2 Methodology

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Key Findings

- A response rate of 84% was achieved with rates largely similar across genders and was highest in those aged 65-74 years.
- Proxy interviews for those unable to take part in an interview was conducted with 64% of participants requiring such an approach.
- A return rate of 86% was achieved for the self-completion questionnaire.

2.1 Introduction

Details of the sampling methods used in Waves 1-3 of TILDA have been reported previously (1,2,3,4). At Wave 4, interviews were sought from 7,462 respondents.

Data collection consisted of two components: a computer-assisted personal interview (CAPI) and a self-completion questionnaire (SCQ). The CAPI included questions on health, economic, social and family circumstances and was administered by a trained social interviewer in the respondent's own home. In households with more than one respondent, respondents were asked to nominate a 'family' and a 'financial' respondent. Typically, these were the individuals in the household with the better knowledge of family and financial circumstances, who were comfortable answering on behalf of the household. In some cases, the family and financial respondents were the same person.

Following completion of the interview, respondents were provided with the SCQ, to be completed and returned to TILDA in the pre-paid envelope provided. The SCQ included questions on more sensitive matters such as quality of life, interpersonal relationships, and alcohol consumption. Topics covered in the CAPI and SCQ are listed in Table 2.1.

As per Waves 2 and 3, Wave 4 included proxy and end-of-Life (EOL) interviews. Where respondents were unable to complete an interview themselves due to physical or cognitive impairment, a proxy interview was sought from a close relative or friend. Proxy respondents were invited to complete the CAPI but not the SCQ. If a respondent moved into residential care ahead of Wave 3, the appropriate type of interview (i.e. with the

respondent or with a proxy) was completed. EOL interviews were sought with a spouse, relative or friend in cases where a respondent had passed away.

Table 2.1: Questions and measures included in assessments at Wave 4.

Domain	Measures
Demographics	Marital status; marriage history; education; migration history; childhood.
Social circumstances	Transfers to/from children/parents/others; help with (instrumental) activities of daily living; social connectedness; social networks; volunteering; caring; social participation; religion; relationship quality.
Health and healthcare	Physical (self-rated health; limiting long-standing illness; sensory function; cardiovascular and non-cardiovascular disease; falls; fear of falling; fractures; pain; oral health; health screening); cognitive (self-rated memory; word-list learning; verbal fluency; prospective memory); psychological (depressive symptoms; anxiety; resilience; life satisfaction; loneliness; worry; quality of life; perceived stress); behavioural (smoking; physical activity; sleep; alcohol; dietary intake); medications; healthcare utilisation; health insurance.
Employment, retirement & assets, lifelong learning	Employment situation; job history; planning for retirement; sources of income; home ownership; other assets; expectations; health literacy.

2.2 Computer-assisted personal interview response rates

Of the 7,462 eligible respondents at Wave 4, there were 13 new respondents identified during fieldwork who had not previously taken part. A form of interview (i.e., self, proxy or EOL) was collected from 6,149 respondents. As in previous waves, self-interviews were the most common form of interview (n=5,856), with lower numbers completing proxy (n=121) and EOL (n=172) interviews. The Wave 4 response rate was calculated as the number of self-respondents that completed an interview at Wave 4, relative to the total sample eligible for Wave 4 CAPI (i.e. excluding those requiring a proxy interview, or who were known to have withdrawn, passed away, or moved outside the target area, before Wave 4). Table 2.2 presents the Wave 4 CAPI response rates (and counts) by age group and gender. The total CAPI response rate was 84%; response rates were largely similar across genders and were highest in those aged 65-74 years. The proxy interview response rate was calculated as the number of proxy interviews completed relative to the total number of participants identified as eligible for proxy interview throughout fieldwork. The total proxy interview response rate was 64% (age breakdown not shown).

Table 2.2: Wave 4 self-interview response rates (%, n), by age and gender.

	Male % (n)	Female % (n)	Total % (n)
<56	77 (20)	83 (218)	83 (238)
56-64	83 (942)	82 (1174)	82 (2116)
65-74	85 (956)	86 (1141)	86 (2097)
75+	86 (669)	81 (736)	83 (1405)
Total	84 (2587)	83 (3269)	84 (5856)

2.3 Reasons for attrition at Wave 4

Table 2.3 summarises the main reasons for non-participation at Wave 4. The most common reasons were refusals (e.g. due to time constraints during the period of Wave 4 data collection) and permanent withdrawal from the study. Importantly, respondents who refused to participate at Wave 4 agreed to further contact and are eligible for follow-up at future waves. A smaller number of respondents could not be contacted or had moved abroad before Wave 4 making them ineligible for follow-up. Potential proxy respondents had similar reasons for non-participation although proxy interviews could only be sought if respondents gave permission for this in a previous wave.

Table 2.3: Reasons for sample attrition.

Reason	Potential Respondents		Potential proxy Respondents	
	%	n	%	n
Refusal	57	647	49	33
Withdrawn	33	380	16	11
Unable to contact respondent	899[a]	89	7	5
Moved Outside ROI/NI	2	22	-	-
No permission to seek proxy, proxy not identified, or other	-	-	28	18
Total	100	1138	100	67
Refusal	57	647	49	33

2.4 Self-completion questionnaire response rates

Table 2.4 presents SCQ response rates at Wave 4 by age and gender. The overall SCQ response rate was 86%. As with CAPI self-interview response rates, SCQ response rates were generally similar across genders, with highest total response rates observed for those aged 65-74.

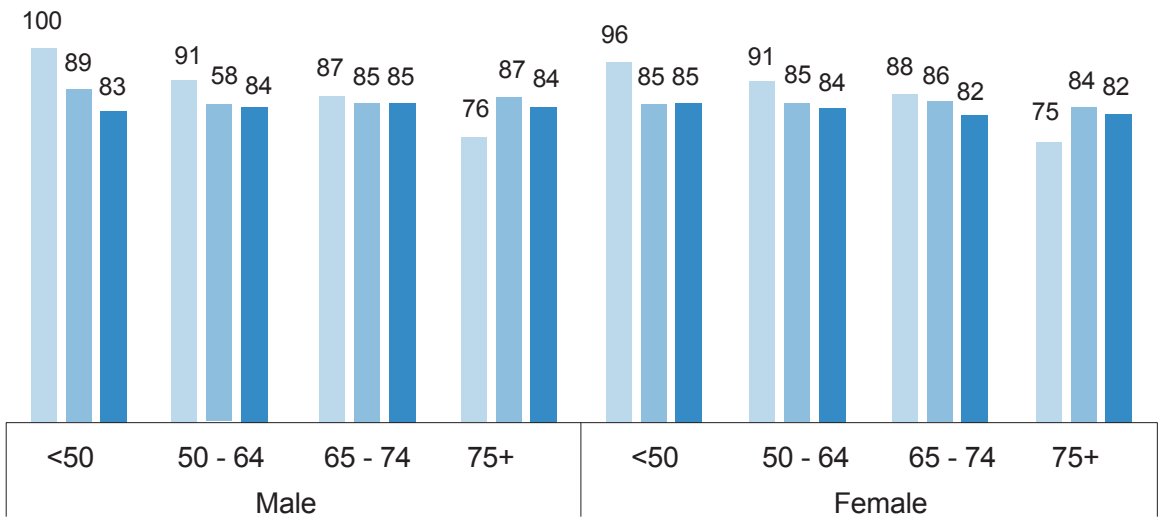
Table 2.4: Wave 4 SCQ response rates (%, n) by age and gender.

	Male % (n)	Female % (n)	Total % (n)
<56	95 (19)	86 (188)	87 (207)
56-64	84 (791)	87 (1017)	85 (1808)
65-74	88 (843)	90 (1024)	89 (1867)
75+	84 (561)	84 (621)	84 (1182)
Total	86 (2214)	87 (2850)	86 (5064)

2.5 Computer-assisted personal interview response rates across waves

Figure 2.1 displays CAPI response rates at Wave 2, Wave 3 and Wave 4, by age categories at baseline and gender; response rates are expressed as the percentage of participants who provided a self-interview at a particular wave, relative to the sample eligible for self-interview at that wave. CAPI response rates have remained high across waves since the first follow-up interviews at Wave 2. In particular, patterns of attrition following Wave 2 have largely stabilised, indicating relatively consistent engagement with the study by self-interviewees. The apparent increase in response rate between Waves 2 and 3 for those aged 75+ at Wave 1 may be due to loss to follow-up of some of the oldest members of the sample following Wave 2 (e.g., due to withdrawal or passing away), reducing the total eligible for Wave 3 and the numbers likely to drop out at later waves. Nevertheless, this pattern appears to have stabilised at Wave 4.

Figure 2.1: CAPI response rates (%) across waves, by baseline age category and gender.



2.6 Dataset

The results in this report were generated from the following TILDA datasets: CAPI v4.5.0; SCQ v4.3.3; AuditTracker_W1-W4 v2018.05.06. The CAPI dataset includes observations from 5,977 respondents (5,739 aged 56 years and over) who completed a self or a proxy interview during Wave 4. These respondents form the basis of much of the report, although different sub-samples are used throughout the Chapters. The SCQ dataset includes records for 5,064 respondents (4,857 aged 56 years and over). The AuditTracker is an internal dataset that tracks participation of all respondents in each component of the study at each wave, in addition to reasons for non-response and attrition. An anonymised dataset will shortly be archived at the Irish Social Science Data Archive (ISSDA) at University College Dublin (https://www.ucd.ie/issda/data/tilda/).

2.7 Analytical methods employed in this Report

Statistical methods used to calculate the estimates presented in this Report are described below. These methods aim to correct for potential biases in survey data estimates, in addition to determining correctly the uncertainty surrounding those estimates.

2.7.1 Point estimates and confidence intervals

Throughout this Report, the majority of estimates reflect the percentage of Irish adults aged 50 and older that fall within specific age groups, cohorts, or other analysis criteria. Means or medians of specific continuous quantities are reported where appropriate.

TILDA is a nationally representative study: each member of the study cohort hence corresponds with a given number of individuals in the Irish population aged 50 and older. Due to the random nature of the population sampling process, there is some inherent uncertainty in the derived estimates. To account for this, most estimates in this Report are presented with 95% confidence intervals (CI). Formally, the 95% CI indicates that with repeated sampling, 95% of the CIs calculated would contain the true population parameter. The 95% CI can therefore be interpreted as the range within which there is a 95% chance that the true population parameter will lie.

2.7.2 Weighting

Although TILDA is nationally representative of the older community-dwelling population in Ireland, patterns of response to each component of the study (CAPI, SCQ) vary across certain subgroups of the sample. Participation in later waves of the study is also influenced by levels of participation at earlier waves and by sample attrition.

To account for these systematic differences in responses and to ensure that the estimates derived from the sample remain representative of the target population, a number of weights were calculated and applied to different analyses. Weighting ensures that for the estimates calculated, subgroups within the sample are represented proportionate to the number of that subgroup present in the population of Ireland.

In practice, the weights reflect the reciprocal of the probability of a participant being included in the study, based on characteristics such as age, gender, education level, marital status, and the participant's membership of the target population. Separate longitudinal CAPI weights were used for different analyses in each Chapter, depending on the respondents included within each analysis. Longitudinal weights (for CAPI or SCQ) were calculated by multiplying the base CAPI weight by the reciprocal of the probability that a participant completed Waves 2, 3 and 4 (following participation at Wave 1). The probability was calculated using a multivariate logistic regression model, with the following baseline predictors: age, gender, level of education, marital status, urban or rural residence, self-rated physical health, smoking, health insurance, medications, socioeconomic stratum, disability, mental health, employment status, cardiac illness, immediate word recall, verbal fluency, and wrist and hip fractures. Versions of these longitudinal weights that included attrition between Waves 1 and 4 (i.e., participation in all waves except for either Wave 2 or Wave 3) were also calculated. Finally, two sets of these longitudinal weights were also calculated also, separated according to self-interviews only (i.e., proxy interviews were treated as attrition), or as self and proxy interviews (i.e., proxy interviews treated as participation). This accommodated the differing inclusion of proxy respondents in analyses throughout the Report, dependent upon the data analysed.

2.7.3. Software

All analyses in this report were conducted using STATA 12 or 14.

2.8 References

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