. This indicated whether the findings from this study were consistent with findings from previous research in the area (e.g. Abrams, Eilola *et al.*, 2006; Ray *et al.*, 2006).

Reliability analyses were then conducted, with the primary focus on examining whether the CIS possessed adequate properties across the two different age groups. Cronbach's alpha (Cronbach, 1951) is usually computed as an index of reliability with alphas greater than .70 regarded as acceptable (Kline, 1999). However, Cronbach's alpha is typically very low for scales with few items (Cortina, 1993). Therefore, in the VQ, which consisted mostly of three items, it was more appropriate to interpret the mean inter-item correlation (mean r_{ij}) as a gauge for assessing reliabilities of the scales. The optimal range for mean r_{ij} has been recommended to be between .20 and .40 (Briggs and Cheek, 1986).

Validity analyses were also conducted, with only the recommended indicators for the CIS, since they are the main focus of this research. Indicators were correlated from the CIS that were supposed to be related to each other and tested whether they correlated in the expected way. Many of the concepts were supposed to be related to each other. However, the more correlational tests are performed, the more likely there is a chance of finding a significant effect, if in fact there is none. Therefore, in order to avoid this problem, only a selection of hypothesised relationships was tested.

3.3   Results and discussion

3.3.1   Descriptive analyses

Interval-scaled CIS

Descriptive statistics of the interval-scaled CIS (see Table 3.1) for all items that were included in the reliability analyses can be seen in Appendix C. Both tables show that in most cases, the responses to the items covered the full range of the response scale (1 to 7). This indicated that the items were generally not subject either to floor or ceiling effects.

In regard to the age categorisation items, young respondents perceived the end of youth on average at age 26 and the start of old age at age 53. Consistent with past research (e.g. Abrams *et al.*, 2006), the perceived end of youth and start of old age was on average later (at 40 and 66 respectively) for older respondents. The difference between the two age groups was highly significant (end of youth: $t(130.43) = -9.68$, $p < .001$; start of old age: $t(176) = -7.91$, $p < .001$).

Gender differences

Since female respondents were underrepresented in the young age sample and male respondents in the old age sample, all CIS items were tested for significant differences between male and female respondents. An independent samples t-test was conducted for this purpose and involved conducting 20 tests, which increased the probability of spurious effects by 64.15 per cent. To counteract a possible Type I error (concluding that there is a difference if in fact there is none), a more stringent alpha level of .01 was applied. The resulting analyses showed that there were no gender differences for the old age sample, but two significant gender differences for the young age sample concerning 'How acceptable for most, it would be if their qualified boss was 70?' (M_{male} = 4.34, SD = 1.56, M_{female} = 3.37, SD = 1.76, $t(176) = 3.29$, $p < .01$) and 'Most people view those in their 20s as having high moral standards' (M_{male} = 3.19, SD = 1.25, M_{female} = 2.57, SD = 1.11, $t(176) = 2.75$, $p < .01$). On average, female respondents scored lower than male respondents on both items. This may point to a gender-specific response set; however, since a significant gender difference was not found for the large majority of items this was not interpreted any further. It should be noted that this does not mean people have similar attitudes to males and females of any particular age – the indicators do not mention gender, and so this remains an unexamined area. The data do, however, indicate that male and female respondents are not very different in their attitudes and perceptions of age in general.

Age group differences

Employing the same principle as above for gender, an independent samples t-test was conducted to see whether there were significant differences in indicators of the CIS between the two age groups. By interpreting only highly significant effects, a difference between young and old respondents' rating of people over 70 as friendly ($t(3.22) = 1.46$, $p < .01$) was found. Young people tended to attribute more friendliness to old people than old people themselves. This is consistent with Fiske *et al.*'s (2002) finding that old people are perceived as warm by younger people. However, there were no differences in the attributed competence of old people between the two age groups. As in previous research there was a highly significant difference in experience of age discrimination. Younger people reported much more experiences of ageism ($t(397) = 14.90$, $p < .001$). An inspection of the descriptive statistics of the other age discrimination items used in the VQ showed that young people report consistently more experiences of age discrimination. This is consistent with what has been found in previous research (e.g. see Abrams *et al.*, 2006). This finding may point to an age-specific developmental issue for young people in that they want to be, but are not quite yet, seen and treated as respected and mature citizens of their society.

Table 3.1   Descriptive statistics of the CIS items

	CIS items	Young respondents				Old respondents			
		Mean	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
CIS1	Age stop being young	26.33	7.74	13	50	40.32	10.67	18	65
CIS2	Age start being old	53.15	11.25	21	100	66	9.26	40	82
CIS3	Categorisation of 20s and over 70	-	-	-	-	-	-	-	-
CIS4	Status of 20s	3.97	1.39	1	7	3.56	1.16	1	7
CIS5	Status of 40s	5.09	1.00	2	7	5.03	0.91	2	7
CIS6	Status of 70s	3.88	1.43	1	7	3.70	1.42	1	7
CIS7	Own age group status	3.51	1.59	1	7	4.06	1.29	1	7
CIS8	Acceptable 30-year-old boss	4.07	1.69	1	7	3.93	1.55	1	7
CIS9	Acceptable 70-year-old boss	4.13	1.62	1	7	4.14	1.58	1	7
CIS10	Contribution to economy of 20s	5.25	1.42	1	7	4.36	1.49	1	7
CIS11	Contribution to economy of 70s	2.85	1.41	1	7	3.79	1.54	1	7
CIS12	20s as friendly	3.63	1.31	1	7	4.06	1.29	1	7
CIS13	20s as competent	3.88	1.18	1	7	3.86	1.20	1	7
CIS14	20s as having moral standards	3.07	1.22	1	7	2.89	1.26	1	7
CIS15	70s as friendly	5.08	1.51	1	7	4.61	1.43	1	7
CIS16	70s as competent	3.60	1.55	1	7	3.80	1.40	1	7
CIS17	70s as having moral standards	5.62	1.3	1	7	5.23	1.39	1	7
CIS18	Positive feeling towards 20s	4.98	1.25	2	7	4.70	1.36	1	7
CIS19	Positive feeling towards 70s	4.82	1.29	1	7	5.45	1.14	2	7
CIS20	How often treated with prejudice	4.02	1.84	1	7	1.71	1.20	1	6
CIS21	Contact to people below 30	-	-	-	-	-	-	-	-
CIS22	Contact to people over 70	-	-	-	-	-	-	-	-
CIS23	How serious is age discrimination	3.71	1.62	1	7	3.69	1.55	1	7

Note: Min = minimum, Max = maximum. Indicators without descriptive statistics are categorical and reported in the next section.

Categorical CIS variables

Categorical variables of the CIS are the intergenerational boundaries (CIS3) and the contact questions (CIS21 and CIS22). Figure 3.1 shows the proportion of people perceiving different age boundaries in the young and older age sample. In both age groups a relatively small percentage perceived young and old to belong to one group (2.5 per cent and 7.3 per cent respectively) and a relatively high percentage perceived them as 'belonging to two groups, but from the same community' (55.3 per cent and 51.3 per cent respectively).

Figure 3.1   Proportion of people perceiving different kinds of age boundaries in the young and older age group sample
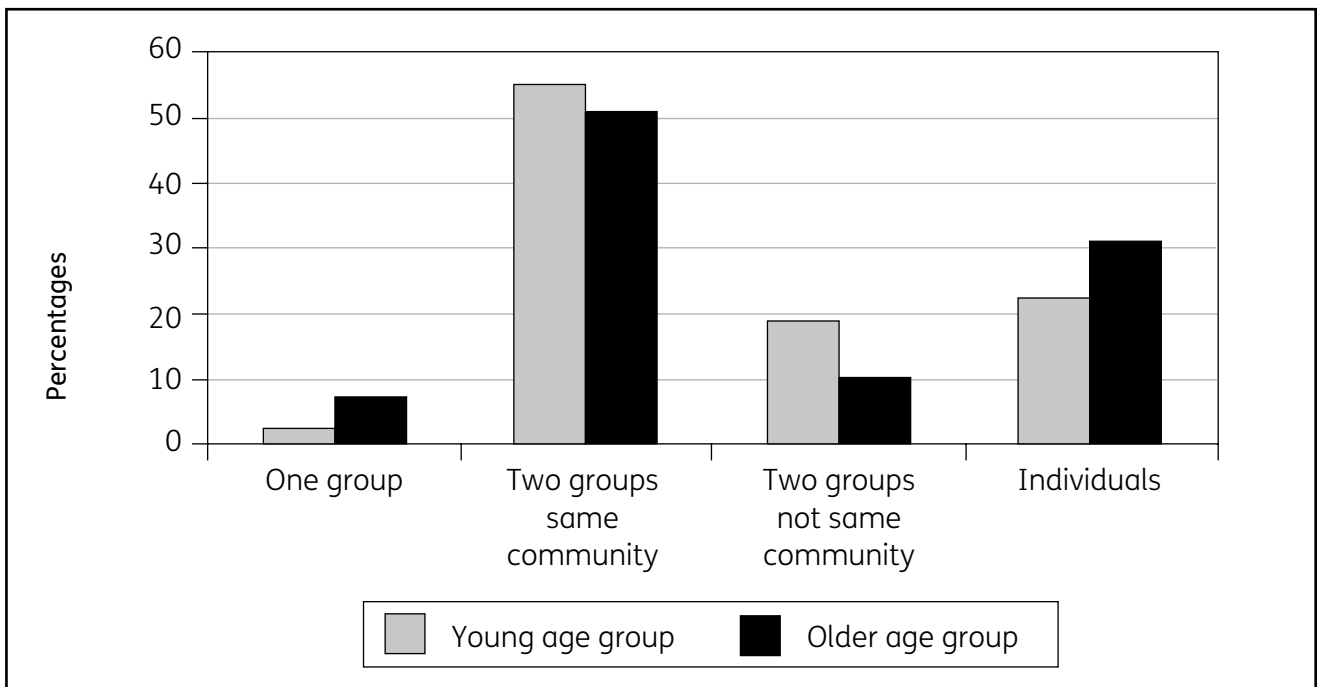
Figure 3.2 shows that about one third of the young respondents said they had 2-5 friends who are under 30. Similarly, Figure 3.3 shows that about one third of the older respondents said they had 2-5 friends who are over 70. The extreme response categories 'none' and '10 or more' were mirrored across the two age groups: about a third of young people indicated not to have any friendships with older people (31.2 per cent), but many friendships with younger people (36.2 per cent). On the other hand, almost a third of older people indicated not to have any friendships with younger people (29 per cent), but many with people over 70 (23 per cent). Differences between the two age groups were highly significant (friendships with young people: $\chi^2(4) = 73.48$, $p < .001$; friendships with older people: $\chi^2(4) = 86.88$, $p < .001$). It seems that the precipice for cross-age contact is beyond two to five people and this might imply that a more sensitive threshold or measurement scale might focus more on differentiating that range. As a consequence the response scale for the recommended indicator was changed into the following categories: none, 1, 2, 3-5, 6-9, 10 or more.

Figure 3.2   Proportion of friendships for the young age group sample
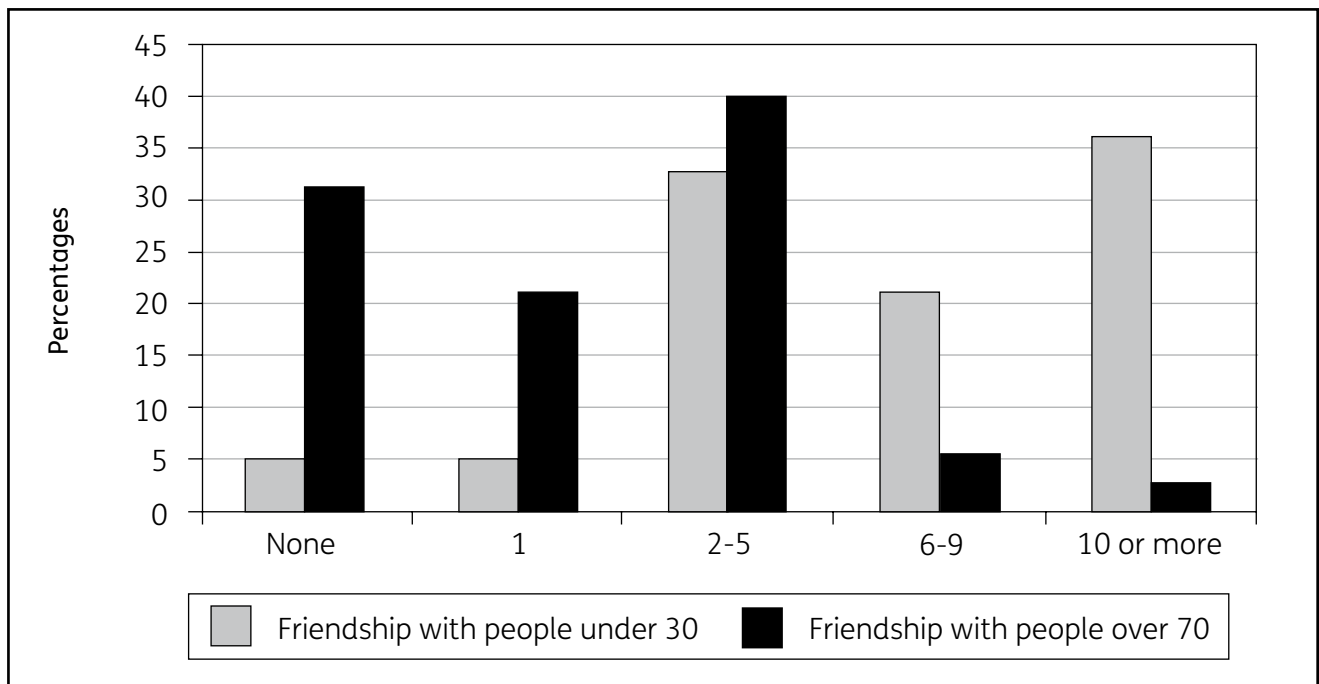
Figure 3.3   Proportion of friendships for the old age group sample
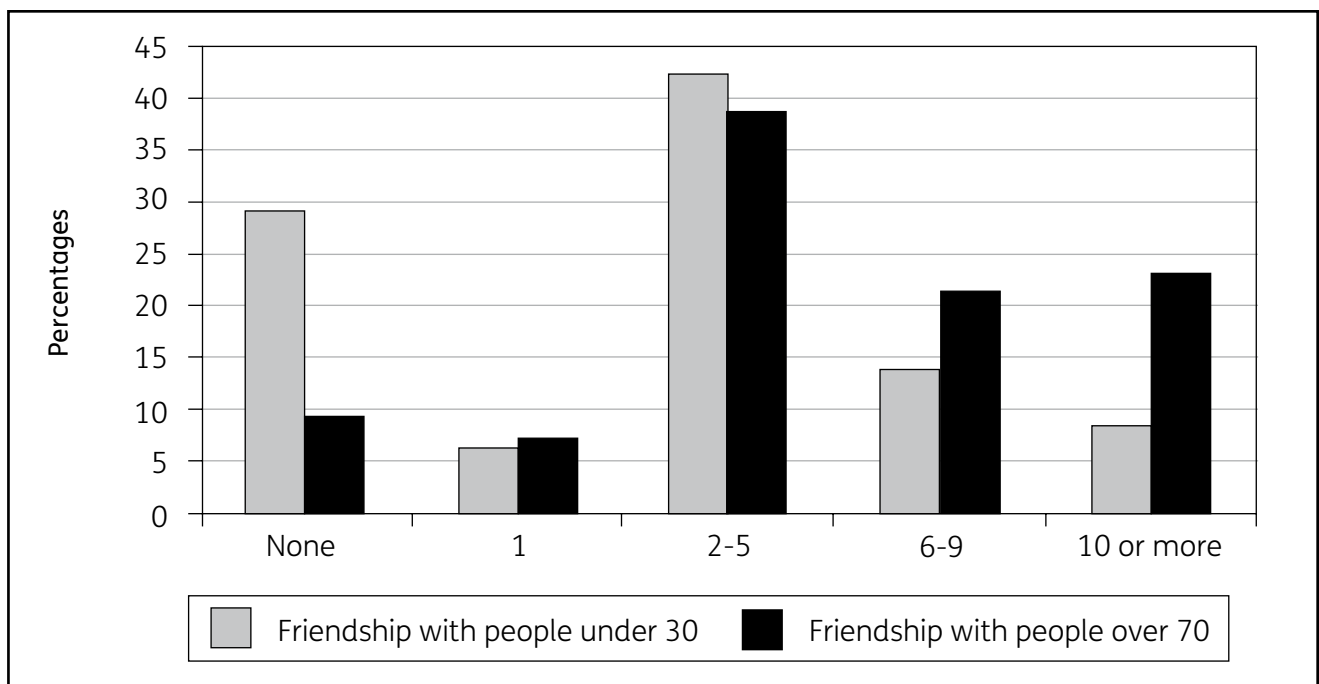
3.3.2   Reliability analyses

For each concept, the mean inter-item correlations were computed among the relevant set of items. According to Briggs and Cheek (1986), the optimal range for mean r_{ij} is between .20 and .40. Table 3.2 shows the mean inter-item correlations (mean r_{ij}) for the young age sample and the measured concepts for which reliability analyses were possible. As can be seen from the table, the mean r_{ij}'s ranged between .07 (perceived threat) and .47 (experienced discrimination).

Table 3.2   Reliability analysis for the young age group sample

| | | Target group | | | | | |
| | | Young | | Old | | Middle-aged | |
Concept of the CIS		Mean r_{ij}	N items	Mean r_{ij}	N items	Mean r_{ij}	N items
(1)	Perceived age boundaries[1]	-	-	-	-	-	-
(2)	Perceived status	.33	5	.33	4	.38	2
(3)	Social distance	.21	4	.24	4	-	-
(4)	Perceived threat	.07	7	.10	5	-	-
(5)	Stereotype content	.28	6	.36	6	-	-
(6)	Perceived intergroup emotions[2]	-	-	-	-	-	-
(7)	Direct prejudice[3]	-	-	-	-	-	-
(8)	Experienced discrimination	.47	6	-	-	-	-
(9)	Intergenerational contact	.31	3	.24	3	-	-
(10)	Seriousness of prejudice[3]	-	-	-	-	-	-

Note:
[1] No reliability analyses because indicators were included in different versions of the survey to reduce the length of the questionnaire, see descriptive statistics for comparability of findings across different questions assessing age boundaries.
[2] No reliability analyses because this concept was not recommended for the CIS.
[3] No reliability analyses because this is a single item measure.

The young and old target group refers primarily to people in their 20s and people over 70 respectively. Mean r_{ij} is the mean inter-item correlation and to be preferred as an indication of reliability in case of short scales.

Table 3.3   Reliability analysis for the older age group sample

| | | Target group | | | | | |
| | | Young | | Old | | Middle-aged | |
	Concept of the CIS	Mean r_{ij}	N items	Mean r_{ij}	N items	Mean r_{ij}	N items
(1)	Perceived age boundaries[1]	-	-	-	-	-	-
(2)	Perceived status	.43	4	.51	5	.52	2
(3)	Social distance	.38	4	.30	4	-	-
(4)	Perceived threat	.07	7	.14	5	-	-
(5)	Stereotype content	.46	6	.44	6	-	-
(6)	Perceived intergroup emotions[2]	-	-	-	-	-	-
(7)	Direct prejudice[3]	-	-	-	-	-	-
(8)	Experienced discrimination	.54	6	-	-	-	-
(9)	Intergenerational contact	.32	3	.24	3	-	-
(10)	Seriousness of prejudice[3]	-	-	-	-	-	-

Note:
[1] No reliability analyses because indicators were included in different versions of the survey to reduce the length of the questionnaire, see descriptive statistics for comparability of findings across different questions assessing age boundaries.
[2] No reliability analyses because this concept was not recommended for the CIS.
[3] No reliability analyses because this is a single item measure.

The young and old target group refers primarily to people in their 20s and people over 70 respectively. Mean r_{ij} is the mean inter-item correlation and to be preferred as an indication of reliability in case of short scales.

Table 3.3 shows the mean r_{ij}'s for the old age sample which ranged from .07 (perceived threat) to .54 (experienced discrimination).

Both tables show clearly that all concepts yielded adequate reliabilities across the two age groups, except for the concept 'perceived threat'. It appears that the indicators assessing perceived threat do not measure a single coherent concept. To explore this further, a follow-up analysis was conducted with the aim to explore whether these items may tap into different subcomponents of perceived threat.

Follow-up analysis

Table 3.4 shows the findings from the exploratory factor analysis for the concept 'perceived threat of younger people' in the young and old age sample. Three factors were extracted, assessing:

- 'special treatment of people in their 20s';

- 'cultural contribution of people in their 20s', and

- 'economic contribution of people in their 20s'.

The recommended item for the CIS loaded strongly on the 'economic contribution' factor in both age groups. In the younger age group, concern about crime and equal employment opportunities loaded on the same factor, but in the opposite direction. In the older age group sample, concern about equal employment opportunities loaded together with 'economic contribution' on the same factor. The inconsistent loadings of the various 'economic threat' indicators across age groups suggest that this factor is somewhat ambiguous in its meaning for the two age groups. For example, both young and old people, perceive 'economic threat of younger people' differently from their threat because of their 'cultural contribution' or 'special treatment'.

Nevertheless, this does not mean that the recommended indicator for the CIS is not a valid measure for perceived economic threat. While reliability for this indicator was not established, the validity analyses would show whether this item is still a valid assessment for 'perceived economic threat' and therefore, whether it should be included into a national indicator set measuring attitudes to age in Britain.

Table 3.4   Exploratory factor analysis of the construct perceived threat of people in their 20s

Items	Young respondents			Older respondents		
	Special treatment	Cultural contribution	Economic contribution	Special treatment	Cultural contribution	Economic contribution
Special treatment for education for people in 20s compared to people in 40s?	.88	.1	-.12	.89	-.02	.13
Special treatment for health services for people in 20s compared to people in 40s?	.84	.07	.22	.89	.13	-.16
People in 20s contributing to upholding traditions and moral values?	.09	.81	-.07	.10	.80	-.13
Most people in 20s having an effect on Britain's customs and way of life?	.07	.77	-.03	.11	.80	-.09
Contribution to economy of people in 20s? (CIS10)	.25	-.11	**-.80**	.02	.46	**.59**
How worried by crime committed by people in 20s?	.23	-.31	.56	.13	-.60	-.38
Equal employment opportunities gone too far for people in 20s?	.10	-.04	.47	-.01	-.27	.77

Note: Employed rotation method was varimax with Kaiser Normalisation. Substantial factor loadings on Factor 1, 2 and 3 are in bold. The method of factor extraction was based on eigenvalues greater than 1.

Table 3.5   Exploratory factor analysis of the construct perceived threat of people over 70

Items	Young respondents		Older respondents	
	Special treatment	Economic contribution	Special treatment	Economic contribution
Special treatment for health services for 70s compared to 40s?	.67	.23	.86	-.09
Equal employment opportunities gone too far for people over 70?	.73	.-.26	.12	-.62
Special treatment for education for 70s compared to 40s?	.37	.65	.85	.07
Contribution to economy of people over 70? (CIS11)	-.18	.74	.08	.73
People over 70 taking more out of economy than have put in	.01	.71	.43	.48

Note. Employed rotation method was varimax with Kaiser Normalisation. Substantial factor loadings on Factor 1, 2 and 3 are in bold. The method of factor extraction was based on eigenvalues greater than 1.

Table 3.5 shows the findings for the 'perceived threat of older people' questions in the young and old age sample. Two factors were extracted in both samples which were interpreted as:

- 'special treatment'; and

- 'economic contribution'.

The recommended item for the CIS loaded strongly on the 'economic contribution' factor in both age groups. The question 'special treatment for education' and 'People over 70 taking more out of economy than have put in' loaded together on the economic contribution factor in the young age sample. In the old age sample, only the question 'People over 70 taking more out of economy than have put in' loaded on the economic contribution factor. Again it appears that the economic contribution factor bears slightly different meanings across the two age groups. What can be concluded from these analyses is that the proposed indicator of the CIS for perceived threat consistently loads on the economic contribution factor across respondents from different age groups and across the two different age target groups. Although the reliability of this indicator cannot be confirmed using mean inter-item correlations with similar indicators, this finding provides nevertheless some evidence of reliability by loading consistently and most strongly on the 'economic contribution' factor. The validity analyses later in this chapter provide further evidence of whether this indicator is a valid measure for perceived threat of young and older people.

Conclusions

The constructs of the CIS measured through most of the indicators of the VQ possess adequate reliability, i.e. results across indicators within a concept are consistent. One exception is the perceived threat concept. The analyses showed that economic threat is perceived distinctively from threats associated with 'special treatment' or 'cultural contribution'. This is consistent with past research in which different forms of threat have been distinguished (e.g. symbolic and realistic threat, Stephan and Stephan, 2000).

It is noteworthy that this finding does not compromise the perceived threat indicator recommended for the CIS, since it was consistently and meaningfully related to one and the same factor, i.e. 'economic contribution'. The validity analyses in the next section shows whether this indicator is related to other concepts in an expected way. This provides more confidence in the suitability of this particular indicator to be included in an omnibus survey measuring attitudes to age in Britain.

It is also worth mentioning that in additional analyses (confirmatory factor analysis not reported here), the recommended indicators of the CIS were among those that showed the best statistical properties corroborating the choice of items for the reduced indicator set. Hence, rephrased indicators did not perform substantially better than the originally recommended indicators for the CIS.

3.3.3   **Validity analyses**

As part of the validity analyses, correlations were conducted between concepts that should be related. The hypotheses are set out below and are derived from social psychological theories. They are directional hypothesis (i.e. expecting a positive or negative correlation), so the significance tests are one-tailed. The analyses are based on the whole sample.

1 **Perceived permeability of age categories and boundaries.** A correlational analysis was not conducted on this concept since this concept is of descriptive interest. The descriptive properties of the indicators within this concept have already been presented in Section 3.3.1.

2   **Perceived status of age categories.** Fiske, Cuddy, Glick and Xu (2002) postulated the Social Structure Hypothesis which says that social status is directly associated with the stereotype 'competence'. Individuals who perceive social groups as having a high status in society should also perceive them as competent. Hence, the hypotheses were:

-   Respondents who perceive young people as having a higher status should also perceive them as more 'competent'.

-   Respondents who perceive older people as having a higher status should also perceive them as more 'competent'.

As expected, a positive correlation was found between status of people in their 20s and endorsement of the stereotype of people in their 20s as 'competent' ($r = .30$, $p < .01$). A positive correlation was also found between the status of people over 70 and endorsement of the stereotype of people over 70 as 'competent' ($r = .25$, $p < .01$).

3   **Social distance.** Social distance is an important measure for assessing intergroup relations. Dion (1985) found in a survey study that respondents exhibited less social distance from people with higher occupational status. Hence, it was expected that:

-   Respondents who judge a young person as acceptable as a boss should also perceive young people also as having a higher status in society.

-   Respondents who judge an older person as acceptable as a boss should also perceive older people as having a higher status in society.

As expected, a significant positive correlation was found between acceptance of young people as a boss and their social status in society ($r = .20$, $p < .01$), as well as acceptance of older people as a boss and higher social status in society ($r = .23$, $p < .01$).

4   **Perceived economic threat of age categories.** It was expected that:

-   Respondents who perceive young people as contributing more to the economy should also judge young people as more 'competent'.

-   In a similar vein, respondents who perceive older people as contributing more to the economy should judge older people as more 'competent'.

Both predictions confirmed with a positive correlation between the perceived economic contribution of young people and their perceived competence ($r = .20$, $p < .01$) as well as between the perceived economic contribution of older people and their perceived competence ($r = .26$, $p < .01$). Hence, despite the difficulties of assessing the reliability of the concept perceived threat with this recommended indicator of the CIS (see Section 3.3.2), this indicates that it is a valid measure, i.e. it measures what it should measure.

5   **Stereotype content.** The stereotype content model (Fiske *et al.*, 2002) states that holding positive stereotypes about a social group should relate to a general positive attitude towards this group. Hence, the hypotheses were that:

-   Respondents who perceive young people as 'friendly', 'competent', and having 'high moral standards' should also hold a positive attitude towards this age group.

-   Correspondingly, respondents who perceive older people as 'friendly', 'competent', and having 'high moral standards' should hold a positive attitude towards this age group.

Confirming the hypothesis, highly significant positive correlations were found between the stereotype contents and positive feelings towards the respective age group (attitudes towards young age target group: $r_{friendly}$ = .24, $p < .01$, $r_{competent}$ = .22, $p < .01$, and $r_{moral standards}$ = .13, $p < .01$; attitudes towards older age target group: $r_{friendly}$ = .23, $p < .01$, $r_{competent}$ = .24, $p < .01$, and $r_{moral standards}$ = .19, $p < .01$).

6   **Intergroup emotions towards age groups.** This concept was not assessed as it is not part of the recommended CIS concepts.

7   **Direct prejudice towards age groups.** This concept was assessed through two questions asking for the overall positive or negative attitude towards a particular age group. Its validity has already been evaluated under the concept 'stereotype' content.

8   **Experienced discrimination.** Respondents who have experienced more age discrimination should perceive this issue as a more serious issue than respondents who have not.

- Respondents who experienced more age discrimination should also perceive ageism as a more serious issue.

The findings confirm the hypothesised relationship that the more ageism has been experienced the more age discrimination was judged as a serious issue ($r = -.09$, $p < .05$; note that the negative correlation is due to the coding of the item 'seriousness' as 1 = very serious to 7 = not at all serious).

9   **Contact with different age groups.** The extensive literature on intergroup contact (Pettigrew, 1998) demonstrates that positive experiences of contact between members of different groups can lay the ground for positive attitudes and behaviour. Positive personal relationships, especially friendships, across intergroup boundaries are likely to generalise to produce more positive attitudes and less stereotyping of the outgroup as a whole. Hence, it was expected that:

- More frequent friendships with younger people should be related to a more positive attitude towards this age group.

- More frequent friendships with older people should be related to a more positive attitude towards this age group.

As expected, significantly positive correlations were found between positive feelings towards people in their 20s and the number of friendships to young people ($r = .23$, $p < .01$), as well as positive feelings towards people over 70 and the number of friendships to older people ($r = .20$, $p < .01$).

10   **Seriousness of prejudice.** This concept has already been evaluated under 'experienced discrimination'.

3.4   Conclusion and practical considerations

The validity analyses showed that the main hypotheses for the indicators of the CIS were confirmed and also established the validity of the 'economic contribution' indicator belonging to the concept of 'perceived threat'. These findings complement the reliability analyses which showed that most of the items in the core indicator set exhibited satisfactory reliabilities across the young and older sample as well as across the two target groups. Further confirmatory factor analyses were conducted, not reported here, which confirmed that across all constructs the recommended indicators of the CIS were among those that showed the highest factor loadings. This further corroborates the selection of items for key indicators. Furthermore, the validity analyses confirmed

the main hypotheses in regard to the interrelationships among CIS items. These analyses are an important contribution in establishing the usefulness of the CIS items for an omnibus survey on attitudes to age in Britain.

Reliability was less good for the concept of 'perceived threat'. Nevertheless, the recommended indicator showed good validity, and increased the confidence in which this could be recommended as an indicator as part of a national survey on attitudes to age.

A further caveat is that the response rates in the two samples were considerably different. Because of the recruiting method employed for the young respondents, a response rate of 100 per cent was achieved. However, the response rate for the older participants was only 25 per cent. This raises the question of potential sampling bias. A survey's response rate is usually regarded as an important indicator of survey quality since higher response rates are assumed to produce more accurate results. Nevertheless, studies conducted more recently showed that surveys with a lower response rate (about 20 per cent) are not necessarily low in validity (e.g. Visser, Krosnick, Marquette and Curtin, 1996). It only indicates a risk of lower accuracy. The data analyses did not suggest any obvious problems in this regard, because the descriptive analyses are broadly consistent with findings from nationally representative samples (Abrams, Eilola *et al.*, 2006).

Finally, it is noted that the aim was to obtain relatively homogeneous sub-samples and this was achieved by targeting the education sector. The data is not representative of attitudes in the general population but they do appear to match the differences and patterns found in previous research in the UK (Abrams *et al.*, 2006). Furthermore, most of the hypothesised significant effects that were found were confirmed with both age groups. This suggests that the response rate in the older age sample had a negligible impact on the quality of the survey data. Therefore, the sampling strategy has met the criteria required for assessing reliability and validity.

Through the analyses, two sets of concluding practical recommendations for the implementation of surveys that employ these items can be established. If the full set is to be included, the analyses suggest one change to the validation item that measured perceived status of one's own age group. In the VQ the item asked respondents to judge the status of their own group in comparison with 40-year-olds. However, the VQ was administered only to people under 25 and over 50 whereas in an omnibus or general survey respondents would also fall between those ages. In addition, there is already an item that measures the general status of people in their 40s. For this reason, the fourth item needs to be amended to assess people's personal perceptions of the status of people of their own age. It is important that this item will make sense only if respondents have previously responded to the previous three status items. Thus, if the full 23-item set is used, the fourth item will be amended from:

What, **in your view**, is the social status of your age group compared to people in their 40s?

to:

What **in your view** is the status of people of your **own** age in Britain?

It is possible that sometimes surveys will not have space to include the full set of 23 indicators. If resources are limited it may be more desirable to field all 23 indicators at less frequent intervals than to field non-overlapping indicators with greater frequency. However, if the latter is required, there are shorter versions involving 12-15 indicators that have been prepared if necessary. These constitute a pool of items that includes a core subset that combine with other subsets depending on priorities assigned to the types of evidence required at different times. Four different subsets are proposed, each involving no more than 15 items. The items for each subset are indicated by a cross in the relevant columns of Appendix D, and guidance is provided on the selection criteria below.

Some questions refer to attitudes towards young people (in their 20s) and towards old people (over 70). Ideally, the survey would include items referring to both age groups to allow comparative analysis (e.g. the relative status of old people compared to young people). Versions 1 and 2 in Appendix D, therefore, highlight the relevant items if the focus is on only one age band.

Moreover, some of the CIS items refer to personal views assessing people's attitudes to age, whereas other items refer to normative views (what most people in society think) measuring a perception of consensus on attitudes to age in society. Although the reliability analyses showed that these different phrasings tap into the same underlying construct, Versions 3 and 4 are proposed if the focus is on assessing people's own personal or societal images of age, respectively.

To summarise, proposed versions include:

1   indicators assessing attitudes to old age including a core set of items (Version 1);

2   indicators measuring attitudes to young age including a core set of items (Version 2);

3   indicators referring only to personal views on attitudes to age (Version 3);

4   indicators referring only to perceived societal views on attitudes to age (Version 4).

4 Conclusions and recommendations

The research presented in this report has established the reliability and validity of a CIS for attitudes and experiences of age and ageism. This indicator set has been derived from a large number of prior surveys (see DWP Research Report No. 599), from the 2008 ESS, and from new data collected specifically for the purpose of developing the CIS and testing the questions to ensure that they were accurate in collecting the information intended.

The final recommended CIS comprises of 23 indicators in total covering an important set of social psychological concepts assessing attitudes to age and ageism. These concepts are:

1 perceived permeability of age categories and boundaries;

2 perceived status of age categories;

3 social distance;

4 perceived threat of age categories;

5 stereotype content associated with age categories;

6 direct prejudice towards age groups;

7 experienced discrimination;

8 contact with different age categories; and

9 seriousness of prejudice.

Each of these concepts is based on well established social psychological theory and methods, and each has both a conceptual and a practical relationship with people's experiences and expressions of attitudes toward age and ageing.

It is recommended that the entire set of indicators should be used whenever possible. This is because each indicator acquires greater relevance and information value when considered in conjunction with the others. Moreover, the 23 item set provides a fairly comprehensive coverage of the nine key concepts for understanding attitudes to age and experiences of positive and negative relationships associated with age.

Until recently, there has been no systematic evidence on attitudes to age and experiences of ageism at the population level. This research yielded 23 indicators that address specific aspects of attitudes to age and that show specific relationships among these variables. The use of these indicators in future surveys will provide comparative evidence that will enable tracking both over time (as the population ages) and also comparative analyses against recent earlier research both within the UK and across Europe.

Appendix A
Items in the European Social Survey age module and suggested items for Phase 2 development of the reduced indicator set

Table A.1   Items in the European Social Survey age module and suggested items for Phase 2 development of the reduced indicator set

	Construct	Item in the ageism model of ESS (shortened description, as in data file)	Proposed items for testing (items in italics are new or rephrased, suggest testing these items against the original items)
(1)	Perceived permeability of age categories and boundaries	Age people stop being described as young Age people start being described as old Which age group belonging to Strong or weak sense of belonging to age group How see people in their 20s and over 70	1. Age people stop being described as young (CIS1) 2. Age people start being described as old (CIS2) 3. How see people in their 20s and over 70 [categories] (CIS3)
(2)	Perceived status of age categories	How most people view status of people in their 20s How most people view status of people in their 40s How most people view status of people over 70	4. How most people view status of people in their 20s (CIS4) 5. How most people view status of people in their 40s (CIS5) 6. How most people view status of people over 70 (CIS6) 7. *What in your view is the social status of your age group compared to people in their 40s? (CIS7)*
(3)	Social distance	How acceptable for most people if qualified 30-year-old appointed as their boss How acceptable for most people if qualified 70-year-old appointed as their boss	8. How acceptable is it for most people if a qualified 30-year-old is appointed as their boss (CIS8) 9. How acceptable is it for most people if a qualified 70-year-old is appointed as their boss (CIS9)
(4)	Perceived threat of age categories	How worried about level of crime committed by people in their 20s How worried that employers prefer people in 20s rather than 40 or older People in their 20s effect on customs and way of life People in their 20s contribution to the economy these days People over 70 a burden on health service these days People over 70 effect on customs and way of life People over 70 contribution to the economy these days	10. People in their 20s contribution to the economy these days (CIS10) 11. People over 70 contribution to the economy these days (CIS11)

Continued

Table A.1   Continued

	Construct	Item in the ageism model of ESS (shortened description, as in data file)	Proposed items for testing (items in italics are new or rephrased, suggest testing these items against the original items)
(5)	Stereotype content associated with age categories	Most people view those in their 20s as friendly	12. Most people view those in their 20s as friendly (CIS12)
		Most people view those in their 20s as competent	13. Most people view those in their 20s as competent (CIS13)
		Most people view those in their 20s as having high moral standards	14. Most people view those in their 20s as having high moral standards (CIS14)
		Most people view those in their 20s with respect	
		Most people view those over 70 as friendly	15. Most people view those over 70 as friendly (CIS15)
		Most people view those over 70 as competent	16. Most people view those over 70 as competent (CIS16)
		Most people view those over 70 as having high moral standards	17. Most people view those over 70 as having high moral standards (CIS17)
		Most people view those over 70 with respect	
(6)	Perceived intergroup emotions towards age groups	Most people view those in their 20s with envy	(Given the limitations in a short questionnaire, suggest dropping these items or testing personal emotions using a different response scale such as "How many x would you say you sometimes feel envious of: None, a few, about half, most, all")
		Most people view those in their 20s with pity	
		Most people view those in their 20s with admiration	
		Most people view those in their 20s with contempt	
		Most people view those over 70 with envy	
		Most people view those over 70 with pity	
		Most people view those over 70 with admiration	
		Most people view those over 70 with contempt	
(7)	Direct prejudice towards age groups	Overall how negative or positive feel towards people in their 20s	18. Overall how negative or positive feel towards people in their 20s (CIS18)
		Overall how negative or positive feel towards people over 70	19. Overall how negative or positive feel towards people over 70 (CIS19)

Continued

Table A.1   Continued

Construct	Item in the ageism model of ESS (shortened description, as in data file)	Proposed items for testing (items in italics are new or rephrased, suggest testing these items against the original items)
(8) Experienced discrimination	How often past year treated with prejudice because of age	20.How often past year treated with prejudice because of age (CIS20)
	How often past year treated with prejudice because of sex	
	How often past year treated with prejudice because of ethnic background	
	How often past year felt lack of respect because of age	
	How often past year treated badly because of age	
(9) Contact with different age categories	How many friends other than family younger than 30	21.Do you have a friend or a family member below 30 with whom you can discuss personal issues such as feelings, beliefs or experiences?ᵃ (The response format may use similar categories as the ageism scale in the ESS [five values on an ordinal scale], but it might also be extended somewhat) (CIS21)
	Can discuss personal issues with friends younger than 30	
	How many friends other than family aged over 70	
	Can discuss personal issues with friends aged over 70	
	Respondents age, younger or older than 30	
	Any children or grandchildren between age 15 and 30	
	Can discuss personal issues with children or grandchildren age 15 to 30	
	Any members of family aged over 70	
	Can discuss personal issues with members of family aged over 70	22.Do you have a friend or a family member above 70 with whom you can discuss personal issues such as feelings, beliefs or experiences?ᵃ (CIS22)
	Done paid or voluntary work last month	
	Time spent working with colleagues in their 20s last month	
	Time spent working with colleagues aged over 70 last month	
(10) Motivation to control prejudice	How important to be unprejudiced against other age groups	
	How important to be seen as being unprejudiced against other age groups	
	How serious is discrimination against people because of age	23.How serious is discrimination against people because of age (CIS23)

Appendix B
Items in the Validation Questionnaire[4]

- Regardless of your own opinion, at what age do you think other people stop seeing themselves as young? (CIS1)

Please write in age

- Regardless of your own opinion, at what age do you think other people start seeing themselves as old? (CIS2)

Please write in age

- In your own opinion, at what age does youth end?

Please write in age

- In your own opinion, at what age does old age start?

Please write in age

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[4]   Indicators from the CIS are highlighted in grey.

- Taking all things into account, how do you see those in their 20s and those over 70? (CIS3)

Do you see people in their 20s and those over 70 as…:
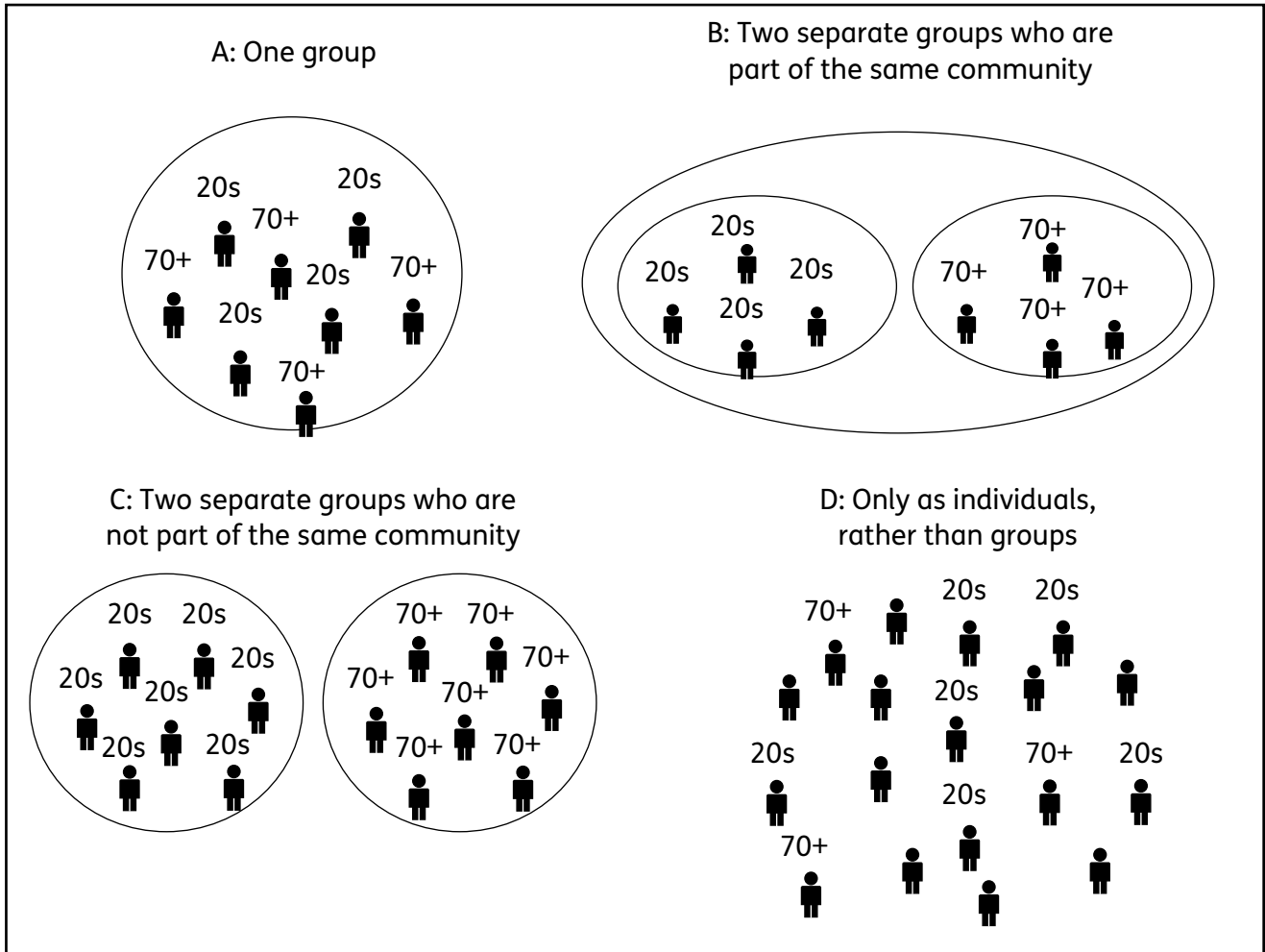
We would like to know more about the social status that people in different age groups have in society. By social status we mean prestige, social standing or position in society; we do not mean participation in social groups or activities.

- How do you think <u>most people</u> in Britain would place the status of…

	Extremely low status						Extremely high status
…people in their 20s? (CIS4)	1	2	3	4	5	6	7
…people in their 40s? (CIS5)	1	2	3	4	5	6	7
…people over 70? (CIS6)	1	2	3	4	5	6	7

- Compared with other age groups in society, what is the status <u>most people </u>associate with…

	Extremely low status						Extremely high status
…people in their 20s?	1	2	3	4	5	6	7
…people over 70?	1	2	3	4	5	6	7

- What, <u>in your view</u>, is the social status of your age group compared to people in their 40s? (CIS7)

Extremely low status						Extremely high status
1	2	3	4	5	6	7

- How do you <u>personally</u> view the social position of…

	Extremely low status						Extremely high status
…people in their 20s?	1	2	3	4	5	6	7
…people in their 40s?	1	2	3	4	5	6	7
…people over 70?	1	2	3	4	5	6	7

- In about five years from now, how much do you think the status of people in their 20s and over 70 will improve or get worse?

	Much worse						Much improved
People in their 20s?	1	2	3	4	5	6	7
People over 70?	1	2	3	4	5	6	7

- How acceptable or unacceptable do you think <u>most people</u> would find it if their boss was a suitable qualified…

	Completely unacceptable						Completely acceptable
…25 year old (CIS8)	1	2	3	4	5	6	7
…70 year old (CIS9)	1	2	3	4	5	6	7

- How comfortable would <u>you</u> feel if your boss was a suitably qualified…

	Not at all comfortable						Completely comfortable
…25 year old	1	2	3	4	5	6	7
…70 year old	1	2	3	4	5	6	7

- How comfortable would <u>you</u> feel if you had a neighbour who was…

	Not at all comfortable						Completely comfortable
…25 years old	1	2	3	4	5	6	7
…70 years old	1	2	3	4	5	6	7

- How comfortable would you feel with spending an entire day alone with a…

	Not at all comfortable						Completely comfortable
…25 year old	1	2	3	4	5	6	7
…70 year old	1	2	3	4	5	6	7

- Do you think people in their 20s and people over 70 contribute very little or a great deal to the economy these days?

	Contribute very little						Contribute a great deal
People in their 20s (CIS10)	1	2	3	4	5	6	7
People over 70 (CIS11)	1	2	3	4	5	6	7

- Compared to people in their 40s, to what extent do you agree people over 70 should receive special treatment in terms of…

	Not at all						Very much so
…education	1	2	3	4	5	6	7
…health care and services	1	2	3	4	5	6	7

- Have attempts to equal employment opportunities for people over 70 in Britain gone too far or not gone far enough?

Not gone far enough						Gone too far
1	2	3	4	5	6	7

- Do you think that people over 70 take out more from the economy than they put in?

Take out much more						Put in much more
1	2	3	4	5	6	7

- How worried are you by the level of crime committed by people in their 20s these days?

Not at all worried						Very worried
1	2	3	4	5	6	7

- Do you think that most people in their 20s have a good or a bad effect on Britain's customs and way of life?

	Bad effect						Good effect
	1	2	3	4	5	6	7

- Do you think that people in their 20s contribute very little or a great deal to upholding Britain's traditions and moral values?

	Contribute very little						Contribute a great deal
	1	2	3	4	5	6	7

- Please tick a number to say to what extent you think <u>most people in this country</u> view those in their 20s...

	Not at all likely to be viewed in that way						Very likely to be viewed in that way
...as friendly (CIS12)	1	2	3	4	5	6	7
...as competent (CIS13)	1	2	3	4	5	6	7
...as having high moral standards (CIS14)	1	2	3	4	5	6	7

- Please tick a number to say to what extent <u>you personally</u> view those in their 20s...

	Not at all likely to be viewed in that way						Very likely to be viewed in that way
...as friendly	1	2	3	4	5	6	7
...as competent	1	2	3	4	5	6	7
...as having high moral standards	1	2	3	4	5	6	7

- Please tick a number to say to what extent you think <u>most people in this country</u> view those over 70…

	Not at all likely to be viewed in that way						Very likely to be viewed in that way
…as friendly (CIS15)	1	2	3	4	5	6	7
…as competent (CIS16)	1	2	3	4	5	6	7
…as having high moral standards (CIS17)	1	2	3	4	5	6	7

- Please tick a number to say to what extent you personally view those over 70…

	Not at all likely to be viewed in that way						Very likely to be viewed in that way
…as friendly	1	2	3	4	5	6	7
…as competent	1	2	3	4	5	6	7
…as having high moral standards	1	2	3	4	5	6	7

- Overall how negative or positive do you feel towards…

	Extremely negative						Extremely positive
…people in their 20s (CIS18)	1	2	3	4	5	6	7
…people over 70 (CIS19)	1	2	3	4	5	6	7

- How often in the past year has anyone...

	Never						Very often
...shown prejudice against you or treated you unfairly because of your age? (CIS20)	1	2	3	4	5	6	7
...showed you a lack of respect because of your age, for instance by ignoring or patronising you?	1	2	3	4	5	6	7
...treated you badly because of your age, for example by insulting you, abusing you or refusing you services?	1	2	3	4	5	6	7
...ignored you or not taken you seriously because of your age?	1	2	3	4	5	6	7
...treated you like a child because of your age, for example by speaking slowly to you or making decisions for you?	1	2	3	4	5	6	7

- How often in the past year have you seen your age as a barrier stopping you from attaining things you want or need?

	Never						Very often
	1	2	3	4	5	6	7

- How pleasant or unpleasant is contact for you with...

	Extremely unpleasant						Extremely pleasant
People in their 20s	1	2	3	4	5	6	7
People over 70							

- To what extent would you like to have more regular contact with…

	Not at all						Very much so
People in their 20s	1	2	3	4	5	6	7
People over 70	1	2	3	4	5	6	7

- Do you have a friend or family member older than 70 with whom you can discuss personal issues with such as feelings, beliefs or experiences? (CIS21)

None	1	2-5	6-9	10 or more
☐	☐	☐	☐	☐

- Do you have a friend or family younger than 30 with whom you can discuss personal issues with such as feelings, beliefs or experiences? (CIS22)

None	1	2-5	6-9	10 or more
☐	☐	☐	☐	☐

- How serious, if at all, would you say discrimination is against people because of their age – whether they are old or young. (CIS23)

	Not at all serious						Very serious
	1	2	3	4	5	6	7

Appendix C
Descriptive statistics for all items used for the reliability analyses of the Validation Questionnaire

Table C.1 Descriptive statistics for all items used for the reliability analyses of the Validation Questionnaire

Item	Young respondents				Older respondents			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Thinking about people in their 20s, what age springs to your mind?	22.65	1.99	18	28	23.51	2.09	18	28
Thinking about people over 70, what age springs to your mind?	77.78	7.72	65	110	76.26	4.62	65	93
Thinking about people under 30, what age springs to your mind?	23.93	3.87	15	31	23.65	4.21	3	42
Regardless of own opinion, what age other people stop seeing themselves as young?	30.96	10.09	15	80	49.83	15.15	21	120
Regardless of own opinion, what age other people start seeing themselves as old?	45.57	12.32	16	80	69.90	12.11	40	120
In your own opinion, at what age does youth end?	23.92	8.36	10	100	29.36	13.09	13	100
In your own opinion, at what age does old age start?	55.84	12.66	12	95	72.14	7.98	50	100
How much people over 70 in Britain have in common with people in their 20s?	2.61	1.21	1	7	3.07	1.34	1	7
Compared with other age groups, status most people associate with people in 20s?	4.21	1.45	1	7	3.48	1.18	1	7
Compared with other age groups, status most people associate with people over 70s?	3.70	1.38	1	7	3.58	1.49	1	7
How do you personally view the social position of 20s?	4.62	1.34	1	7	3.75	1.08	1	7
How do you personally view the social position of 40s?	4.87	1.12	2	7	4.92	0.91	3	7
How do you personally view the social position of 70s?	3.94	1.48	1	7	4.42	1.30	1	7

Continued

Table C.1   Continued

Item	Young respondents				Older respondents			
	Mean	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
In five years, position of people in 20s?	4.18	1.33	1	7	3.75	1.15	1	7
In five years, position of people in 70s?	3.84	1.28	1	7	3.84	1.33	1	7
How comfortable would you feel if your qualified boss was 25?	5.64	1.42	1	7	4.25	1.79	1	7
How comfortable would you feel if your qualified boss was 70?	4.97	1.85	1	7	5.15	1.47	1	7
How comfortable would you feel if your neighbour was 25?	5.97	1.37	1	7	5.48	1.69	1	7
How comfortable would you feel if your neighbour was 70?	5.90	1.54	1	7	6.24	1.08	1	7
How comfortable would you feel with spending an entire day alone with a 25 year old?	5.73	1.41	1	7	5.22	1.55	1	7
How comfortable would you feel with spending an entire day alone with a 70 year old?	3.90	1.91	1	7	5.91	1.25	1	7
Compared to people in 40s, do you agree that people in 20s should receive special treatment for education?	4.42	1.71	1	7	4.13	1.97	1	7
Compared to people in 40s, do you agree that people in 20s should receive special treatment for health services?	3.51	1.81	1	7	3.39	1.95	1	7
Compared to people in 40s, do you agree that people over 70 should receive special treatment for education?	2.66	1.55	1	7	3.32	1.76	1	7
Compared to people in 40s, do you agree that people over 70 should receive special treatment for health services?	5.36	1.64	1	7	5.28	1.93	1	7
Equal employment opportunities in Britain have gone too far for people in 20s?	3.86	1.50	1	7	3.76	1.39	1	7
Equal employment opportunities in Britain have gone too far for people over 70?	4.03	1.46	1	7	3.64	1.50	1	7
Do you think that people over 70 take out more from the economy than they have put in?	3.65	1.40	1	7	4.55	1.56	1	7
How worried are you by crime committed by people in 20s?	3.97	1.71	1	7	4.50	1.90	1	7
Do you think that most people in their 20s have a good or bad effect on Britain's customs and way of life?	4.22	1.34	1	7	3.87	1.34	1	7
Do you think that people in 20s contribute to upholding Britain's traditions and moral values?	3.25	1.32	1	7	3.15	1.34	1	7

Table C.1   Continued

Item	Young respondents				Older respondents			
	Mean	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
How often in the past year has anyone shown lack of respect because of age?	4.45	1.74	1	7	1.88	1.30	1	7
How often in the past year has anyone treated you badly because of age?	3.15	1.82	1	7	1.43	0.98	1	7
How often in the past year has anyone ignored you because of age?	3.94	1.81	1	7	1.67	1.24	1	6
How often in the past year has anyone treated you like a child because of age?	3.73	2.03	1	7	1.60	1.15	1	6
How often in the past year have you seen your age as a barrier?	4.51	1.90	1	7	2.40	1.59	1	7
Personally view those in their 20s as friendly?	4.73	1.12	1	7	4.57	1.35	1	7
Personally view those in their 20s as competent?	4.67	1.04	1	7	4.41	1.24	1	7
Personally view those in their 20s as having high moral standards?	3.82	1.17	1	7	3.32	1.33	1	7
Personally view those over 70 as friendly?	5.05	1.45	1	7	5.40	1.25	1	7
Personally view those over 70 as competent?	4.03	1.53	1	7	4.84	1.25	1	7
Personally view those over 70 as having high moral standards?	5.42	1.39	1	7	5.33	1.32	1	7
How pleasant or unpleasant for you is contact with people in 20s?	5.01	1.23	1	7	5.06	1.32	1	7
How pleasant or unpleasant for you is contact with people over 70?	4.50	1.37	1	7	5.52	1.05	2	7
Would like more contact with people in 20s?	4.72	1.43	1	7	4.29	1.49	1	7
Would like more contact with people over 70?	3.72	1.44	1	7	4.66	1.36	1	7

Appendix D
Final recommendation for the final CIS (all items), and for four variants of reduced indicator sets in rotating modules in an omnibus survey on attitudes to age

Recommended items for the reduced indicator set (see Appendix B for the respective response scales)	Response scale	Version 1[1]	Version 2[2]	Version 3[3]	Version 4[4]
Perceived permeability of age categories and boundaries					
1. At what age <u>do you think</u> people generally stop being described as young?[5]	Please write in age	X	X	X	X
2. At what age <u>do you think</u> people start being described as old?[6]	Please write in age	X	X	X	X
3. Taking all things into account, <u>how do you</u> see those in their 20s and those over 70? Do you see people in their 20s and those over 70…	• …as a common group	X	X	X	
	• …as two separate groups who are part of the same community	X	X	X	
	• …as two separate groups who are not part of the same community	X	X	X	
	• …only as individuals rather than groups	X	X	X	
	(For the visual scale, see Appendix A, CIS3)				

Recommended items for the reduced indicator set (see Appendix B for the respective response scales)	Response scale	Version 1[1]	Version 2[2]	Version 3[3]	Version 4[4]
Perceived status of age categories					
4. How do you think <u>most people</u> in Britain would place the status of people in their 20s?	7pt Likert scale: 1 = extremely low status to 7 = extremely high status		X		X
5. How do you think <u>most people</u> in Britain would place the status of people in their 40s?	7pt Likert scale: 1 = extremely low status to 7 = extremely high status	X	X		X
6. How do you think <u>most people</u> in Britain would place the status of people over 70?	7pt Likert scale: 1 = extremely low status to 7 = extremely high status	X			X
7. What <u>in your view</u> is the social status of your age group compared to people in their 40s? Note: If items 4-5 are included item 7 should be *'What in your view is the status of people of your own age in Britain?'*	7pt Likert scale: 1 = extremely low status to 7 = extremely high status	X	X	X	
Social distance					
8. How acceptable or unacceptable do you think <u>most people</u> would find it if a suitably qualified 30-year-old was appointed as their boss?	7pt Likert scale: 1 = completely unacceptable to 7 = completely acceptable		X		X
9. How acceptable or unacceptable do you think <u>most people</u> would find it if a suitably qualified 70-year-old was appointed as their boss?	7pt Likert scale: 1 = completely unacceptable to 7 = completely acceptable	X			X
Perceived threat of age categories					
10. <u>Do you think</u> people in their 20s contribute very little or a great deal economically these days?	7pt Likert scale: 1 = contribute very little to 7 = contribute a great deal		X	X	
11. <u>Do you think</u> people over 70 contribute very little or a great deal economically these days?	7pt Likert scale: 1 = contribute very little to 7 = contribute a great deal	X		X	

Recommended items for the reduced indicator set (see Appendix B for the respective response scales)	Response scale	Version 1[1]	Version 2[2]	Version 3[3]	Version 4[4]
Stereotype content associated with age					
12. To what extent do you think <u>most people</u> in this country view those in their 20s as friendly?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way		X		X
13. To what extent do you think <u>most people</u> in this country view those in their 20s as competent?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way		X		X
14. To what extent do you think <u>most people</u> in this country view those in their 20s as having high moral standards?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way		X		X
15. To what extent do you think <u>most people</u> in this country view those over 70 as friendly?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way	X			X
16. To what extent do you think <u>most people</u> in this country view those over 70 as competent?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way	X			X
17. To what extent do you think <u>most people</u> in this country view those over 70 as having high moral standards?	7pt Likert scale: 1 = not at all likely to be viewed that way to 7 = very likely to be viewed that way	X			X
Direct prejudice towards age groups					
18. Overall how negative or positive <u>do you</u> feel towards people in their 20s?	7pt Likert scale: 1 = extremely negative to 7 = extremely positive		X	X	
19. Overall how negative or positive <u>do you</u> feel towards people over 70?	7pt Likert scale: 1 = extremely negative to 7 = extremely positive	X		X	
20. How often in the past year[7] has anyone shown prejudice or treated you unfairly because of your age?	7pt Likert scale: 1 = never to 7 = very often	X	X	X	X

Recommended items for the reduced indicator set (see Appendix B for the respective response scales)	Response scale	Version 1[1]	Version 2[2]	Version 3[3]	Version 4[4]
Contact with different age categories					
21. Do you have a friend or family member younger than 30 with whom you can discuss personal issues with such as feelings, beliefs or experiences?	None, 1, 2, 3-5, 6-9, 10 or more		X	X	
22. Do you have a friend or family member older than 70 with whom you can discuss personal issues with such as feelings, beliefs or experiences?	None, 1, 2, 3-5, 6-9, 10 or more	X		X	
Seriousness of prejudice					
23. How serious, if at all, would you say discrimination is against people because of their age – whether they are old or young?	7pt Likert scale: 1 = not at all serious to 7 = very serious	X	X	X	X
	Total number of items per version	15	15	12	15

[1]   Version 1 = Attitudes to old age.

[2]   Version 2 = Attitudes to young age.

[3]   Version 3 = Personal attitudes to age.

[4]   Version 4 = Perception of attitudes to age in society.

[5]   This item may be rephrased to assess perceived age categorisation in society by asking: 'Regardless of your own opinion, at what age do you think other people stop seeing themselves as young?'

[6]   This item may be rephrased to assess perceived age categorisation in society by asking: 'Regardless of your own opinion, at what age do you think other people start seeing themselves as old?'

[7]   Or in the last six/three months, depending on how many times this item is used in a national survey.

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In the context of Britain's ageing population it is important to monitor attitudes to age and age-based discrimination in society over time. Age, along with sex and ethnicity, serves as a primary base on which people categorise one another in everyday life. This research presents the findings from the analysis of two data sources used to measure attitudes to age and experiences of ageism in Britain. The aim of the analysis is to understand in greater detail how well these data sources captured attitudes to age and experiences of ageism, and use this to develop a reliable yet efficient set of indicators for further use in an omnibus survey. This has been achieved by testing an existing set of 55 indicators from the European Social Survey, and streamlining these into a core set of 23 indicators that are suitable for longer-term use in the UK context.

The indicators analysed allowed the evaluation of nine aspects of age attitudes and experiences:

- perceived permeability of age categories and boundaries;
- perceived status of age categories;
- social distance;
- perceived threat of age categories;
- stereotype content associated with age categories;
- direct prejudice towards age groups;
- experienced discrimination;
- contact with different age categories; and
- seriousness of prejudice.

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