

ARTICLE

# Inequalities in women's awareness of changes to the State Pension Age in England and the role of cognitive ability

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## Abstract

As a response to the ageing population, the United Kingdom (UK) government, like many others, has increased the State Pension Age. This has involved equalising women's State Pension Age with men's, raising it from 60 to 65, with further increases already underway. It has been argued that a key issue with how this change has been implemented is the lack of notice the government gave to the women affected, impacting on their ability to plan for retirement. So far, there has been very little research exploring inequalities in awareness of these developments and, in particular, considering whether women of particular socio-economic backgrounds are less likely to know about the changes. This has implications for potentially further widening inequalities in old age. In this paper we analyse data from the English Longitudinal Study of Ageing. We consider the role of cognitive ability in mediating the relationship between socio-economic background and awareness, given recent debates on deficiencies in financial literacy. We find that socio-economic inequalities exist, especially with respect to labour force status, occupation and education. We also find that cognitive ability, especially numeracy, mediates a sizeable proportion of the relationship. These findings have important implications in terms of implementing future policy changes and awareness campaigns to help mitigate the possibility that they will further entrench inequalities in older age.

**Keywords:** state pension age; inequalities; cognitive ability; awareness; socio-economic status

## Introduction

Demographic ageing and the accompanying increase in recipients and decrease of contributors to public pensions is challenging the financial long-term sustainability of the welfare state in general and pension systems in particular (Ebbinghaus and Hofäcker, 2013). For instance, in the United Kingdom (UK), it is estimated that the population aged over 65 will grow twice as fast as the working-age population, accounting for 24 per cent of the population by 2037 (Office for National Statistics (ONS), 2015). These concerns are particularly relevant to women given their lower

life-time earnings and lower likelihood of engagement with retirement planning (Department for Work and Pensions (DWP), 2012a). Since the earlier 1990s, policy makers in almost all European countries have attempted to counteract these developments and ensure pension sustainability by delaying retirement and extending working lives, in addition to emphasising greater individual responsibility for pensions (Hofäcker *et al.*, 2016; Lain, 2016). In an attempt to achieve sustainability, reforms have been implemented, including an increased emphasis on pension privatisation, the closing of early retirement pathways and the increase of the State Pension Age (SPA) (Naumann, 2017).

However, the success of many of these reforms depends on people's reaction to policy developments. For instance, if older workers do not work longer and retire later there will be limited benefits for pension systems. In order for people to be able to respond to policy developments, a key requirement is that they are aware of them in the first place, and the changing institutional context in general (Naumann, 2014; Hofäcker, 2015). Without this knowledge, it is increasingly problematic to react to developments and plan accordingly (Foster, 2012).

Therefore, the aim of the article is to research how well older women were informed about the changes to SPA and to consider whether differences in awareness are evident in relation to different socio-economic groups. Empirically we focus on the increase of women's SPA in the UK using data from the English Longitudinal Study of Ageing (ELSA). The cross-sectional analysis is based on almost 1,500 women affected by the increase of the SPA, who were asked if they were aware it was taking place. Using the concept of financial literacy, we show that low socio-economic groups are less aware of the new credo of later retirement and, thus, are less able to adapt their employment and financial behaviour accordingly. Consequently, they are more likely to be surprised that they are unable to retire when they expect to. As such, they may ultimately face the choice between working longer, if employment opportunities are available, or retiring with lower pensions than expected (Phillipson *et al.*, 2016). Socio-economic differences in the awareness of pension reforms therefore have the potential to increase already-existing social inequalities in late-career and retirement transitions, given that certain groups have fewer choices when it comes to retirement, and are less able to afford to retire early.

The remaining article is structured in the following way: initially, we briefly describe the reforms with which women's SPA was increased. Then we consider some of the particular challenges faced by women, and the issue of socio-economic inequalities in pension provision. We then introduce the concepts of financial literacy and cognitive ability before going on to present our methods, data and results. Finally, we suggest ways in which future reforms can be implemented more equitably.

### The increase of women's State Pension Age

In the UK, since the 1940s, the pension age for woman has been set at five years lower than for men at 60 *versus* 65.<sup>1</sup> There was a growing consensus in the 1970s and 1980s to equalise women's SPA due to demographic change, European law and international comparisons (Thurley and Keen, 2017). The idea

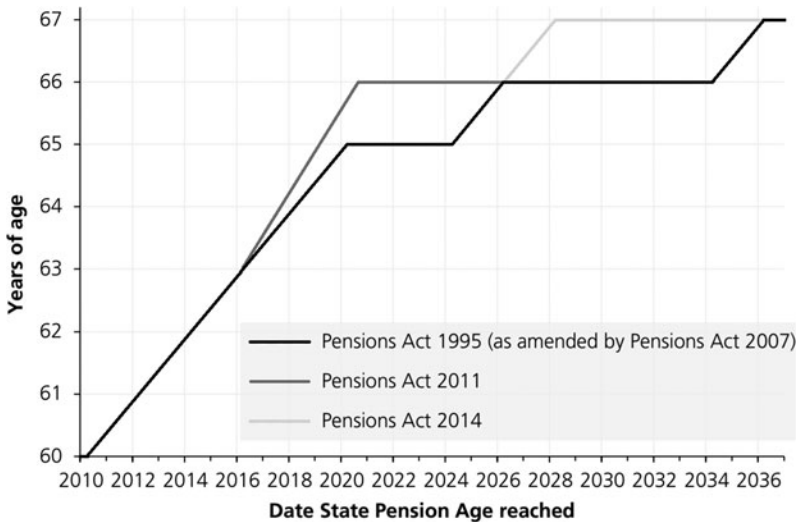
was first proposed formally in the Pensions Act 1995, which planned for the change to happen incrementally from 2010 to 2020. Subsequently, the Pensions Act 2011 under the new Coalition government accelerated the pace of change, meaning that the equalisation would occur by November 2018. In addition, the SPA for both men and women will be increased further in the coming years. Originally, the Pensions Act 2007 proposed raising the SPA from 65 to 68 between 2024 and 2046. Recently it has been announced that this will now occur between 2037 and 2039 (DWP, 2017). The increases up until 2037 are shown in [Figure 1](#).

Changes in the Pensions Act 2011 affected around 2.6 million women in Great Britain (Thurley and Keen, 2017). Of these, about 500,000 women must wait between a year and 18 months extra to receive their state pension as a result of the increasing speed of pension age equalisation. These rises in SPA will also affect eligibility for the winter fuel allowance, concessionary travel and other SPA benefits, meaning that many women will not receive these benefits when originally expected (Ginn and MacIntyre, 2013). The acceleration of the SPA from 2007 onwards has been met with a strong backlash, both from within parliament and the general public, including protests and the establishing of the Women Against State Pension Inequality (WASPI) campaign, who have been very active and visible in campaigning against the injustices to women caused by the lack of notice that the government have given regarding changes to the SPA. This has affected women's, as well as their partners' or spouses', ability to plan for retirement, which has very real and far-ranging socio-economic and personal consequences. Beginning in April 2009, the DWP started sending letters to the women affected, which meant that on average they received notice around 16 months before turning 60 (Work and Pensions Committee, 2015) – for many too late to make decisions about continuing work. By way of contrast, the recent Cridland Review (Cridland, 2017) has suggested that a minimum of ten years' notice is necessary to allow for sufficient planning.

In addition, there are a number of people who through lack of opportunities, poor health and caring responsibilities may not be able to respond to these developments, even if they are aware. The changes in SPA may be difficult for people who have already made employment, saving and retirement decisions based on a particular SPA who are unable to adjust to a later SPA by working or saving longer. Raising the SPA in line with increasing life expectancy may result in more people with health problems or caring commitments leaving the labour market before they are eligible for the state pension (Price, 2015). Leaving work before SPA makes it increasingly difficult to maintain living standards into retirement. For instance, a third of people aged 50 to SPA who stopped work between 2008 and 2010 saw their overall household income immediately drop by over a half (DWP, 2014).

### **Women's pensions and raising the State Pension Age: a double burden?**

Given that women are already disadvantaged with respect to pension provision, the intersection of the particular challenges women face alongside the increasing SPA might represent a 'double burden'. To begin with, it is evident that, on average, women receive a smaller pension in retirement than men. The mean average weekly household income from state pensions for men was £194 compared with £145 for



**Figure 1.** State Pension Age for women, 2010–2036.

Reproduced from Thurley and Keen (2017) in accordance with the Open Parliament License.

women in 2014/15 (Pensions Policy Institute, 2016). It is notable that state pension provision represents a larger part of women's retirement income than it does for men in all income groups (Pensions Policy Institute, 2016). In addition, marriage represents a disadvantage for women with respect to retirement income, since married women typically have a lower income than single women (Fasang *et al.*, 2013). Overall, state pension provision (the first pillar of old-age security) is still comparatively low in the UK compared with its European counterparts, despite recent changes to the state pension scheme (Creighton, 2014). Therefore, any changes to the state pension system, including delayed access, have considerable implications for women. However, it is worth noting here that the change in women's SPA also reduced a number of men's access to pension credit given rules around eligibility, which would have served to further hardship at the level of the couple.

There has been a move to individualise risk associated with welfare provision, with occupational welfare also reined back by employers in an attempt to divest themselves of responsibility (Ebbinghaus, 2015; Foster and Heneghan, 2018). This individualising of risk has a long history (Walker, 1993; Walker and Deacon, 2003). Recently, this has led to a move away from Defined Benefit (DB) occupational pension schemes where employers take on the investment risk to Defined Contribution (DC) schemes where the risk is borne by the employee (the value of their pension investments can go up or down, as can the annuity rate at retirement). The number of workers in private-sector DB schemes still open to new members is merely 1 million while the total private-sector workforce is 23 million (McClymont and Tarrant, 2016). This move towards private pension provision creates particular challenges for women who already tend to have lower pensions than their male counterparts. On average, among all 16–64 year olds, women have saved £1,500 in DC pension schemes compared to £4,300 for men,

and in DB schemes women typically have £22,900 in savings compared with £36,000 for men (Pensions Policy Institute, 2016). These trends are, to a large extent, the result of differing gendered lifetime work and family histories, and the fact that typical male working patterns are still largely the reference point for the calculation of pension entitlements (Grady, 2015). Pension systems that maintain a close link between lifetime earnings and pension income through a strong emphasis on private pension provision and a residual state scheme exacerbate the accumulated effects of gendered work histories on retirement income (Ginn, 2003).

Gender differences in work and care duties are also largely overlooked in private pension provision (Grady, 2015). Caring for children tends to have considerable implications for women's employment patterns, income and pension saving. In 2010–2012, 76 per cent of women aged 21–30 without children were working compared to 44 per cent of women with children (Pensions Policy Institute, 2016). In addition to parental child-caring responsibilities, the Carers in Employment Task and Finish Group (2013) suggests that 315,000 adults below SPA in the UK are out of work, having left work to care for someone. They identified that the peak age for providing informal care is 45–64 and this is more common among women than men. For instance, in the UK, women spend on average 23 hours on family caring, compared with only ten hours by men (Scott and Clery, 2013).

Given significant differences in employment rates of women and men in older age, it is important to ensure attention is paid to the gender aspects of longer working lives (Loretto and Vickerstaff, 2015). In 2011, the employment rate for men was 74 per cent for those aged 55–59 and 55.2 per cent for those aged 60–64. For women aged 55–59, who were nearing the then SPA of 60, the employment rate was 65.6 per cent. It fell substantially to 34.2 per cent for those in the 60–64 age group, which comprised women who were over SPA (ONS, 2012). While long-term trends have seen older women's employment rates rising for many years, these have been more substantial recently. Cribb *et al.* (2013) suggest that increases in the female SPA explain an estimated 85 per cent of the growth in the employment rate of older women that has occurred since early 2010. However, there is still a considerable shortfall in the employment rate, for many between the age at which they leave the labour market and pension age. Given the differences between women and men in retirement transitions, one would expect that the increase in SPA for women will widen the gender gap, since the extra burden women face (*e.g.* providing informal care, lower earnings) will make it more difficult for them to reach a higher SPA with a reasonable level of pension income. Further, as we go on to explore, socio-economic differences in financial literacy will likely make this even more challenging for particular sub-groups of women.

### **Socio-economic inequalities in State Pension Age changes**

Thus far, we have identified that increasing the age at which women receive their state pension presents many challenges, challenges that are likely to be exacerbated for those who have limited or no knowledge of such policy developments and, as such, are unable to develop plans to deal with the consequences. We have also noted that women already face many existing disadvantages with respect to pension

provision. Yet an additional dimension to consider is the likely effects on different socio-economic groups. Analysis by the DWP (2012b) suggests that changes to the SPA are likely to have the greatest effect on middle- to lower-income groups as they are least likely to be in employment up to SPA. They may be most likely to see the SPA increase – if they are aware of it – as a signal to work slightly longer if possible (Phillipson *et al.*, 2016). This has important consequences for potentially further widening inequalities, since already disadvantaged women have had to work longer than they originally expected. Indeed, recent analysis of national UK household data has shown that both the mental and physical health of women affected by the SPA increase has suffered (Carrino *et al.*, 2018). Those who were unaware of the raised SPA would have been more likely to experience the news as a shock, potentially exacerbating the negative effects. Awareness also affects the ability to plan, which with respect to SPA changes is potentially less of a problem for higher socio-economic groups, since the state pension is a marginal element in their financial planning (Foster, 2018). They are instead more likely to have access to occupational pensions and other financial assets.

Aldridge (1998) argues that consumption of financial products is shaped by the conventions and predispositions of social classes. He suggests many lower-income groups lack a critical and discriminating disposition which means that they consume products in a naive manner. Meanwhile, Rowlingson (2002), who conducted interviews with women regarding saving for retirement, identified that those with a high income have a greater capacity to plan ahead than those with a low or insecure income. There is also evidence to suggest that women's pension awareness is broadly lower than men's, and they engage in less financial planning, and at a later date (Foster, 2012).

With respect to existing research on inequalities in awareness of changes to the SPA, we identified only one research report from 2004 by the DWP on this topic (DWP, 2004). This was based on a National Statistics survey of 2,700 adults which found that three-quarters of women aged 55–64 were aware of the increase. Economic activity and low socio-economic status were found to be key predictors of awareness. This report was important in highlighting inequalities in awareness, though it included only basic bivariate analyses and leaves many unanswered questions including: whether socio-demographic confounding might account for the associations (*i.e.* whether the results observed were a result of failing to control for related socio-demographic factors), the possible mechanisms explaining the inequalities found and the implications in terms of the specific indicators used. In addition, longitudinal data are now available to trace how patterns in awareness have changed over time.

### Financial literacy and cognitive ability

One way to conceptualise awareness of the SPA is to regard it as an indicator of financial literacy, a topic that has received increasing attention in the ageing field in recent years (for an overview, *see* Lusardi and Mitchell, 2011). As summarised by Huston (2010: 306), financial literacy has two key dimensions: 'understanding (personal finance knowledge) and use (personal finance application)'. Cognitive ability is strongly implicated in financial literacy because it is necessary to process,

make sense of and act upon financial knowledge (Banks, 2010). Although numeracy is crucial, other cognitive skills may also be important. For example, memory plays a role in internalising financial knowledge, in terms of being able to remember the information (recall memory) but also remembering to act upon it in the future (prospective memory). Executive function has been described as ‘making possible mentally playing with ideas’ including ‘taking the time to think before acting; meeting novel, unanticipated challenges; resisting temptations; and staying focused’ (Diamond, 2013: 135). Executive functioning is therefore central to decision making (MacPherson *et al.*, 2002).

Empirical evidence supports the argument that cognitive ability is an important aspect of financial literacy. Based on a measure of literacy mainly including financial questions (but also some questions on health), in a study of 447 persons with repeat assessments over 14 years, Boyle *et al.* (2013) found that executive function and episodic memory account for around half of the effect of age on literacy.

The decline of cognitive ability with age is well-documented. In a review paper, Harada *et al.* (2013) found that executive functioning declines especially after age 70. The relationship between ageing and memory depends on the specific type of memory but spontaneous retrieval of information, knowing the source of learned information and prospective memory all decline with age (Harada *et al.* 2013). Banks *et al.* (2010) assert that declines in numeracy skills are marginal until around pension age.

Against this backdrop of age-related cognitive decline has been an increase in the complexity of financial decisions. For example, Lusardi and Mitchell (2011) discuss the shift from DB to DC pension schemes which are more flexible and therefore make possible bad decisions, such as under-saving, failing to invest wisely or running out of money in older age. Most people, they argue, are ‘woefully unaware’ of basic economics and finance. Indeed, a lack of widespread financial knowledge often results in financial decisions being made which are inconsistent with financial needs (Clark and Strauss, 2008).

In terms of inequalities in awareness of financial policies such as the change in SPA, cognitive ability disparities are important to consider given that they are also socially distributed. For example, there is a strong association between education and cognitive ability (Lusardi and Mitchell, 2011). Hurst *et al.* (2013) provide evidence that lifetime socio-economic position is predictive of various aspects of cognitive ability in older age. Nonetheless, it is important to bear in mind that there are individuals with low education and high cognitive ability and *vice versa*. Separating out these effects is useful in terms of thinking about the consequences for financial outcomes (Banks *et al.*, 2010).

This review has suggested that the disadvantages women and those from lower socio-economic backgrounds face are likely to be exacerbated by changes to the SPA, especially when they are not aware of these changes. Of particular concern, therefore, is women from lower socio-economic backgrounds who were not aware of the change. The review has further suggested that cognitive ability is an important dimension of financial literacy and may help to explain socio-economic differences in awareness. Further, conceptualising the issue in terms cognitive ability, and financial literacy more widely, may be one useful way to draw out the implications for future policy changes.

## Method

### Measures

In order to explore these issues empirically, we analyse data from ELSA. For the first time in Wave 3 (2006/7) and for subsequent (biennial) waves, respondents were asked: 'were you aware the state pension age for women is changing?', with the option to respond 'yes' or 'no'. Missing cases were negligible (0.1%) and dropped from the analysis. The question was asked of women who were under SPA and who were non-proxy respondents. The analytic sample was further restricted to women born between 1950 and 1960 as those born before 1950 would not be affected by the change and those born after 1960 were still relatively far away from reaching SPA. As discussed, awareness of the SPA is a measure of financial literacy. Due to data limitations we were unable to include other measures of financial literacy, but in any case focused on the SPA awareness question because it is of key policy interest.

The socio-economic measures used were labour force status (employed, retired, looking after home/disabled/unemployed), education (low, medium, high), occupational class (based on the National Statistics Socio-economic Classification (NS-SEC) (low, medium, high) and income (measured at the benefit unit in tertiles). We also included ethnicity (white, non-white) and partner status (partner, no partner) as predictors.

We tested measures of cognitive ability as mediators. Numeracy was measured by a test ranging from 0 to 6 according to the number of questions answered correctly. The questions included simple computations involving fractions, subtraction and division. Executive function was measured by a verbal fluency test which asked respondents to name as many different animals as possible in one minute and ranged from 0 to 52. The memory tests involved asking respondents to repeat a list of ten words both immediately and after a short delay. The memory tests were summed so that the variable ranged from 0 to 20. For more detail on the measures of numeracy and cognitive function, see Huppert *et al.* (2006).

Numeracy was only measured in Waves 1 and 4, so for the mediation analysis the measure was taken from the subsequent wave. As noted by Huppert *et al.* (2006), there is no reason to expect much change in numeracy over two years for the majority of the sample and, indeed, empirical evidence shows that the magnitude of deterioration is small until retirement age (Banks, 2010). We checked the robustness of this strategy by testing whether taking the same approach to the analysis of executive function and memory as mediators of education (*i.e.* using Wave 4 measures) changed the results. This showed that the magnitude of mediation changed by a minimum of five and maximum of ten percentage points. Thus, we can assume that the analytical strategy we took was fairly robust for the purposes of testing whether cognitive ability mediated the relationship between socio-economic factors and awareness.

All analyses were adjusted for government office region (nine across England), age (continuous) and study cohort. We adjusted for the latter because Wave 3 included a refresher sample who might have systematically different characteristics to the original study cohort.



### Analytical strategy

We specified multivariate logistic regression models using Stata 13.0. For ease of interpretation, we calculated adjusted predictions using Stata's margins command, which shows the percentage of the sample aware of the policy, controlling for confounders. We first analysed the relationship between the socio-demographic measures and awareness including controls as we wanted to assess overall inequalities in awareness (Table 1). As we were particularly interested in socio-economic inequalities, we next focused on education, income and occupational class (NS-SEC). Realising the potential for confounding with socio-demographic factors, we further adjusted the analyses for labour market status, partner status and ethnicity. We used Wave 3 of the data for the mediator analysis to avoid the re-test problem of respondents being informed of the policy via the survey. In this analysis, we compared the base model with the same model adjusted for the three cognitive ability measures in turn. To calculate the proportion of mediation for these measures, we used the formula:  $(\text{base model} - \text{adjusted model}) / (\text{base model} - 1)$ .

### Results

Overall, when first asked in 2006/7, 85 per cent of women were aware of the upcoming change to the SPA. In the period leading up to the change, which started happening incrementally in 2010, awareness became common knowledge. A large part of the jump between 2008/9 and 2010/11 was likely due to the DWP sending out letters informing women affected by the increase of the SPA over the same period.

Focusing on the 2006/7 data, women not in the labour market were particularly unaware of the change, with only 70 per cent aware compared with 89 per cent of those in employment. There was also evidence of a socio-economic gradient in awareness for all three of the measures.

Following these patterns over time, it is clear that socio-economic inequalities lessened as awareness became common knowledge, though even in 2008/9, only a year or two before the increase was to start being phased in, inequalities remained. Interestingly, differences in awareness according to both partner and ethnic minority status only became apparent as the date of the increase drew closer. It seems likely that this was because those with partners and with non-ethnic minority status had increased knowledge of the policy change over time whereas those without partners and non-whites were left behind.

We then analysed the extent to which measures of cognitive ability mediated the relationship between socio-economic measures and awareness. Given the likely interrelationships between the socio-demographic variables shown in Table 1, we re-tested the socio-economic variables (education, income and the NS-SEC), adjusting for labour market status, partner status and ethnicity using the logistic regression models. In this analysis (available on request), income was almost completely statistically insignificant, which suggests that education and occupation are the socio-economic measures most consistently related with awareness of changes to women's SPA (we return to the implications of these specific socio-economic relations in the Discussion section). For this reason, we concentrated on these measures in the mediation analysis.

**Table 1.** Awareness that the State Pension Age for women was changing: socio-demographic associations

	Wave 3 (2006/7)		Wave 4 (2008/9)		Wave 5 (2010/11)	
	% aware	<i>p</i>	% aware	<i>p</i>	% aware	<i>p</i>
Employed	88.54	Base	87.52	Base	96.74	Base
Retired	94.21	0.308	89.70	0.572	Empty <sup>1</sup>	Empty <sup>1</sup>
Disabled/home/unemployed	<b>70.09</b>	<b>0.000</b>	<b>67.14</b>	<b>0.000</b>	<b>89.80</b>	<b>0.000</b>
No partner	85.88	Base	80.21	Base	91.33	Base
Partner	84.39	0.547	83.39	0.166	<b>96.35</b>	<b>0.001</b>
White	85.13	Base	83.48	Base	95.70	Base
Non-white	77.32	0.071	<b>70.38</b>	<b>0.002</b>	<b>89.75</b>	<b>0.031</b>
Low education	79.94	Base	81.48	Base	94.09	Base
Medium education	<b>88.18</b>	<b>0.004</b>	84.64	0.271	97.44	0.071
High education	<b>91.99</b>	<b>0.000</b>	<b>87.60</b>	<b>0.009</b>	95.71	0.280
Low income	79.41	Base	75.93	Base	94.79	Base
Medium income	<b>84.95</b>	<b>0.026</b>	<b>84.72</b>	<b>0.000</b>	94.64	0.918
High income	<b>89.67</b>	<b>0.000</b>	<b>86.74</b>	<b>0.000</b>	96.61	0.179
Low NS-SEC	78.99	Base	78.58	Base	93.61	Base
Medium NS-SEC	<b>86.03</b>	<b>0.006</b>	<b>84.08</b>	<b>0.027</b>	95.70	0.187
High NS-SEC	<b>90.74</b>	<b>0.000</b>	<b>87.16</b>	<b>0.000</b>	<b>97.32</b>	<b>0.006</b>
Total	84.67 (1,226/1,448)		82.78 (1,442/1,742)		95.34 (1,370/1,437)	

Notes: Analytical sample: women, below State Pension Age, non-proxy respondent, born 1950–1960. Adjusted for region, age and study cohort. 1. All retired people were aware in Wave 5. Bold text indicates significance at  $p < 0.05$ . NS-SEC: National Statistics Socio-economic Classification.

Table 2 suggests that measures of numeracy, executive function and memory, but especially the former, mediate the relationship between socio-economic measures and awareness. Numeracy mediated around 40–70 per cent of this relationship.<sup>2</sup> For both executive function and memory, this figure was around 20–30 per cent. These results suggest a substantial mechanism explaining the relationship between women's socio-economic background and their awareness of changes to the SPA; it is partly based on existing inequalities in numeracy, executive function and memory.

## Discussion

Our analysis of ELSA data suggests that although women's awareness of the upcoming changes to the SPA was generally high, consistent with previous research (DWP, 2004), a not insignificant proportion did not know about the change – around one in six women born between 1950 and 1960 in low education/income groups in 2006/7, just three to four years before the SPA was to start increasing. Further, this figure was one in ten for women in the higher education/income groups. There were also other socio-demographic inequalities: those who were out of the labour market, ethnic minorities and unmarried people were also less likely to be aware of the change.

Although awareness increased (and disparities in awareness levelled out) as the time of the change drew nearer, the reform nonetheless potentially increased inequalities because lower socio-economic status women knew later on that they were not entitled to their SPA as soon as they expected, likely experiencing this news as a shock. In addition, lower socio-economic status women would have had less time to adjust and plan for the change. Arguably, such women have more limited room for manoeuvre in relation to financial planning anyway, for example due to their decreased likelihood of having occupational pensions or their greater reliance on their husband's pensions. Mann (2005: 106) argues that 'sweet talking about choice, flexibility and education will not change the real world in which the low paid, part-timers, contract staff and carers simply have no cash to save for their retirement'. Yet knowing when your level of income will change, and knowing that you need to work for longer than expected (and in some cases find new employment opportunities) is crucial to the experience of this stage of the lifecourse. For instance, recent studies suggest potential implications for mental and physical health (Carrino *et al.*, 2018) as well as quality of life (Di Gessa *et al.*, 2018). Our findings, therefore, have clear implications for how future large-scale policy changes are implemented. It is crucial that mechanisms are in place to ensure all those who are affected by significant policies such as those relating to pension/retirement policies are aware of them as a bare minimum.

Yet our findings additionally suggest that blanket awareness campaigns might not be enough. The fact that cognitive ability is socially structured means that not all women are equally able to internalise and act upon knowledge of policy changes. Although we have focused on a single measure of financial literacy here (though one of great importance), it is worth bearing in mind that awareness of SPA is part of a broader issue about understanding and use of pensions (or knowledge and application), to paraphrase Huston's (2010) definition. We found evidence that socio-

**Table 2.** Cognitive ability mediator analysis, Wave 3 (2006/7)

	Base model		+Numeracy			+Executive function			+Memory		
	% aware	<i>p</i>	% aware	<i>p</i>	% mediated	% aware	<i>p</i>	% mediated	% aware	<i>p</i>	% mediated
Low education	83.01	Base	84.10	Base	–	83.81	Base	–	83.73	Base	–
Medium education	<b>89.10</b>	<b>0.043</b>	88.19	0.175	36	88.51	0.120	26	88.78	0.092	19
High education	<b>89.47</b>	<b>0.012</b>	88.18	0.127	42	88.47	0.080	34	88.45	0.076	33
Low NS-SEC	82.64	Base	84.45	Base	–	83.29	Base	–	83.41	Base	–
Medium NS-SEC	86.46	0.153	85.53	0.687	72	86.48	0.226	17	86.24	0.289	27
High NS-SEC	<b>89.76</b>	<b>0.005</b>	88.63	0.111	47	<b>89.14</b>	<b>0.025</b>	23	<b>89.23</b>	<b>0.025</b>	23

Notes: Analytical sample: women, below State Pension Age, non-proxy respondent, born 1950–1960. Adjusted for region, age, study cohort, labour market status, partner status and ethnicity. Bold text indicates significance at  $p < 0.05$ . NS-SEC: National Statistics Socio-economic Classification.

economic differences in awareness were partly driven by inequalities in cognitive ability, and especially numeracy. As noted by Banks (2010), the distinction between financial literacy and cognitive ability is helpful with respect to thinking of policy implications; low levels of financial literacy might suggest information programmes or informed choice, whereas low levels of cognitive ability might suggest an emphasis on developing skills or preventing their decline. One obvious implication is that policy efforts need to pay attention to not only making sure awareness campaigns are targeted at particular demographics, but crucially that they are also *tailored*. For example, interventions should pay attention to inequalities in people's cognitive capacity to internalise and react to policy changes.

There is some evidence that targeted information in particular can have a positive effect on saving (Oehler and Werner, 2008). There is a fear that generic advisory services may do little but encourage confidence among those who can least afford to make errors in saving, most notably a number of women. The Thoresen Review recommended the provision of high-quality advice through effective targeting to those most vulnerable to the 'consequences of poor financial decision making' (Thoresen, 2008: 61). They conclude that a 'one size fits all' approach to engagement and marketing is unlikely to be effective. Furthermore, pension education programmes 'may benefit from a greater appreciation of the socio-demographic characteristics of those involved' (Clark and Strauss, 2008: 867). Although changes have taken place since the Thoresen Review, government pensions advice still needs to be more specialist, tailored towards individual needs (Waine, 2009; Foster and Heneghan, 2018).

Our findings regarding the socio-demographic inequalities in women's awareness of the changing SPA offer suggestions for how to proceed. Given that occupation is associated with awareness, one potential form of assistance is awareness campaigns targeted at workplaces. For example, the social care sector has a high proportion of women workers and employs the largest proportion of workers aged 60–75 (Hussein and Manthorpe, 2011). Workers in this sector have particular life situations and face particular challenges (Wadey, 2015) which targeting or intervention campaigns can take into account. Of course, this requires that employers are incentivised to facilitate such intervention. This is an area where trade unions could play an important role.

Another important group is those not in the labour market because they are likely to be more reliant on the state pension (Work and Pensions Committee, 2015). The low levels of awareness amongst this group are particularly troubling. They obviously require a different form of intervention than workplace campaigns. The consequences of not being aware of the change to SPA for those not in the labour market mainly depends on what happens to their income when they transition into pension age (*e.g.* from disability benefits). We also find ethnic minorities and those without partners were less likely to be aware of the changes. One explanation for the ethnic minority association is that language barriers could have hampered awareness. This would again call for tailored information strategies perhaps in languages other than English. A recent review of pension awareness and communication offered a further promising suggestion for how to tailor interventions: providing information about pension risks in terms of its effects on *relative* standard of living (Prast and van Soest, 2015). This is because people care about their future

standard of living more in terms of the life it will allow them to live relative to others rather than an absolute, abstract standard.

More broadly, beyond individual-level interventions and campaigns, there is now a growing recognition that defaulting people into options may be needed. This has been dubbed ‘choice architecture’ – a way of offering choices in ‘a way that makes it easier for consumers to transform intentions into appropriate actions and decisions’ (Prast and van Soest, 2015: 3). One example of this is default membership of pension schemes. For instance, in the UK a policy of auto-enrolment into occupational pension schemes was introduced from July 2012. This offers access to a portable occupational DC pension to millions of workers who have no access to good-quality workplace provision, while enabling existing schemes with benefits or contributions above the National Employment Savings Trust (NEST; the default option auto-enrolment scheme) minimum to continue. The logic behind auto-enrolment is that while structured advice and information may improve understanding, behavioural barriers, including myopia, cynicism and inertia, all inhibit pension saving (Foster, 2012). It may also reduce the importance of the state pension in some people’s income in retirement. However, there are also concerns that auto-enrolment will not deliver sufficient retirement incomes given that it does not guarantee the fund at retirement will exceed the contributions and it provides no credits during times out of employment (Grady, 2015). Choice architecture will therefore not be a standalone solution; the reality is that there is sector of people who simply do not earn enough to build up sufficient pension contributions. Addressing structural inequalities is therefore also necessary.

Overall, our findings raise important questions with respect to the active ageing framework which has emerged as a key policy response to demographically ageing populations (Boudiny, 2013; Foster and Walker, 2015). Active ageing is defined as ‘continuing to participate in the social, economy, cultural, spiritual and civic affairs during the life course’ (World Health Organization, 2002), and according to another definition involves the ‘usage of older people’s life competences’ (Kruse and Schmitt, 2012). Active ageing is therefore compromised if people lack the capacity for active participation. Awareness of policy changes and the capacity to react to them is therefore an important part of active ageing, and inequalities in this process need to be considered. Importantly, if cognitive factors such as numeracy, executive function and memory hinder the ability to internalise and react to an increasingly complex pensions landscape, then either inequalities in these factors need tackling, or some kind of compensatory mechanism is required, if we are to strive for equal active ageing for all. This point, of course, applies to policies that are not explicitly financial, such as those regarding the ending of mandatory retirement or the right to request flexible working. We might then move the discussion on to a notion of ‘policy literacy’ or ‘political literacy’ and its associated inequities.

More broadly, women face particular challenges in older age, thus compounding the issues raised here. Women face more old-age discrimination in the workplace (Duncan and Loretto, 2004), have more caring obligations, and more fragmented and diverse employment histories (Foster, 2012). For some women, their health, caring status or low pay may mean they are unable to work longer and accumulate additional retirement income. As such, sufficient welfare provision in these cases is required prior to SPA. It is evident that the current UK pension system

institutionalises disadvantages experienced in the labour market by not giving sufficient recognition to experiences and contributions that are not heteropatriarchal and diverge from typical male work patterns (Grady, 2015), *i.e.* the different working lifecourses of women and men. Policy efforts towards increasing provision for retirement through private pension provision result in greater income inequality between older women and men, in addition to between those with limited paid employment histories and those with an advantaged employment position. Given that women are, by and large, more likely to be dependent on state pension provision than their male counterparts, the changes to SPA have important ramifications for their income. This is exacerbated for those women who are unaware of the changes and are therefore unable to attempt to plan for these policy developments.

### Limitations

In interpreting the results we acknowledge the limitations of the analysis. First, the coding of the dependent variable is not optimal. As described, the participants in ELSA had only two possibilities, yes or no, to answer whether they were aware of the increase of the SPA, and crucially no option to answer whether they were aware it applied to them. This also precluded analysis of those who might have had ambiguity regarding the change. Second, ELSA only contains a limited range of variables that could be said to represent financial literacy, especially as applicable to real-world contexts. Future research could explore the nuances of socio-economic inequalities in financial literacy. In addition, the research could be expanded in future works to explore inequalities in awareness using qualitative methods, testing the effectiveness of different forms of educational material and replicating the work in other countries to see whether the findings have wider significance.

### Conclusion

Investigating socio-economic inequalities in women's awareness of changes to the SPA has shown that some women will have been particularly hard hit by the change. Beyond simple blanket awareness campaigns, policy responses might consider targeting and tailoring efforts to particular population sub-groups, or explore choice architecture options. This might help to address the issue that cognitive factors, as well as structural constraints, influence people's capacity to internalise, remember and act upon news of a policy change. Future large-scale policy changes should pay attention to these nuances of inequality in order to try to ensure fair and equitable active ageing for all.

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## Notes

- 1 Explanations for why the age was set at five years lower for women centre on the structure of the family and the age differences in couples (see Thane, 2006).
- 2 The exact figure for numeracy should be interpreted conservatively given the limited data available for this measure (see Methods section).

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