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RESEARCH ARTICLE

Life-course social class is associated with later-life diabetes prevalence in women: evidence from the Irish Longitudinal Study on Ageing

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This study aimed to investigate the independent and synergistic effects of childhood and adult social class, as well as the effect of social mobility, on type 2 diabetes (T2D) risk in later life. Cross-sectional data from The Irish Longitudinal Study of Ageing (TILDA) (n = 4,998), a nationally representative probability sample of adults aged 50 and older, were analysed. Prevalent diabetes was defined using subjective (self-reported doctor's diagnosis) and objective data (medications usage and glycated haemoglobin testing). Social class was classified as a three-level variable based on fathers' occupation in childhood and respondents' primary occupation in adulthood. A five-level social mobility variable was created from cross-classification of childhood and adulthood social class. Logistic regression was employed to assess the relationship between social class variables and T2D. Mean (SD) age of the sample was 63.8y (9.9) and 46.4% were male. Incidence of T2D was 11.6% of men and 7.7% of women. Some 57.4% of the sample were classified as *Manual* social class in childhood. Compared to those in *Professional/Managerial* occupations, belonging to the *Manual* social class in childhood was associated with an increased risk of T2D in men (Odds Ratio (OR): 1.36, 95% CI: 0.88, 2.10) and women (OR: 2.16, 95% CI: 1.21, 3.85). This association was attenuated in women when controlled for adulthood social class (OR: 1.84, 95% CI: 1.00–3.37), suggesting that the effect of childhood social class may be modified by improving social circumstance over the life course.

Key words diabetes • social class • life course • disadvantage • cohort study

Key messages

- We investigated the association between life-course social class and diabetes prevalence in older adults.
- Our findings confirm the relationship between early-life social class and the risk of developing diabetes in later life.

- Women who remain in low social class in childhood and adulthood are most at risk of developing diabetes.
- Interventions to prevent diabetes should be targeted at high-risk groups throughout the life course.

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Introduction

Type 2 diabetes (T2D) is a chronic, insidious disease characterised by insulin resistance and associated with disability, morbidity and early mortality due to an increased susceptibility to micro- and macrovascular complications. The disease is now considered a global epidemic, driven by increased prevalence of overweight and obesity, sedentary lifestyles and the consumption of unhealthy diets (Zheng et al, 2017). Understanding why certain population subgroups may be more at risk of T2D can inform the development of preventative strategies at a population level in order to lessen the healthcare burden associated with the condition. A substantial body of research has pointed to an association between socio-economic circumstance (variously defined using occupation, education, income or status) measured at different stages of the life course and the prevalence and incidence of T2D, whereby those of 'lower' social rank are disproportionately affected by the disease (Robbins et al, 2001; Kumari et al, 2004; Best et al, 2005; Maty et al, 2005; Wray et al, 2006; Agardh et al, 2007; Lidfeldt et al, 2007; Espelt et al, 2008; Maty et al, 2008; Maty et al, 2010; Agardh et al, 2011; Smith et al, 2011; Demakakos et al, 2012; Stringhini et al, 2013; Pikhartova et al, 2014; Derks et al, 2017). Socio-economic position (SEP) encompasses both class and status; however, these terms represent different constructs and are not interchangeable (Bartley, 2017). Different measures of social circumstance represent different social processes, and thus may influence health through diverse mechanisms. It has been widely postulated that an insult to the foetus occurring during intrauterine development can lead to fundamental physiological adaptations that are potentially irreversible and may predispose to T2D risk in later life (Kuh et al, 2003). For example, it has been suggested that gestational undernutrition, associated with low parental social class, may lead to peripheral insulin resistance due to low muscle mass which persists across the lifespan (Barker, 1995; Best et al, 2005).

Childhood SEP, measured for example by parental educational attainment or fathers' social class is commonly used to investigate this *critical period* hypothesis. Findings in relation to T2D have been mixed, with many authors reporting an independent association between childhood SEP and subsequent development of T2D (Wray et al, 2006; Lidfeldt et al, 2007; Maty et al, 2008; Pikhartova et al, 2014), while several others have indicated no relationship after controlling for adulthood SEP (Best et al, 2005; Agardh et al, 2007; Smith et al, 2011; Stringhini et al, 2013; Derks et al, 2017). An alternative *pathway* or *social mobility* hypothesis suggests that poor childhood circumstance may set in place a chain of risk whereby those with lower

childhood social class have less opportunity of social progression than their wealthier counterparts, and therefore are more likely to remain in the lower social classes into adulthood (Kuh et al, 2003), while also being more likely to engage in health-compromising behaviours such as smoking, poor diet and physical inactivity. These downstream risk factors then determine health risk in adulthood. Similar to findings in relation to childhood circumstance, studies examining the association of various measures of adulthood SEP on T2D incidence suggest that women are more likely to be affected than men (Robbins et al, 2001; Best et al, 2005; Agardh et al, 2007; Espelt et al, 2008; Maty et al, 2008; Smith et al, 2011; Demakakos et al, 2012). It has been suggested that social mobility is more constrained and the consequences of persistent social disadvantage stronger in women than men, resulting in poorer health outcomes (Maty et al, 2008); however, such hypotheses have not been adequately tested. Finally, the *accumulation* hypothesis suggests that those who experience less advantaged socio-economic circumstances across the life course (that is, during childhood and adulthood) will be in worse health compared to those who experience more advantaged socio-economic circumstances across the life course, while the upwardly (less auspicious childhood, more advantaged adulthood) or downwardly mobile (advantaged childhood, less auspcious adulthood) will exhibit an intermediate level of risk (Hallqvist et al, 2004). These studies incorporated various measures of own and parental education and occupation, poverty and income measures to create cumulative scores, making it difficult to disentangle the effects of social class versus social status on T2D.

The Irish Longitudinal Study on Ageing (TILDA) is a large nationally representative study of adults aged 50 and over resident in the Republic of Ireland that captures detailed information on both childhood and adulthood social class and comprehensive subjective and objective measures of T2D. One in ten older Irish adults are estimated to have T2D (Leahy et al, 2015), with prevalence in the adult population rising steeply over the past two decades (Tracey et al, 2016). The cohort of older adults captured in TILDA experienced significant social mobility between childhood and later life as Ireland shifted from a primarily agricultural to post-industrial society, and therefore represent a unique opportunity to study the life-course impact of transitions in social class on T2D risk in later life.

The aims of the present study are threefold: first, to investigate whether the association between social class and T2D that has been noted in several other populations is also applicable in an Irish context; second, to explore the theoretical utility of three competing life-course hypotheses to explain any such observed association; and, finally, to investigate if the social class–T2D relationship differed in men and women, as has been shown in a number of other populations.

Methods

Sample

TILDA is a nationally representative stratified cluster sample of adults aged 50 and older residing in the Republic of Ireland. Details of the cohort and sampling frame have been described elsewhere (Kearney et al, 2011; Whelan and Savva, 2013). Briefly, at Wave 1 of TILDA (2009–11), 8,175 adults aged 50 and over completed a computer-assisted personal interview (CAPI) in their own home, representing a

household response rate of 62%. Some 72% (n = 5,895) of respondents subsequently attended a comprehensive health assessment with 5,388 of these providing a blood sample for future analysis. Data for Wave 2 of TILDA was collected in 2012, with 6,955 of the Wave 1 respondents participating in this follow-up. There was no health assessment conducted at Wave 2. Informed consent was obtained from all individual participants included in the study.

Diabetes classification

A combination of self-report and objective information from Wave 1 was used to identify cases of T2D. Previously diagnosed diabetes was identified during the CAPI with the question 'Has a doctor ever told you that you have diabetes or high blood sugar?' Those indicating a previous diagnosis were asked how old they were when first diagnosed. A comprehensive list of all currently prescribed medications was obtained from each respondent. Diabetes medications were identified using the Anatomic Therapeutic Classification (ATC) codes 'A10A' for insulin and 'A10B' for oral anti-glycaemic medications. Respondents who were prescribed either insulin or oral anti-glycaemic medication at the time of interview, but did not report a doctor's diagnosis of the condition, were also classified as having diabetes. Respondents who were not classified as having diabetes by either of the above criteria but had an HbA_{1c} value > = 48 mmol/mol were further classified as having diabetes as per American Diabetes Association criteria (American Diabetes Association, 2015). Respondents were not explicitly asked what type of diabetes they had been diagnosed with. Therefore respondents (n = 11) who reported a doctor's diagnosis of diabetes before the age of 40 and who were on insulin therapy at the time of their Wave 1 interview were excluded from analysis due to the suspicion that they may have type 1 diabetes.

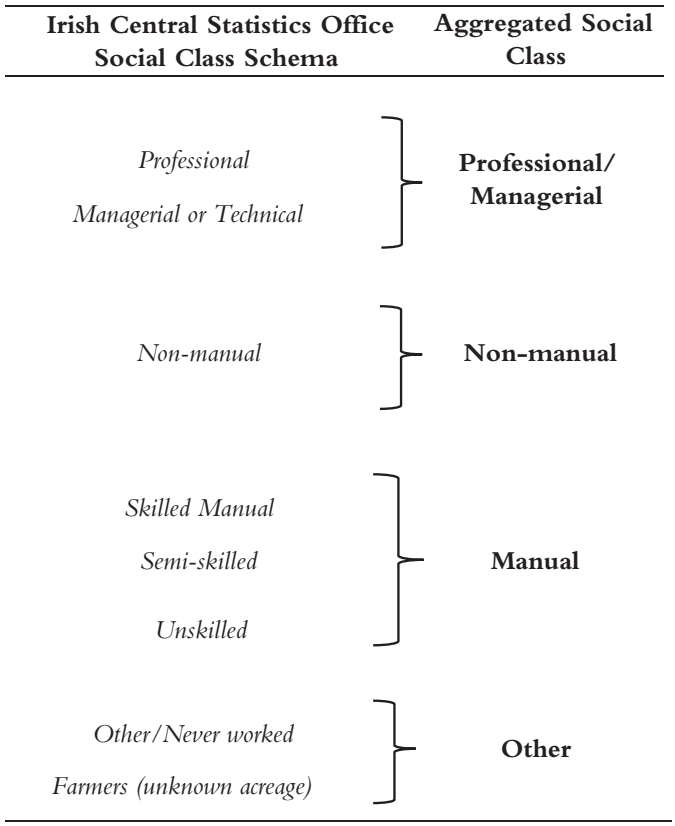
Social class ascertainment

In this analysis, we investigate occupational social class in childhood and adulthood. Both childhood and adulthood social class were initially coded as a seven-level variable using the Irish Central Statistics Office (CSO) classification as detailed in Figure 1. Details of the CSO classification system, which closely resembles the Registrar General's Social Classes used in the UK from 1931 to 2001, are given in Appendix 1. An additional category *Farmers (Size unknown)* was created for responses where farm size was not available to establish social class coding. To maintain adequate sample size, this variable was further collapsed into four groups as follows: (1) *Professional and Managerial/Technical (Professional/Managerial)*, (2) *Non-manual*, (3) *Skilled Manual*, *Semi-skilled* and *Unskilled (Manual)* and (4) *Never Worked / Parent never worked* and *Farmers (Size unknown)* and (*Other*) social class groups (Figure 1).

Childhood social class

Childhood social class was ascertained using father's occupation obtained via the question 'What was your father's occupation when you were age 14?' If their father had more than one occupation during this time, TILDA collected data on the most important job (that is, the one with the highest pay). Approximately one quarter of the sample reported that their father was a farmer; however TILDA did not collect data

Figure 1: Social class schema



on the size (acreage) of the farm at Wave 1, which the CSO uses in its determination of social class. A follow-up question regarding the acreage of the farm was asked of respondents at Wave 3 of TILDA who had previously indicated that their father was a farmer. This information was used to reassign *Farmers* (n = 982) into the existing social class categories. Those for whom this information on farm size was not available (n = 250) were subsequently coded as *Other* social class.

Adulthood social class

TILDA collected data on the respondent's current occupation. For respondents who were retired (n = 1,821, 37%), historic occupation, defined as the job title of the highest paying job they ever held, was recorded. Occupational information was not collected at Wave 1 for respondents who were self-employed (excluding farmers), unemployed, on home duties, in education or training, or those who were sick or disabled, but this information was subsequently obtained at Wave 2. As the Wave 2 data was more complete and coded in a rigorous and consistent manner, this information was therefore used to derive all respondents' adulthood social class, and we used Wave 1 occupation for the Wave 2 non-respondents (n = 359) included in our analysis. Prior to undertaking the present analysis, we compared social class using data obtained at Wave 1 to that obtained at Wave 2 and found that there was negligible change in social

class reporting between waves, with a slightly larger proportion of the sample classified as *Professional/Managerial* using the Wave 1 data (Appendix 2). To test the robustness of the association between social class and T2D, the analysis described below was rerun using data from Wave 1 only, with no appreciable difference in model estimates.

Statistical analysis

Analyses were carried out using STATA 14 (StataCorp, College Station, TX, USA). Descriptive statistics were calculated as mean (sd) for continuous variable or n (weighted percentage) for categorical variables. Analyses are conducted separately for men and women in accordance with the findings of previous studies.

Following the approach previously described by McCrory et al (2018), we test the three different life-course hypotheses purported to explain the effect of social class on later-life health using a series of logistic regression models. Briefly, evidence of a critical period hypothesis exists if there is an association of childhood social class with T2D prevalence in later life adjusting for age and age^2 (Model 1) that persists when adjusted for adulthood social class (Model 2). This analysis also provides a simultaneous test of the pathway hypothesis – if the hypothesised relationship between childhood social class and T2D becomes non-significant when adjusted for adulthood social class, this implies support for the pathway model as it indicates that the effect of childhood is indirect and mediated via its relationship with adulthood social class. In women, we further expand this analysis to assess the effect of number of children on the social class–T2D relationship (Model 3). We further investigate the pathway hypothesis by performing a mobility analysis based on the cross-classification of childhood and adulthood social class. First, we classify respondents' intergenerational social class trajectory as:

- stable *Professional/Managerial* occupation in childhood and adulthood;
- stable *Non-manual* occupation in childhood and adulthood;
- stable *Manual* in childhood and adulthood;
- upwardly mobile (*Non-manual* or *Manual* social class in childhood, moving to *Professional/Managerial* or *Non-manual* social class in adulthood respectively); or
- downwardly mobile (*Professional/Managerial* or *Non-manual* social class in childhood, moving to *Non-manual* or *Manual* social class in adulthood respectively).

We then employ logistic regression to investigate the association between social mobility and T2D prevalence. Support is offered for the pathway hypothesis if risk of T2D in the upwardly/downwardly mobile most closely resembles that of their adulthood class.

We test the accumulation model by fitting a two-way interaction term between childhood and adulthood social class with respect to T2D prevalence to determine whether the relationship is additive or multiplicative. The mobility analysis detailed above will also provide support for the accumulation hypothesis if: (1) those categorised as *Professional/Managerial* social class at both time points are at lowest risk of T2D, those who experienced *Manual* social class at both time points are at highest risk, and those who were upwardly or downwardly mobile across generations rank somewhere in between; or (2) a finding that implies mobility per se affects T2D risk; that is, that adult health is more than the additive effect of childhood and adulthood social class and that the association of adulthood social class with health depends on childhood social class (McCrory et al, 2018).

With the exception of the social mobility model, which excludes those classified as *Other* social class and consequently had a restricted sample size, all analyses are weighted to be representative of the population of adults aged 50 and over in Ireland. Descriptive statistics and logistic regression model outputs are weighted for survey non-response, non-attendance at the health assessment component of the study, and whether or not respondents provided a blood sample for storage. The two-stage, stratified clustering sample design of TILDA is accounted for when computing confidence intervals and standard errors.

Results

Descriptive statistics

Analysis was based on 4,988 TILDA participants aged 50 and over (Figure 2). Descriptive statistics of the study sample are detailed in Table 1.
Mean age of the sample was 63.8 (9.9) and 46.4% were male. T2D was more prevalent among men (11.6% vs 7.7%). The distribution of childhood social class was similar among men and women, with the majority of the sample (57.4%) classified as *Manual*

Figure 2: Flowchart of study participants

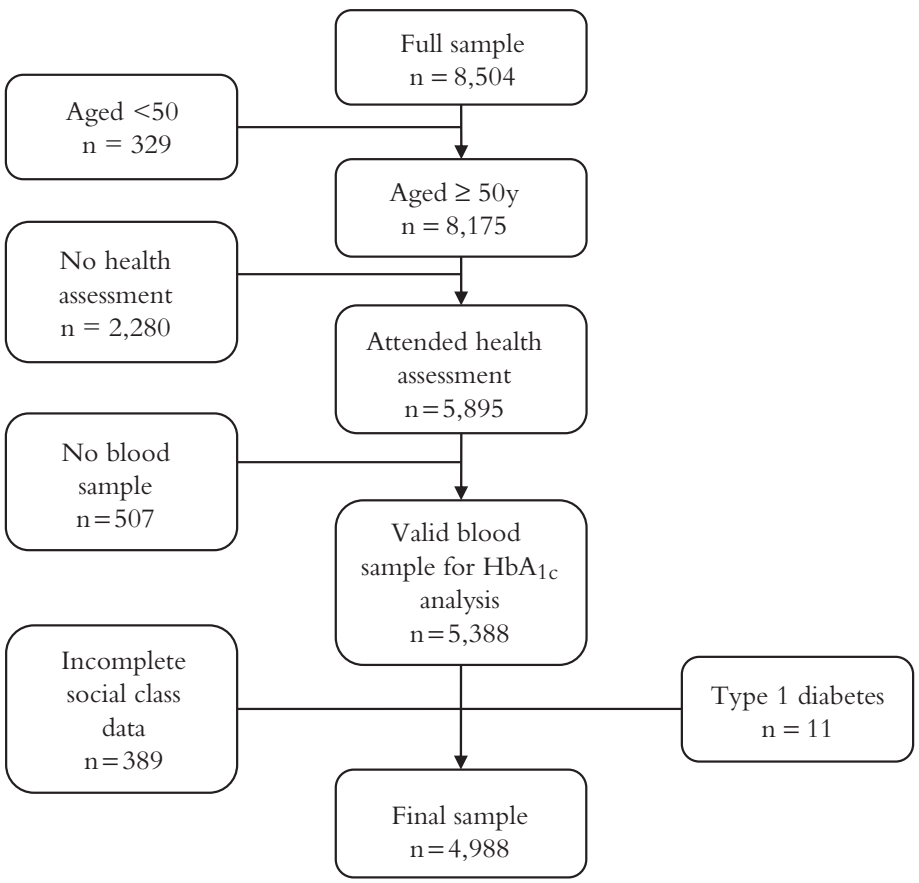


Table 1: Descriptive statistics of the TILDA sample

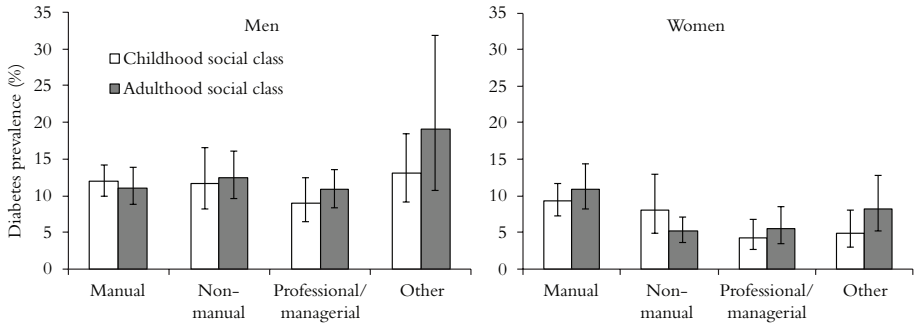
	Men (n = 2,314) Mean (SD)/ n (%)	Women (n = 2,674) Mean (SD)/ n (%)	*p*-value
Age (years)	63.2 (9.3)	64.4 (10.3)	<0.05
Diabetes	243 (11.6)	163 (7.7)	<0.05
Childhood social class			
Professional/Managerial	430 (14.6)	544 (16.2)	0.102
Non-manual	344 (13.6)	393 (13.5)	
Manual	1,273 (59.1)	1,391 (55.8)	
Other	267 (12.6)	346 (14.5)	
Adulthood social class			
Professional/Managerial	809 (27.1)	795 (20.8)	<0.05
Non-manual	514 (22.6)	884 (31.6)	
Manual	918 (46.6)	761 (36.7)	
Other	73 (3.8)	234 (10.9)	
Physical activity level			
Low	571 (26.6)	883 (36.1)	<0.05
Medium	725 (31.3)	1,019 (37.6)	
High	998 (42.1)	752 (26.3)	
Smoking (pack years)	19.9 (26.8)	11.6 (18.3)	<0.05
Waist circumference (cm)	101.8 (11.9)	90.8 (13.2)	<0.05
Central obese	1,104 (48.7)	1,401 (56.1)	<0.05
Body mass index (kg/m^2)	29.1 (4.4)	28.5 (5.5)	<0.05
Obese	861 (37.8)	826 (32.4)	<0.05
Number of children	–	3.2 (2.3)	-

Note: N is unweighted, % is weighted.

social class. However, men were more likely to be classified as *Professional/Managerial* with respect to adulthood social class (46.6% vs 36.7%). Appendix 3 illustrates the patterns of social mobility between childhood and adulthood in men and women. The most common trajectory was stable *Manual* social class in both men (27.7%) and women (19.3%), while fewest men moved from *Professional/Managerial* childhood to *Manual* adulthood social class positions (3.3%) and fewest women from *Non-manual* childhood to *Manual* adulthood (2.8%) or *Professional/Managerial* childhood to *Manual* adulthood social class positions (2.8%). A greater proportion of men engaged in high physical activity, had a history of smoking and were obese (as measured by BMI), while women were more likely to be centrally obese (as measured by waist circumference).

Figure 3 illustrates the population-weighted prevalence of T2D by childhood and adulthood social class in men and women. Women from *Manual* childhood social class (9.3%, 95% CI: 7.3%, 11.7%) have a higher prevalence of T2D compared with *Professional/Managerial* (4.3%, 95% CI: 2.7%, 6.8%) or *Non-manual* childhood social class positions (8.0%, 95% CI: 4.9%, 12.9%). Similarly, women of *Manual* adulthood social class (10.9%, 95% CI: 8.2%, 14.4%) have a higher prevalence of T2D than those from *Professional/Managerial* (5.5%, 95% CI: 3.5%, 8.5%) or *Non-manual* adulthood social class positions (5.2%, 95% CI: 3.7%, 7.1%). T2D prevalence does not differ by childhood or adulthood social class in men.

Figure 3: Diabetes prevalence (percentage) by childhood and adulthood social class in men and women.



Note: Error bars attached to each column represent 95% Confidence Intervals.

Tables 2 (men) and 3 (women) detail the output from regression models investigating (1) the effect of childhood social class on the prevalence of T2D in later life and (2) the mutually adjusted independent associations of childhood and adulthood social class on T2D prevalence in later life. Models 3 and 4 (women only) investigate the impact of lifestyle factors on the social class–T2D relationship.

Critical period hypothesis

We tested the critical period hypothesis by (1) ascertaining the main effect of childhood social class on T2D prevalence (model 1), and (2) observing whether adjustment for adulthood social class attenuated the main effect of childhood social class (model 2). In men, those in *Non-manual* (OR: 1.34, 95% CI: 0.78, 2.31) and *Manual* (OR: 1.36, 95% CI: 0.88, 2.10) childhood social class positions were more likely to develop T2D than those in the *Professional/Managerial* position, and this association was negligibly affected when adjusted for adulthood social class (Table 2). While the magnitude and direction of these associations provide support for the critical period hypothesis, the wide confidence intervals indicate significant variability of the association in men. In women, those from *Manual* childhood social class backgrounds were more than twice as likely to have T2D (OR: 2.16, 95% CI: 1.21, 3.85) when compared to *Professional/Managerial* childhood social class. This association was somewhat attenuated when adjusted for adulthood social class (OR: 1.84, 95% CI: 1.00, 3.37) (Table 3). These findings provide support for the critical period hypothesis in women, as the association between childhood social class and T2D prevalence persists despite controlling for adulthood social class; although we do observe some attenuation of the association suggesting that some of the effect is indirect.

Pathway hypothesis

We tested the pathway hypothesis by investigating the impact of differing social class trajectories on diabetes risk using a five-level social mobility variable, created from the cross-classification of childhood and adulthood social class (stable *Professional/Managerial*, stable *Non-manual*, stable *Manual*, upwardly mobile and downwardly mobile (Table 4)). Compared to those in the stable *Professional/Managerial* group, stable *Non-*

Table 2: Association of childhood social class with diabetes prevalence in later life (Model 1) and adjusted for adulthood social class (Model 2) and covariates (Model 3) in men

Men						
	Model 1		Model 2		Model 3	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Childhood social class						
Professional/ Managerial	Ref.		Ref.		Ref.	
Non-manual	1.34	[0.78,2.31]	1.33	[0.77,2.30]	1.13	[0.63,2.06]
Manual	1.36	[0.88,2.10]	1.34	[0.85,2.09]	1.18	[0.73,1.92]
Other	1.18	[0.67,2.08]	1.06	[0.59,1.93]	1.21	[0.67,2.20]
Adulthood social class						
Professional/ Managerial			Ref.		Ref.	
Non-manual			1.09	[0.72,1.64]	1.04	[0.68,1.59]
Manual			1.02	[0.69,1.50]	0.88	[0.58,1.35]
Other			1.93	[0.90,4.13]	1.56	[0.70,3.48]
Physical activity level						
Low					Ref.	
Moderate					1.02	[0.68,1.52]
High					0.66*	[0.44,0.99]
Smoking (pack years)					1.01**	[1.00,1.01]
Waist circumference					1.06***	[1.04,1.07]

Notes. OR = Odds Ratio; CI = Confidence Interval.
Model 1: Adjusted for age, age^2.
Model 2: Model 1 adjusted for adulthood social class.
Model 3: Model 1 adjusted for all covariates.
*** $p < .001$ ** $p < .01$ * $p < .05$.

manual membership conferred the greatest risk of T2D (OR: 1.74, 95% CI: 0.79, 3.81) in men. Stable *Manual* (OR: 1.51, 95% CI: 0.90, 2.54) and upwardly mobile (OR: 1.47, 95% CI: 0.89, 2.44) displayed similar levels of risk, while those classified as downwardly mobile displayed lower risk (OR: 1.18, 95% CI: 0.63, 2.20), although these associations were not statistically significant. These findings provide further support for the critical period hypothesis in men, as those in manual childhood social class positions remained at greater risk of T2D regardless of social class attainment in adulthood, while results for the downwardly mobile group suggest some protective/ buffering effect of early-life social class. In women, those classified as stable *Manual* had 2.5 times greater odds (95% CI: 1.24, 5.06) of having T2D compared to stable *Professional/Managerial* members. Stable *Non-manual* (OR: 1.41, 95% CI: 0.56, 3.56) and upwardly mobile (OR: 1.41, 95% CI: 0.70, 2.84) had similar levels of risk, while the downwardly mobile (OR: 1.30, 95% CI: 0.58, 2.93) had lowest risk.

Our findings also provide some tacit support for the pathway hypothesis in women, as the relationship of childhood social class to T2D was attenuated when adjusted for adulthood social class. Moreover, the fact that upwardly mobile (OR = 1.41) women have appreciably lower odds of T2D compared with the stable manual group (OR = 2.51) suggests some degree of modifiability due to improving socio-economic circumstances over the life course.

Table 3: Association of childhood social class with diabetes prevalence in later life (Model 1) and adjusted for adulthood social class (Model 2), number of children (Model 3) and lifestyle behaviours (Model 4) in women

Women								
	Model 1		**Model 2**		**Model 3**		**Model 4**	
	OR	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Childhood social class								
Professional/Managerial	Ref.		Ref.		Ref.		Ref.	
Non-manual	1.74	[0.82,3.69]	1.72	[0.80,3.68]	1.72	[0.80,3.68]	1.78	[0.83,3.84]
Manual	2.16**	[1.21,3.85]	1.84†	[1.00,3.37]	1.84†	[1.00,3.38]	1.48	[0.78,2.82]
Other	0.93	[0.44,1.99]	0.82	[0.38,1.79]	0.82	[0.38,1.81]	0.67	[0.29,1.58]
Adulthood social class								
Professional/Managerial			Ref.				Ref.	
Non-manual			0.87	[0.49,1.54]	0.87	[0.49,1.55]	0.87	[0.51,1.50]
Manual			1.78*	[1.01,3.14]	1.78*	[1.01,3.17]	1.55	[0.89,2.70]
Other			1.23	[0.57,2.67]	1.23	[0.56,2.72]	1.08	[0.50,2.34]
Number of children					1.00	[0.92,1.08]	0.98	[0.90,1.06]
Physical activity level								
Low							Ref.	
Moderate							0.77	[0.46,1.29]
High							0.62*	[0.38,0.99]
Smoking (pack years)							1.01	[1.00,1.02]
Waist circumference							1.07***	[1.05,1.08]

Notes. OR = Odds Ratio; CI = Confidence Interval.
Model 1: Adjusted for age, age^2.
Model 2: Model 1 adjusted for adulthood social class.
Model 3: Model 1 adjusted for all covariates.
*** $p < .001$ ** $p < .01$ * $p < .05$ † $p = .051$.

Table 4: Association between social mobility classification and later-life diabetes prevalence

	Men (n = 2,003)		Women (n = 2,165)	
	OR	**[95% CI]**	**OR**	**[95% CI]**
Age	1.62***	[1.27,2.05]	1.06	[0.83,1.36]
Age^2	1.00***	[1.00,1.00]	1.00	[1.00,1.00]
Social Mobility				
Stable Professional/Managerial	Ref.			
Stable Non-manual	1.74	[0.79,3.81]	1.41	[0.56,3.56]
Stable Manual	1.51	[0.90,2.54]	2.51*	[1.24,5.06]
Upwardly mobile	1.47	[0.89,2.44]	1.41	[0.70,2.84]
Downwardly mobile	1.18	[0.63,2.20]	1.30	[0.58,2.93]

Notes. OR = Odds Ratio; CI = Confidence Interval.
*** $p < .001$ ** $p < .01$ * $p < .05$.

Accumulation hypothesis

While effect sizes are larger for men and women who are stable in *Manual* social class positions at both time points compared to those who were upwardly or downwardly mobile, there is no evidence of an interaction between childhood and adulthood SEP when formally tested in men (Adjusted Wald test $p = .65$) or women (Adjusted Wald test $p = .58$). These findings are entirely consistent with our findings above in relation to the critical period and pathway models (that is, the associations appear to be additive rather than multiplicative).

Covariate analysis

In addition to adjusting all analyses for age and age squared, we control for lifestyle indicators of smoking, physical activity and waist circumference (Model 3 in men, Model 4 in women), reported at Wave 1. Smoking was calculated as total pack years. Physical activity level was measured using the International Physical Activity Questionnaire (IPAQ (Craig et al, 2003)). This tool assesses time spent on various domains of moderate and vigorous physical activities in the previous seven days, which is then converted to metabolic minutes and used to categorise individuals as 'low', 'medium' or 'high' levels of physical activity. Waist circumference was objectively measured by a research nurse during the health assessment. Each of these lifestyle factors has been associated with the development of T2D (Zheng et al, 2017), although it is difficult to ascertain whether the development of such behaviours precedes or succeeds adulthood social class attainment. Adjustment for these factors attenuated the odds of T2D for the *Manual* social class in childhood and adulthood for both men and women. Body mass index (BMI) was also measured. However, as BMI and waist circumference were found to be highly correlated in this population ($r = 0.86$), we chose to enter waist circumference only in the regression analyses to avoid multicollinearity. As a sensitivity check, we re-estimated the models substituting BMI for waist circumference, but this made no appreciable difference to the results.

Discussion

In this large population-representative study of community-dwelling older adults, we observed independent associations of *Manual* social class in childhood and adulthood with T2D in later life, although the associations were statistically significant in women only. Further, women who experienced *Manual* social class at both time points were 2.5 times more likely to have T2D in later life compared to those who experienced *Professional/Managerial* social class at both time points. To our knowledge, this is the first nationally representative study investigating competing life-course hypotheses to quantify the effect of social class on the prevalence of T2D in older adults.

Broadly, our findings can be adduced as offering support for the critical period hypothesis in women as *Manual* childhood social class was associated with increased risk of T2D, even when controlling for adulthood social class. In general, men from *Manual* childhood social class positions were also characterised by increased risk, although the association was not statistically significant. The significant association with respect to women is consistent with a number of previous studies on the topic, where an independent effect of childhood SEP on T2D prevalence in women has been demonstrated (Lidfeldt et al, 2007; Maty et al, 2008). For example, analysis from the English Longitudinal Study on Ageing (Pikhartova et al, 2014) showed a direct effect of manual childhood social class (based on father's occupation at age 14) on prevalent T2D, as well as an indirect effect mediated through adulthood social class, inflammatory markers and lifestyle factors. However, a significant number of studies have found no independent effect of childhood SEP on T2D (Best et al, 2005; Agardh et al, 2007; Smith et al, 2011; Stringhini et al, 2013; Derks et al, 2017). These conflicting findings may be due to methodological differences between studies and different sample populations, as well as different operational definitions of SEP. For example, Agardh et al (2007) and Derks et al (2017) sampled younger European cohorts and confirmed T2D cases using an oral glucose tolerance test (OGTT), while Regidor et al (2004) based T2D diagnosis on medications use only, therefore excluding an unknown number of undiagnosed or well-controlled T2D cases. Smith et al (2011) studied incident rather than prevalent T2D over a 32-year follow-up in the Framingham Offspring Study and used fasting plasma glucose (FPG) analysis to confirm T2D diagnosis.

In addition to the critical period effect, we similarly show evidence of a pathway effect in women whereby those who experience *Manual* social class in both childhood and adulthood are the group most likely to develop T2D. This is contrary to the findings of both Lidfeldt et al (2007) and Smith et al (2011) who investigated SEP mobility and incident T2D in the Nurses' Health Study (n = 5,5115, age 35–59 years at baseline, 22-year follow-up) and the Framingham Offspring Study (n = 1,893, mean age 34 years at baseline, 32-year follow-up) respectively, using a similar analytical approach to that presented in this paper. Both authors found that women classified as *downwardly mobile* had the greatest risk of T2D compared to the *stable high* group, with no increased risk noted for the *stable low* trajectory. However, the Nurses' Health Study by its nature is homogeneous in terms of participant educational attainment and adulthood SEP. Consequently, husband's educational attainment was used to determine SEP, meaning unmarried women were excluded from social mobility analyses. Childhood SEP was determined by father's social class at age 16. Similarly, the Framingham Offspring sample is highly selective, with entry into

the study contingent on having a father in the original Framingham cohort. This study used father's educational attainment as an indicator of childhood SEP, though noted that sensitivity analyses based on father's occupation produced similar results. Methodological differences notwithstanding, the findings from these studies suggest that adulthood social position drives the inequality in T2D prevalence among social strata, and conflicts with our finding that persistent disadvantage conveys increased risk, whereby there is an additive effect of *Low* SEP at childhood and adulthood on T2D risk.

With respect to the accumulation hypothesis, we find little evidence to support this in either men or women, based on the lack of an interaction effect between childhood and adulthood social class on T2D prevalence. Consistent with this interpretation, men and women who are downwardly mobile have lower odds of T2D compared with the upwardly mobile despite both groups experiencing one period of disadvantage. Thus while adulthood social class matters (particularly for women), it seems to matter less for the downwardly mobile, who have lower odds of T2D compared with the stable non-manual, and upwardly mobile groups, which suggests some level of buffering by childhood social class, and is entirely consistent with a critical period interpretation.

This concurs with the findings of Derks et al (2017) who performed a similar analysis on a pooled sample of 3,263 men and women aged 40–75 years from the Maastricht study and found no evidence to support any of the life-course hypotheses in relation to T2D. The effect of cumulative SEP on T2D diagnosis was also investigated in the Framingham Offspring Study (Smith et al, 2011). The authors summed three-level indicators (low, medium and high) of childhood SEP, young-adulthood SEP and active professional-life SEP to create a 0–6 count score of cumulative SEP. While an inverse association was noted between cumulative SEP and incident T2D in women, this was largely driven by adulthood SEP, again suggesting that adulthood rather than childhood SEP is the defining factor in T2D risk.

The mechanisms through which early-life disadvantage affects later health outcomes have been much debated and it is possible that there are multiple *sensitive periods* in early life that influence future health. It has been suggested that lower SEP in early life may predispose one to risky health behaviours such as poor diet, obesity, smoking and physical inactivity (Wray et al, 2005) which are particularly relevant in the case of T2D (Wray et al, 2006). Several studies have shown that some or all of these behaviours partly explain the relationship between SEP and T2D (Lidfeldt et al, 2007; Maty et al, 2008; Pikhartova et al, 2014). Socio-economic inequalities in obesity have been shown to affect women to a greater extent than men (Zhang and Wang, 2004). Men (more so than women) in manual occupations may have more physically demanding jobs, reducing their risk of obesity (Wardle et al, 2002) and thus T2D which may explain the lack of association between life course SEP and T2D. Further, overweight and obesity are less socially acceptable in higher social classes in women, and women in this group are more likely to be aware of and engage in weight control behaviours (Wardle and Griffith, 2001). Waist circumference was the preferred measure of obesity in this paper as a stronger association between waist circumference and T2D compared to BMI and T2D has been previously observed in this population (Leahy et al, 2015). Substituting BMI for waist circumference did not appreciably change the output of the regression analyses (data not shown).

The absence of a statistically significant association between social class and T2D in men in our study is consistent with existing literature on the topic. Several studies have demonstrated a weaker or absent relationship between SEP and T2D in men compared to women (Robbins et al, 2001; Best et al, 2005; Agardh et al, 2007; Espelt et al, 2008; Maty et al, 2008; Smith et al, 2011; Demakakos et al, 2012). Mechanisms through which class-related T2D risk would differ by sex have not been well studied. It has been shown previously that obesity is socially patterned in older Irish women but not men (Leahy et al, 2014). Sex-specific factors through which social class may affect weight status and thus T2D risk in women include early age at menarche (He et al, 2010), multiparity (Nicholson et al, 2006; Fowler-Brown et al, 2010) and age at menopause (Karvonen-Gutierrez et al, 2016). Parity/gravidity did not explain the social class–T2D relationship in women. However, our measure of parity is crude as it indicates the total number of children, including those who may have been adopted. Therefore it may not be reflective of the number of pregnancies experienced by women in this study, which would be a more accurate measure of the biological burden of multiparity.

Our study is one of a few to investigate the competing life-course hypotheses in a systematic manner involving a large population-representative sample of community-dwelling older adults. Further, our outcome variable is based on a robust combination of subjective and objective evidence of T2D. However, a number of limitations must be acknowledged. Childhood social class was based on respondents' recall of their father's occupation from several decades previously and therefore may be subject to recall bias. However this is a commonly used indicator of childhood SEP (Galobardes et al, 2006) and if recall bias were a factor we do not expect this to preferentially affect those with T2D. It should also be acknowledged that the observed patterns of results may reflect our choice of social class schema and may not generalise therefore to more recent conceptions of class such as the National Statistics Socio-Economic Classification (NS-SEC) or the European Socio-Economic Classification (ESEC). Unfortunately, TILDA occupations are not coded using the International Standard Classification of Occupations (ISCO) so we were not able to validate/confirm our findings using these alternative coding schemas. We were not able to ascertain urban–rural migration, which is likely to impact on opportunities for social mobility and thus represents an important life-course variable. The particular cohort of older Irish adults captured in TILDA, born primarily between 1920 and 1960, experienced significant social mobility between childhood and later life, shifting from a primarily agricultural to post-industrial society. While this unique characteristic allows us to test the competing life-course hypotheses in the TILDA cohort, our findings may not be applicable to future generations or external populations. We hypothesised that lifestyle indicators including waist circumference, smoking history and physical activity level mediate the relationship between childhood social class and T2D. However, we only collect information on these behaviours at one point in time and cannot unambiguously state that they were present before the onset of T2D, and the results of the covariate analysis should be considered as indicative only. Future studies should include periodic measures of health behaviours throughout the life course. Neither have we taken account of dietary habits, which are known to be heavily influenced by social class and to contribute to T2D risk (Hu et al, 2001) or alcohol intake, which has been demonstrated to have a U-shaped relationship with T2D (Wei et al, 2000). Finally, we cannot rule out residual confounding from other unmeasured factors, such as access to healthcare services.

This study provides evidence of the importance of childhood social circumstance as a risk factor for the development of T2D in later life, acting independently to increase risk, but also predisposing one to lower social class in adulthood and thus additional increased risk in later life, potentially mediated through lifestyle factors. Our confirmation of a link between social class and diabetes, particularly in women, in a large nationally representative study of older adults using rigorous methodology provides an important contribution to the study of social inequalities in health outcomes. Not only does lower social class influence T2D risk, it may also result in poorer disease management and outcomes for those diagnosed with the condition (Ricci-Cabello et al, 2011; Heltberg et al, 2017). Timely interventions throughout the life course that target those at greatest risk of T2D are therefore necessary. Specifically, awareness campaigns incorporating the importance of healthy lifestyles from childhood through to later life may help to reduce the ever-increasing global burden of T2D.

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Data availability

The authors take responsibility for the integrity of the data and the accuracy of the analysis. Researchers interested in using TILDA data may access the data from the following sites: Irish Social Science Data Archive (ISSDA) at University College Dublin (http://www.ucd.ie/issda/data/tilda/); Interuniversity Consortium for Political and Social Research (ICPSR) at the University of Michigan (http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/34315).

Conflict of interest

The authors declare that there is no conflict of interest.

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Appendix 1. Schema for coding social class from occupation

The social class category of each person aged 16 years or more who is at work for payment or profit is decided by his/her occupation.

Unemployed persons or retired persons are classified to the social class category corresponding to their former occupation.

The social class categories and descriptors are as follows:

Social Class 1:	Higher professional (examples include, senior managers in national government, dental practitioners, software engineers, barristers and solicitors); proprietors and farmers owning 200 acres or more
Social Class 2:	Lower professional and Managerial (examples include engineering technicians, laboratory technicians, general managers in large companies, purchasing managers, other managers); proprietors and farmers owning 100–199 acres
Social Class 3:	Other non-manual workers (examples include police officers (sergeant and below), local government clerical officers and assistants, restaurant and catering managers, sales assistants, cashiers, bank and counter clerks) and farmers owning 50–99 acres
Social Class 4:	Skilled manual workers (examples include bricklayers and masons, drivers of road goods vehicles, hairdressers, barbers and beauticians, travel and flight attendants) and farmers owning 30–49 acres
Social Class 5:	Semi-skilled manual workers (examples include bar staff, care assistants and attendants, postal workers and mail sorters, security guards and related occupations) and farmers owning less than 30 acres
Social Class 6:	Unskilled manual workers (examples include cleaners and domestics, farm workers, labourers, refuse and salvage collectors)

Notes on coding Occupations:

Farmers and their relatives are divided into five groups on the basis of farm size, for example:

Farmers owning 200 or more acres are coded as social class 1
Farmers owning 100–199 acres to social class 2
Farmers owning 50–99 acres to social class 3
Farmers owning 30–49 acres to social class 4
Farmers owning less than 30 acres to social class 5

Engineers

The term engineer presents difficulty because it is used in such a variety of circumstances. The Index provides for the coding of various specific engineers but the key point is whether the person is of professional status. If the title is prefixed by the terms professional, chartered, advisory, chief, consultant, consulting, design, designing, development, research, senior, superintending, or membership of a professional institution is stated, it can be assumed that the person is a professional engineer (social class 1). A mechanic who repairs or installs machines is social class 2. In cases of doubt the person is regarded as technical (social class 2).

Inspectors

If a particular type of inspector does not appear in the Index the term must be coded in accordance with the following general rules:

(a) Inspectors in manufacturing industries, who can be identified as inspectors of articles manufactured, are coded as makers or social class 4.
(b) Inspectors who are responsible for the work of manual workers are coded as social class 3. This includes people described as 'foreman'.

Instructors / Teachers / Tutors

Instructors and so on are coded as shown in the Index and otherwise as follows:

(a) In educational establishments – are coded to social class 1 or 2
(b) Elsewhere – people who provide training to industry and driving instructors are coded to social class 3

Managers

A list of managers is given in the Index. The title of 'Manager' is frequently given to persons with comparatively limited responsibilities and therefore only those persons who clearly carry out managerial functions should be coded as social class 2. Only senior managers in national government are coded as social class 1.

In addition persons managing a professional activity such as the manager of a firm of consulting engineers or of the research department of a firm are to be coded to their appropriate professions. For example:

Senior managers in national government	Social Class 1
Professionally qualified manager of consulting engineers	Social Class 1
Bank and building society managers	Social Class 2
Managers and proprietors of shops	Social Class 2
Restaurant and catering managers	Social Class 3
Entertainment and sport managers	Social Class 3

IRISH SOCIAL CLASS INDEX

Social Class 1 – Professional Workers

Farm owners and managers (200 or more acres)
Senior managers in national government
Accountants (incl experts) – Chartered and certified management accountants
Actuaries
Architects
Barristers
Biological scientists
Business analysts
Chemists
Clergy
Dental practitioners
Economists
Engineers
    Chemical engineers,
    Civil and mining engineers
    Design and development engineers
    Electrical and electronic engineers
    Mechanical engineers
    Planning and quality control engineers
    Production engineers,
    Software engineers
    Other engineers and technologists
Judges
Management consultants
Medical practitioners
Ophthalmic and dispensing opticians
Other natural scientists
Pharmacists
Pharmacologists
Physicists
Probation officers
Psychologists and other social/behavioural Scientists
Social workers
Software engineers
Solicitors
Statisticians
Surveyors
Town planners
Lecturers (including teachers in university, RTC and higher education)
Veterinarians

Social Class 2 – Managerial & Technical

- Farm owners and managers (100–199 acres)
- Actors
- Administrators of schools and colleges
- Aircraft officers, traffic planners and controllers
- Ambulance staff
- Artists, commercial/industrial artists, graphic and clothing designers
- Authors and writers
- Building inspectors
- Buyers
- Careers advisers
- Civil Service executive officers
- Commissioned officers in armed forces
- Computer analyst programmers
- Credit controllers
- Dental auxiliaries and dental nurses
- Entertainers
- Environmental health workers
- General administrators in national government
- Information officers
- Inspectors of factories, trading standards and other statutory inspectors
- Journalists
- Legal service and related occupations
- Librarians, archivists and curators
- Local government officers
- Managers (with clear managerial functions)
    - Bank and building society managers
    - Building managers
    - Company financial managers
    - Computer systems managers
    - Garage managers and proprietors
    - General managers in large companies
    - Hotel and accommodation managers
    - Managers and proprietors of shops
    - Marketing managers
    - Personnel managers
    - Production and works managers
    - Publicans, innkeepers and club managers
    - Purchasing managers
    - Stage managers
    - Stores and warehousing managers
    - Transport managers
    - Travel agency managers
    - Other financial managers
    - Other managers
- Marine, insurance and other surveyors
- Matrons, houseparents, welfare, community and youth workers

Medical radiographers
Musicians
Nurses and midwives
Nurses' aids
Occupational hygienists
Other associate professional and technical occupations n
Other health associate professionals
Personnel, industrial relations and work study officers
Producers and directors
Publicans, innkeepers and club managers
Purchasing officers
Quantity surveyors
Safety officers
Senior police and prison officers
Ship and hovercraft officers
Teachers (other than teachers in university, RTC and higher education)
    Primary and nursery education teachers
    Secondary teachers
    Vocational education teachers
    Other teaching professionals
Technicians
    Architectural
    Building and civil engineering
    Electrical and electronic engineering
    Laboratory
    Medical
    Other scientific
Therapists
    Chiropodists
    Occupational
    Physiotherapists
    Psychotherapists
    Speech therapists
    Other therapists

Social Class 3 – Non-manual

Farm owners and managers (50–99 acres)
Accounts and wages clerks, book-keepers and other financial clerks
Auctioneers, estimators, valuers and other sales representatives
Civil Service administrative officers and assistants
Clerks
    Bank and counter clerks
    Cashiers
    Computer
    Filing
    Library
    Other clerks

Computer operators, data processing operators and other office machine operators
Debt, rent and other cash collectors
Draughtspersons
Exporters, Importers, Commodity and shipping brokers
Fire service officers
Floral arrangers
Local government clerical officers and assistants
Managers (with relatively limited managerial duties)
    Entertainment and sport managers
    Managers and proprietors of butchers
    Restaurant and catering managers
Merchandisers
Photographers, camera, sound and video equipment operators
Police officers (sergeant and below)
Professional athletes and sport officials
Receptionists and receptionist-telephonists
Sales assistants, check-out operators and petrol pump attendants
Secretaries
    Medical
    Legal
    Personal assistants
    Typists
    Word processor operators
Security and protective service occupations (higher grades)
Soldiers (sergeant and below)
Technical and wholesale sales representatives
Telephone operators, telegraph operators and other office communication system operators
Telephone salespersons
Vocational, industrial trainers and driving instructors
Window dressers

Social Class 4 – Skilled

Farm owners and managers (30–49 acres)
Auto electricians
Bakers and flour confectioners
Bakery and confectionery process operatives
Barbers
Beauticians
Bookbinders
Bricklayers
Builders and building contractors
Bus and road transport depot inspectors
Bus conductors
Butchers
Cabinet makers
Cable jointers and lines repairers

Carpenters
Carpet fitters and planners
Chefs and cooks
Childminders, nursery nurses and playgroup leaders
Clothing cutters
Coach trimmers
Computer engineers (installation and maintenance)
Dressmakers
Drivers
    Chauffeurs
    Coach drivers
    Couriers
    Drivers of road goods vehicles
    Fork lift truck drivers
    Mechanical plant drivers/operatives
    Crane drivers
    Rail engine drivers
    Taxi/cab drivers
Educational assistants
Electricians and electrical maintenance fitters
Electroplaters, galvanisers and colour coaters
Fishmongers
Floor and wall tilers
Floor coverers
Floorers
Furriers
Glass product and ceramics makers, finishers and other operatives
Hairdressers
Housekeepers (domestic and non-domestic)
Joiners
Masons
Mattress makers
Meat cutters
Metal working production and maintenance fitters
Milliners
Motor mechanics
Moulders and furnace operatives (metal)
Other electrical and electronic trades
Other machine tool setters and CNC setter-operators
Other metal making and treating process operatives
Other textiles, garments and related trades
Other transport and machinery operatives
Other woodworking trades
Painters and decorators
Paper, wood and related process plant operatives
Plasterers
Plumbers, heating and ventilating engineers and related trades
Poultry dressers

Precision instrument makers, goldsmiths, silversmiths and precious stone workers
Print finishers and other printing trades
Printers, originators and compositors
Radio, TV and video engineers
Railway station workers, supervisors and guards, and other railway line operatives
Roundsmen/women and van salespersons
Rubber process operatives, moulding machine operatives and tyre builders
Sheet metal workers
Shoe repairers and other leather makers
Smiths, forge/metal plate workers and shipwrights
Tailors
Tannery production operatives
Telephone fitters
Toolmakers
Travel and flight attendants
Tyre and exhaust fitters
Upholsterers
Vehicle body repairers, panel beaters and spray painters
Weavers, knitters, warp preparers, bleachers, dyers and finishers
Welders and steel erectors
Woodworking machine operatives

Social Class 5 – Semi-Skilled

Farm owners and managers (0–29 acres and area not stated)
Assemblers and lineworkers (electrical and electronic goods)
Assemblers and lineworkers (metal goods and other goods)
Bar staff
Care assistants and attendants
Caretakers
Counterhands and catering assistants
Construction workers (other than labourers)
    Cladders
    Riggers
    Roofers
    Scaffolders
    Sheeters
    Slaters
    Steeplejacks
    Tilers
    Other construction trades
Fishing and related workers
Forestry workers
Gardeners and groundsmen/women
Glaziers
Horticultural trades
Hotel porters and kitchen porters
Inspectors, viewers and laboratory testers

Launderers, dry cleaners and pressers
Market/street traders and scrap dealers
Mates to metal, electrical and related fitters
Mine (excluding coal) and quarry workers
Operatives
    Chemical, gas and petroleum process plant operatives
    Electrical, energy, boiler and related plant operatives and attendants
    Machine tool operatives (incl. CNC machine tool operatives)
    Other automatic machine workers
    Metal polishers and dressing operatives
    Other food and drink (incl. brewing) process operatives
    Other plant, machine and process operatives
    Other textiles processing operatives
    Plastics process operatives, moulders and extruders
    Synthetic fibre and other chemical, paper, plastics and related operatives
    Tobacco process operatives
Other craft and related occupations
Other occupations in sales and services
Packers, bottlers, canners, fillers, weighers, graders and sorters
Pipe layers / pipe jointers and related construction workers
Postal workers and mail sorters
Prison service officers
Rail construction and maintenance workers
Seafarers (merchant navy), barge and boat operatives
Security guards and related occupations (lower grades)
Sewing machinists, menders, darners and embroiderers
Spinners, doublers, twisters, winders and reelers
Storekeepers, warehousemen/women, despatch and production control clerks
Undertakers, bookmakers and other personal service workers
Waiters and waitresses

Social Class 6 – Unskilled

Agricultural machinery drivers and other farming occupations
Cleaners and domestics
Drivers' mates
Farm workers
Goods porters
Labourers in engineering and other making/processing industries
Other building and civil engineering labourers
Refuse and salvage collectors
Road construction workers, paviors and kerb layers
Stevedores and dockers
Water and sewerage plant attendants
Window cleaners and car park attendants
All other labourers and related workers

Appendix 2. Comparison of social class coding from Wave 1 and Wave 2 of The Irish Longitudinal Study on Ageing

Wave 1 Classification		Wave 2 Classification				
		Professional/ Managerial	Non-Manual	Manual/Semi/ Unskillled	Other	Total
	Professional/ Managerial	1,481	111	57	12	1,661
		(89.2%)	(6.7%)	(3.4%)	(0.7%)	(100%)
	Non-manual	42	1,004	19	3	1,068
		(3.9%)	(94.0%)	(1.8%)	(0.3%)	(100%)
	Manual/Semi/ Unskillled	29	99	1,565	5	1,698
		(1.7%)	(5.8%)	(92.2%)	(0.3%)	(100%)
	Other	3	12	7	539	561
		(0.5%)	(2.1%)	(1.3%)	(96.1%)	(100%)
	Total	1,555	1,226	1,648	559	4,988
		(31.2%)	(24.6%)	(33.0%)	(11.2%)	(100%)

Appendix 3. Trajectories of social mobility in men and women from The Irish Longitudinal Study on Ageing

Men	**Adulthood SEP classification**				
	Low	***Intermediate***	***High***	***Other***	***Total***
Childhood SEP classification					
Low	641 (50.4)	269 (21.1)	328 (25.8)	35 (2.7)	1,273
Intermediate	112 (32.6)	87 (25.3)	140 (40.7)	5 (1.5)	344
High	76 (17.7)	92 (21.4)	259 (60.2)	3(0.7)	430
Other	89 (33.3)	66 (24.7)	82 (30.7)	30 (11.2)	267
Total	918	514	809	73	2,314
Women	**Adulthood SEP classification**				
	Low	***Intermediate***	***High***	***Other***	***Total***
Childhood SEP classification					
Low	516 (37.1)	465 (33.4)	301 (21.6)	109 (7.8)	1,391
Intermediate	74 (18.8)	161 (41.0)	132 (33.6)	26 (6.6)	393
High	75 (13.8)	176 (32.4)	268 (49.3)	25 (4.6)	544
Other	96 (27.8)	82 (23.7)	94 (27.2)	74 (21.4)	346
Total	761	884	795	234	2,674