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Inquiry into the Future for Lifelong Learning

Mental Health and Well-being in Older Adults

IFLL Public Value Paper 5

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Andrew Jenkins

Foreword

This is the fifth of the Inquiry into the Future for Lifelong Learning's Public Value papers. This series of papers grapples with a range of questions about how we should understand the effects of lifelong learning. The 'public value' of lifelong learning resides in the benefits it brings, not only to the learners themselves, but to wider society. If learning makes individuals healthier, for example, that is good for them, but also for their family, their community and for the health service and the taxpayer. It signals a general uplift in the quality of life. This is public value.

The notion of public value is easy to grasp but not so easy to measure. For many of us it is almost self-evident that lifelong learning brings personal and social benefits as well as economic ones. Yet we need to examine the evidence as rigorously as we can: what actually are the effects; can we get an idea of how big they are; and what is the process by which they occur? We know that we cannot produce perfect answers to these questions. But by assembling a range of responses, the Inquiry aims to fill in much more of the picture than is currently available; to give a clearer focus to the policy options involved; and to prompt further reflection and debate.

This paper is significant for several reasons. First, it focuses on adults aged 50 and over. This is the dividing line used in Learning Through Life to denote entry into the third of our four stages, and it is important to build up a picture of the changes which occur around this age. Secondly, Andrew Jenkins has been able to draw on a substantial longitudinal dataset for his analysis; this is particularly powerful as evidence. Thirdly, the robust substantive findings are striking, in particular the effect of arts classes on quality of life. As the population ages, the quality of life for older people matters more and more, both for intrinsic reasons and because it will help them maintain their independence. This result alone is a powerful example of the public value of adult learning.

We are grateful to Andrew Jenkins for this very substantial contribution to the Inquiry's work.

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Executive summary

Background

This paper addresses the determinants of mental health and well-being amongst older adults using data from the English Longitudinal Study of Ageing (ELSA), a major survey involving more than 11,000 people aged 50 and above.

The survey asked people questions about their perceptions of their own life, grouped into four areas:

- quality of life (questions on how far people were meeting their needs for control over their own environment, autonomy, self-realisation and pleasure);
- well-being (mental health);
- satisfaction with life (the extent to which they had met their goals and whether they would wish to change past aspects of their lives if they could); and
- depression.

The research aimed to find out which factors helped to explain why some people scored more highly than others on each of these outcome measures. As the ELSA survey has interviewed respondents more than once over the course of several years, it was possible to look at the change in well-being, life satisfaction, quality of life and depression in order to test whether adult learning had any impact on changes over time in these areas.

The study has focused mainly on the effects of recent learning – that undertaken during the last twelve months. Statistical analyses were used which allowed for the influence of other factors on mental health and well-being, such as work status, partnership status and various aspects of physical health and disability. Prior education level (highest qualification attained) was also included in the analyses.

Adult learning was divided into four different types:

- obtaining qualifications;
- formal training;
- music, arts and evening classes; and
- gym/exercise classes.

Results

The most striking finding was that music, arts and evening classes were significantly associated with positive changes in quality of life and life satisfaction and, though to a lesser extent, with well-being. This finding remained robust, even when all the factors listed above were taken into account.

Other forms of learning also had some positive effects. Life satisfaction tended to be higher among those who had recently attended formal education and training courses, and there was some evidence that obtaining qualifications in later life increased the sense of well-being. In addition, the likelihood of depressive symptoms was significantly reduced for those who visited the gym or participated in exercise classes.

Prior qualifications also appeared to have a positive impact on quality of life among the over-50s. For example, those with degrees had markedly higher levels of quality of life than those with no qualifications. As controls for work status, income and health were added to statistical models, prior education became less important, but remained significant, indicating that education influences quality of life mainly through its effects on work, income and health. Finally, those with qualifications were less likely to report depression than the base category of adults with no qualifications.

The research findings underscore the importance particularly of music, arts and evening classes for the mental health and well-being of older adults. The results suggest that these often disparaged 'leisure courses' have a role to play in keeping minds active and maintaining a positive outlook, and hence in a successful ageing process.

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Introduction

What are the benefits of learning for those who undertake it? The economic benefits of learning, in terms of higher earnings and better employment prospects, have attracted most attention, but there is a growing body of evidence that learning has other benefits – in terms of health and well-being – for adults. This has been recognised increasingly in official documents and statements by policy-makers.

Do these benefits accrue at all stages of the life course? Here the results of research are less clear-cut and, while there is some evidence of learning benefits for older adults, the evidence is rather thin as much of the existing literature relates to adults at younger ages – say up to age 40. It is important that the evidence base be as comprehensive and complete as possible. This paper contributes new evidence on the impact which learning has on the well-being of older adults. The results of quantitative research, drawing on a large, nationally representative survey of older adults, will be presented.

A number of research questions are addressed. Firstly, who among older adults – defined as those aged 50 and above – participates in learning? Secondly, do older adults who participate in learning have higher levels of well-being than those who do not take part in learning. Finally, is there still any evidence that learning has an effect once a range of other influences on well-being – such as work status, family and social support networks, mobility and physical health – have been controlled for?

There are many ways of defining and measuring well-being. This might include measures of happiness, psychological well-being, quality of life, and measures of whether the respondent has depressive symptoms, for example. Does learning by older adults have an impact on all of these or only some of them? In other words, it is important to test how sensitive the results are to a particular definition of well-being, and this can be done as the survey data includes self-reported assessments of a range of different measures. In addition, there are various types of learning, from education and training courses through to less formal types of learning, such as evening classes, and so the research considers whether or not each type of learning has an impact on well-being. Finally, the research investigates whether learning which was undertaken a long time ago continued to have any discernible effects on well-being. This will be done by looking at qualifications. Those older adults with degrees, for instance, often obtained them many years previously. Therefore, qualifications, and specifically highest qualification attained, can be used to define an education level, such as 'no qualifications' or 'degree holder', and then analyses can be conducted to see whether education level, defined in this way, continues to contribute to well-being in later life.

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Rationale

The current state of research on the links between learning and non-economic outcomes has been summarised by John Field in *Well-being and Happiness: IFLL Thematic Paper 4*[1] and by Sabates and Hammond in *The Impact of Lifelong Learning on Happiness and Well-being* (2008).[2] As these overviews confirm, in the last decade, large-scale quantitative studies drawing on longitudinal data have made a major contribution to the strengthening of the evidence base on this topic. In the UK, research on this has been conducted mainly by the Institute of Education's Centre for Research on the Wider Benefits of Learning. Schuller *et al.*[3] report on a large-scale qualitative research exercise which examined the benefits of adult learning through 145 interviews with learners at three sites in England. They demonstrate that, for some learners, education had strong positive effects on mental health. Studies such as those of Feinstein *et al.* and Feinstein and Hammond[4] have investigated the effects of participation in adult learning using data from the National Child Development Study (NCDS), a continuing longitudinal study of a cohort of people who were all born in Britain in a single week in 1958. Follow-up interviews have been conducted at various points in time, including in 1991, when cohort members were aged 33, and in 2000, when cohort members were aged 42. These studies focused on relationships between learning undertaken by cohort members and a range of health and social capital outcomes between the ages of 33 and 42.

For example, on the links between adult learning and life satisfaction or happiness, Feinstein and Hammond used data from the 1958 cohort study in order to examine how adult learning between the ages of 33 and 42 affected changes in life satisfaction over the same period, controlling for the level of prior education and a range of other relevant factors. Their key finding was that adult learning did have an influence on life satisfaction. The effects did not look particularly large, but as there were few changes in life satisfaction for people in their 30s and early 40s, the effect of adult learning was nonetheless important.

Rather than engagement in adult learning, much research has focused on the level of prior education. In this context, the level of prior education means whether the individual already has a degree, for example. An ambitious paper by Helliwell[5] used individual-level data from 46 countries and found a strong, statistically significant and positive association between life satisfaction and education. However, this association was no longer statistically significant once controls for individual and national characteristics were incorporated in the model. Similar findings were reported

[1] Field (2009).
[2] Sabates and Hammond (2008).
[3] Schuller *et al.* (2002).
[4] Feinstein *et al.* (2003); Feinstein and Hammond (2004).
[5] Helliwell (2002).

by Ferrer-i-Carbonell,[6] who used data for Germany, and found that the relationship between education and life satisfaction became insignificant after controlling for income and socio-economic background and demographic factors. These findings provide insights into how education may affect life satisfaction – i.e., that this is likely to be via higher income and better health, for instance. Other studies reporting positive links between education and life satisfaction include Oswald and Powdthavee[7] who looked at qualifications in the UK, and Oreopoulos,[8] whose work concerned years of schooling in the US. However, some studies report no significant effects or even negative effects of higher education on life satisfaction. For example, Caporale *et al.*[9] observed negative effects of higher education on life satisfaction using data for several European countries. This finding was explained in terms of higher education raising aspirations, especially income aspirations, which turned out not be fulfilled.

There is evidence that participation in adult education is associated with improvements in aspects of psychological well-being, especially self-esteem and self-confidence. The analyses of NCDS data by Feinstein and Hammond and Hammond and Feinstein[10] found robust associations between participation in adult learning and increases in self-efficacy, even after controlling for a range of variables reflecting family and social background, prior education level and current circumstances. Hammond and Feinstein conducted a follow-up consisting of qualitative interviews with members of the cohort. This also revealed improvements in self-efficacy for people who left school with no qualifications or very few qualifications. The large-scale qualitative research exercise of Schuller *et al.*,[11] which involved interviews with adults who were participants in adult education, showed that many respondents reported improvements in psychological well-being stemming from their engagement in adult learning. This often took the form of increased confidence leading to their becoming more active socially or being able to confront, rather than avoid, issues that had troubled them. It was reported that 'learning led to improvements in self-esteem, self-understanding, a clearer sense of identity, the capacity to think independently, a sense of purpose and hope, improved competencies and communication and better social integration'.[12] Sabates and Hammond[13] summarise a range of course evaluation studies, mainly occurring in England. These included courses in higher education (HE) taken by mature women, adults participating in access and HE courses, adult returners to education, and courses offered to adults with chronic health problems. These were shown to have led to various improvements in measures of psychological well-being, notably self-esteem, self-efficacy and self-understanding.

[6] Ferrer-i-Carbonell (2005).
[7] Oswald and Powdthavee (2007).
[8] Oreopoulos (2003).
[9] Caporale *et al.* (2007).
[10] Feinstein and Hammond (2004); Hammond and Feinstein (2006).
[11] Schuller *et al.* (2002).
[12] Hammond (2004).
[13] Sabates and Hammond (2008).

However, it should not be concluded that adult education invariably has beneficial effects in the domain of psychological well-being. Sabates and Hammond caution that sometimes learning may actually undermine psychological well-being. This might occur when individuals are not ready for the learning experience, or where the type of material or pedagogical style is not suitable for them. Some qualitative researchers, notably Schuller *et al.*,[14] report a lowering of self-esteem occurring in this fashion for some individuals in their sample.

For the most part, the literature on depression does not investigate the role of education. Some US studies, including Miech and Shanahan and Mirowsky and Ross, have found that those with more initial education are less likely to experience depression in adult life. Similarly, in the case of Britain, Hammond and Feinstein report much lower odds of depression for adults in their thirties among those who had obtained O-levels at school compared to those who left school without qualifications (see also Chevalier and Feinstein).[15] These studies are concerned with the effects of initial education; i.e. education acquired by children and young adults, rather than the effects of lifelong learning.

Among the health outcomes analysed in Feinstein *et al.* and Feinstein and Hammond[16] was depression, measured by a malaise score, and the researchers considered both the onset of depression by age 42 for those who were not depressed at the age of 33 and exit from depression by the age of 42 for those who did report depression at the age of 33. Adult learning was found to have beneficial effects on several health outcomes, after controlling for other factors, but the research did not find any positive effects of adult learning on depression. Feinstein and his co-authors also discuss the contrast between these quantitative findings and the in-depth qualitative interviews in Schuller *et al.*, concluding that while adult learning may be of benefit to certain individuals at risk of depression, there was no evidence that it had beneficial effects across statistically representative samples of the population. Hammond and Feinstein also used NCDS data and examined links between self-efficacy and adult learning. They found associations between taking courses and improvements in self-efficacy for members of this cohort, especially those who had left school with no qualifications. This work is relevant here because self-efficacy may help to protect against the onset of depression.[17] To summarise, qualitative research suggests a link between level of education and reduced risk of depression, but the quantitative evidence does not show any compelling evidence of effects of learning undertaken in adulthood on depression.

Almost all of the UK quantitative research on the benefits of adult learning has used two longitudinal datasets: the NCDS, which has followed all those born in Britain in a particular week in March 1958 through their childhoods and into adulthood, and the

[14] Schuller *et al.* (2002).
[15] Miech and Shanahan (2000); Mirowsky and Ross (2002); Hammond and Feinstein (2006); Chevalier and Feinstein (2006).
[16] Feinstein *et al.* (2003); Feinstein and Hammond (2004).
[17] Schuller *et al.* (2002); Hammond and Feinstein (2005).

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BCS70 (British Cohort Study), which has similarly tracked all those born in a single week in April 1970. The use of these cohort studies has told us a good deal about the effects of adult learning for people from their 20s through to their early 40s, but, given the birth dates of the two cohorts, cannot yet provide results on older adults. There is, of course, some qualitative research on older adults (see Field, 2009, pp.21–25 for a summary), but there remains a lack of research evidence from the analysis of large-scale, nationally representative data on the effects of learning among adults in their 50s and beyond. The rest of this paper summarises some new research which contributes to filling that gap.

New evidence on older adults and learning

Method and data

All data used in the quantitative analyses were from the English Longitudinal Study of Ageing (ELSA). This is a continuing survey of adults who were aged 50 and above in 2002, and includes a broad range of information about their mental and physical health, well-being, quality of life, and economic and social circumstances. The sample is representative of people aged 50 years and above living in private households in England. A longitudinal survey is one in which data on participants are collected at several points in time so that, for example, changes in their health or attitudes can be analysed. ELSA respondents have been surveyed several times including in 2004/05 (wave 2) and 2007 (wave 3).

Multiple regression was used in the analyses of the ELSA data. This is a standard way of examining how a set of explanatory variables are related to a quantitative response variable, such as the measures of quality of life or well-being. The main reason for using multiple regression is that it enables the researcher to control for a range of variables when examining the key relationship of interest. After controlling for lots of other factors which might influence, say, quality of life, is there a statistically significant relationship with adult learning? Standard multiple regression relies on the outcome variable taking a wide range of possible values. However, the measure of depression used in the research could take only two possible values: one if the person reported depressive symptoms, and zero otherwise. Therefore, logistic regression – an adaptation of multiple regression for the case of an outcome which only has two possible values – was used in the analyses of depression.

Some of the statistical models explore the relationships between adult learning and the level of various well-being measures, while other models focus on the change in well-being. The purpose of studying the change in the outcome of interest is that there may be unobserved characteristics which could influence both the likelihood of participation in learning and well-being: perhaps certain well-motivated people are more likely to undertake courses and happen also to have high scores on well-being, for example. Motivation is not measured in the dataset, so cannot be included in the analyses. This could bias estimates of the effects of adult learning. Looking at the change in well-being circumvents this potential problem: so long as motivation is a fixed attribute, then examining the change in well-being will eliminate the fixed effect and an unbiased estimate of the effects of adult learning can be obtained.

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Measures of quality of life and well-being

When it comes to defining well-being, two broad traditions can be identified (Keyes *et al.*).[18] The first is subjective well-being and it focuses on happiness and life satisfaction. Happiness is usually seen as a balance between positive and negative emotion, while life satisfaction relates to how individuals perceive their distance from life goals. The second tradition is psychological well-being. An influential article by Ryff argued that happiness and life satisfaction measures were not capturing important aspects of well-being and that psychological well-being should encompass self-acceptance, positive relations with others, personal autonomy, ability to shape the environment, purpose in life and personal growth. This article was important in drawing together different strands in the psychological literature and in the development of overall measures of psychological well-being.[19]

At one level the distinction between subjective well-being and psychological well-being merely reflects different disciplinary perspectives within social science. More fundamentally, it can be seen to reflect differing conceptions of what it means to live the 'good life'. These can be dated back to the distinction made by Greek philosophers between hedonism, the pursuit of pleasure, and *eudaimonia*, where *daimon* literally means 'true self' and so *eudaimonia* suggests 'the feelings accompanying behaviour in the direction of, and consistent with, one's true potential'.[20]

Recent empirical work has often used 'quality of life' as the measure of well-being, and quality of life may consist of both hedonism and *eudaimonia*, i.e. elements of both subjective and psychological well-being.[21] In the development of a quality of life measure specifically for older adults by Hyde *et al.*, known as the CASP-19 measure, quality of life was theorised as the satisfaction of needs in four areas: control, the need to be able to act freely in one's environment; autonomy, the need to be free from undue interference by others; the need for self-realisation; and pleasure, the need for enjoyment in life.[22]

As Sabates and Hammond note, well-being measures do not address mental disorders, which are a different aspect of mental health. It is important to give some consideration to this area also, which we do in this paper by looking at depression. This is a very common form of mental disorder, and one recent report for the King's Fund suggested that, in England, there were approximately 828,000 people with moderate to severe depression.[23]

18 Keyes *et al.* (2002).
19 Ryff (1989).
20 Waterman (1984).
21 Gilhooly *et al.* (2002).
22 Hyde *et al.* (2003).
23 Sabates and Hammond (2008).

In this paper, an eclectic approach will be adopted, utilising several different measures of mental well-being, including life satisfaction and quality of life, and testing statistically whether each of them had an association with adult learning. ELSA includes several measures of mental health and well-being. Information on the outcomes available at each wave of ELSA is shown in Table 1. Overall, quality of life was assessed using the CASP-19 measure, as described earlier (Hyde *et al.*, 2003). The General Health Questionnaire (GHQ-12) consists of 12 questions which have been widely used as a mental well-being measure. Each question asks how the individual has been feeling over the past few weeks. For example, 'have you recently been able to concentrate on whatever you're doing?' and the possible responses are 'better than usual', 'same as usual', 'less than usual' or 'much less than usual'. Adding up the responses for all 12 questions yields a score which ranges between 0 and 36, with higher scores representing higher levels of well-being. Overall life satisfaction is measured in ELSA using the Satisfaction With Life Scale (SWLS) developed by Diener *et al.*[24] This contains five statements such as 'in most ways my life is close to my ideal' and 'the conditions of my life are excellent'. Respondents were asked to what extent they agreed or disagreed with each statement on a seven-point Likert scale running from 'strongly agree' to 'strongly disagree'. The five items were summed to give the overall life satisfaction measure which runs from zero to 30. Given the way they are constructed it is likely that these three measures would assess somewhat different aspects of well-being and so it seemed worth exploring the relationship of adult learning to each of them separately. GHQ-12 and SWLS are essentially different ways of measuring subjective well-being, while CASP-19 contains elements of both subjective well-being and psychological well-being. There were moderate correlations between these different measures.

As for depression, the CES-D scale is included in ELSA. It consists of eight items to measure depressive symptoms such as whether the respondent 'felt depressed', 'felt sad', or has 'been feeling happy' in the past week. The eight-item CES-D has been widely used and has been shown to have excellent validity and reliability. The eight items were summed to give an overall score of depressive symptoms and a binary variable, depression, created with the value one if the respondent scored three or more on the scale, and otherwise taking the value zero. Using three as the cut point is the standard approach in the research literature. This could be seen as somewhat arbitrary, and some tests were conducted to check whether using, say, two or four as the cut point made any difference to the results. The conclusion was that it made very little difference, so the results reported below all use three as the cut point in deciding whether someone has depressive symptoms.

24 Diener *et al.* (1985).

Table 1: ELSA waves and measures of mental health, well-being, satisfaction and depression

ELSA Wave	Wave 1	Wave 2	Wave 3	Wave 4
Date	2002	2004	2007	2008
Data available?	Yes	Yes	Yes	No
Depression measure (CES-D)	√	√	√	–
Quality of life (CASP-19)	√	√	√	–
Well-being (GHQ-12)	√		√	–
Life satisfaction (SWLS)		√	√	–

Measures of adult learning

Questions relating to learning in the survey include whether the person has obtained a qualification since last interviewed. Approximately 6.5 per cent had done so in ELSA Wave 1, as shown in Table 2, while 13.9 per cent had attended a formal education/ training course in the last 12 months; 12.3 per cent had attended a music, arts or evening class in the preceding 12 months, and 17.4 per cent had visited a gym or attended an exercise class in the previous 12 months.

Allowing for other influences on well-being

A set of variables to use as controls in the analyses was selected on the basis of potential in predicting depression drawing on previous studies, including some papers such as Chou[25] which have also used data from ELSA. These include gender, age, highest qualification, marital status, work status, household income, various aspects of health status, mobility difficulties and disabilities, and the extent of support from family and friends. Some summary statistics are reported in Table 2. When investigating whether adult learning had any impact on the change in well-being, it was important also to include changes in the control variables. For example, a change in work status from being employed to being retired would be expected to affect the change in well-being as would, say, a worsening of physical health or reduced mobility.

[25] Chou (2007).

Table 2: Descriptive statistics on some ELSA variables at Wave 1

	Frequency	Per cent		
Gender				
Male	5,000	45.1		
Female	6,078	54.9		
Age bands				
50 to less than 60	4,055	36.6		
60 to less than 70	3,312	29.9		
70 to less than 80	2,512	22.7		
80 to less than 90	1,100	9.9		
90 plus	99	0.9		
Highest qualification	**Frequency**	**Per cent**		
Degree or equivalent	1,221	11.0		
Higher education (below degree level)	1,206	10.9		
NVQ3/A-level	660	6.0		
NVQ2/O-level	1,743	15.7		
NVQ1/CSE or other grades	537	4.9		
Foreign/other	964	8.7		
No qualification	4,741	42.8		
Recent learning	**No**	**Per cent**	**Yes**	**Per cent**
Qualification	10,184	93.5	705	6.5
Formal course	9,528	86.1	1,539	13.9
Arts/music/evening class	9,312	87.7	1,302	12.3
Gym visit/exercise class	8,773	82.6	1,841	17.4
Marital status	**Frequency**	**Per cent**		
Single	611	5.5		
Married	7,334	66.2		
Divorced/separated	1,182	10.7		
Widowed	1,949	17.6		
Work status				
Retired	5,579	50.4		
Employed	2,896	26.2		
Self-employed	607	5.5		
Unemployed	109	1.0		
Permanently sick/disabled	691	6.2		
Looking after home/family	1,069	9.6		
Other (incl. semi-retired)	121	1.1		

(continued overleaf)

Table 2: Descriptive statistics on some ELSA variables at Wave 1 *(continued)*

Health status	No	Per cent	Yes	Per cent
Poor eyesight	9,296	84.0	1,777	16.0
Current smoker	9,115	82.3	1,963	17.7
In pain	6,797	61.4	4,267	38.6
Heart problems	8,744	79.0	2,327	21.0
Stroke	10,602	95.8	469	4.2
Diabetes	10,251	92.6	820	7.4
Bone disease	7,180	64.9	3,890	35.1
Cancer	10,378	93.8	692	6.2
Lung disease	10,339	93.4	731	6.6
Mobility difficulties	5,875	53.1	5,189	46.9
ADL disabled	8,764	79.2	2,300	20.8
IADL disabled	8,673	78.4	2,391	21.6

Notes:
ADL: Activities of daily living, such as looking after oneself, e.g. bathing, dressing/undressing and eating.
IADL: Instrumental activities of daily living. Things which may not be strictly necessary for basic functioning, but which allow the individual to live independently, e.g. doing light housework, preparing meals and taking medication.

Results

Older adults and learning

Women were much more likely than men to attend music, arts or evening classes (15.1 per cent compared to 8.8 per cent); differences by gender were very small for the other forms of learning (shown in Figure 1). As might be expected, there was a sharply declining profile by age for obtaining qualifications: over 12 per cent of those in their 50s had gained a qualification since they were last interviewed, compared to around five per cent of those in their 60s and even lower proportions of those aged 70 and above (shown in Figure 2). The proportions attending formal education courses also fell steeply by age, but this was less true for music, arts and evening classes and for attending the gym, sports club or exercise classes (also shown in Figure 2). For example, the percentage of those in their seventies attending music, arts and evening classes (11.1 per cent) was only marginally lower than those in their 50s (13 per cent).

Participation in learning was higher for those with higher levels of prior qualification, and this applied across all four types of learning activity identified in the survey. Those with no qualifications or low-level qualifications were less likely to participate than those with O-level, A-level or equivalent qualifications, who in turn were less likely to engage in learning than those with experience of higher education. The differences between the extremes of this classification were quite stark. Nearly a third of older adults with degrees had participated in music, arts or evening classes in the past year, and about the same proportion had undertaken a formal education or training course.

Figure 1: Adult learning in ELSA Wave 1 by type of course and gender

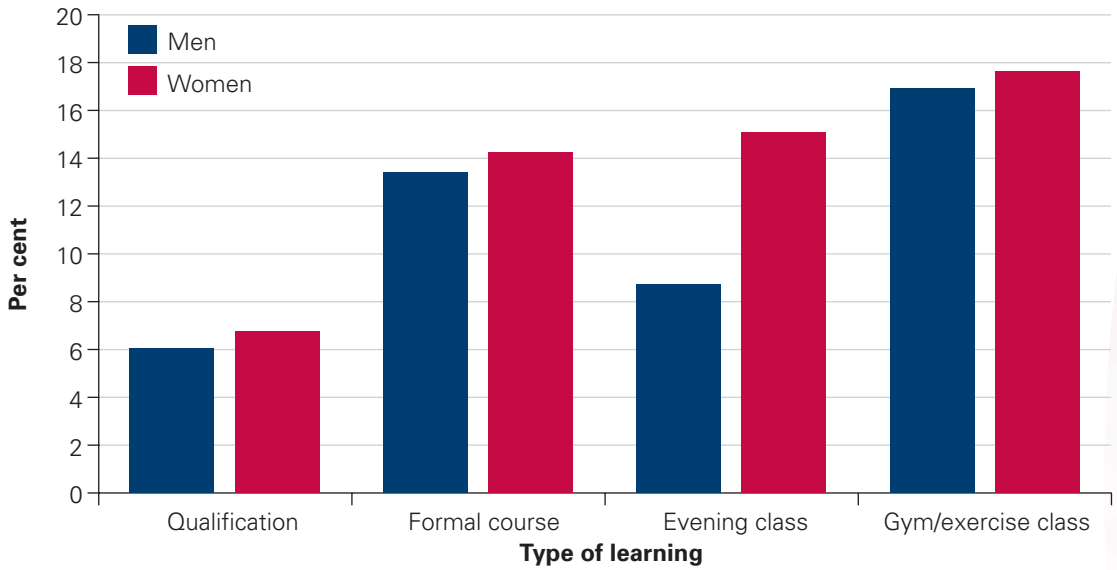
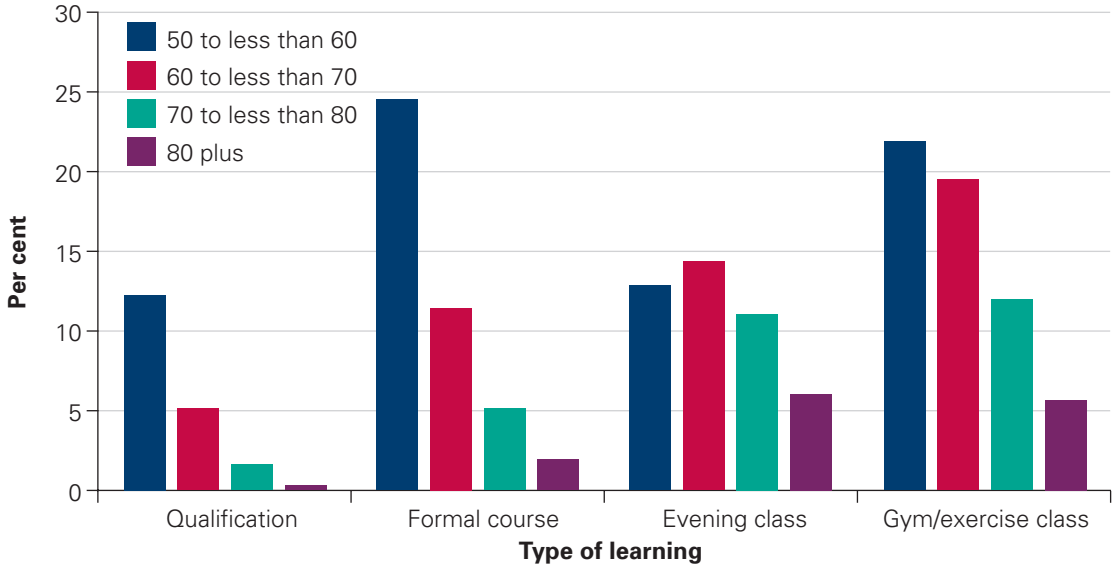


Figure 2: Adult learning in ELSA Wave 1 by type of course and age band



Yet, among those with no qualifications – a very substantial proportion of the sample – fewer than five per cent had attended a formal training course or been to an evening class in the previous 12 months.

As might be anticipated, there were differences in patterns of learning between those older adults who were in employment and those who were not. Courses which led to qualifications and formal training courses were more likely to be undertaken by those in employment, but there was a much more even spread by employment status for attending music, arts or evening classes.

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The effects of recent adult learning

Table 3 shows the main findings on the relationships between adult learning and the three outcomes – quality of life, well-being and life satisfaction – when all controls were included in the models. The table summarises the strength of the relationships between each outcome measure and each type of learning after taking account of other factors. Only statistically significant results are reported; where there was a non-significant finding, a dash appears in the table. For quality of life, there were statistically significant and positive associations with several forms of adult learning, including participating in music, arts and evening classes and gym/exercise classes, and with obtaining qualifications, even with a full set of controls in place.

The lower part of Table 3 provides some basic descriptive statistics about each outcome to give a sense of the magnitude of the reported regression coefficients. In the case of quality of life, for example, the associations with learning variables were estimated to be from about a quarter to a third of a standard deviation, indicating an effect moderate in scale.

As for well-being (GHQ-12), with few or no controls, formal courses, music, arts or evening classes, and exercise classes were all positively and significantly associated with well-being. However, these relationships tended to become non-significant once prior qualifications were added to the model, suggesting that the more qualified were both more likely to engage in learning, and more likely to have higher levels of well-being. Obtaining a qualification in the recent past was positively associated with well-being, but this only became statistically significant once the full set of controls were included – such variation according to what other factors are controlled for may suggest that the relationship here was not a robust one. Therefore, on the whole, there was little evidence that participation in adult learning has an impact on well-being, at least as measured by the GHQ-12 score.

Table 3: Regression results for effects of learning on level of outcome variables (Estimates take account of all control variables in the models)

	Quality of life	Well-being	Life satisfaction
	(CASP-19)	(GHQ-12)	(SWLS)
Qualifications	2.4	1.5	–
Formal training	–	–	0.4
Music/arts/evening classes	2.5	–	–
Gym/exercise	2.0	–	–
Note: only estimates which were statistically significant in models with all control variables reported here			
Summary statistics on the outcome variables			
	Quality of life	**Well-being**	**Life satisfaction**
Mean	43.3	25.6	21.2
Minimum	0	0	0
Maximum	57	36	30
SD	8.3	4.5	6.2

The analysis of life satisfaction, also reported in Table 3, found that there were no statistically significant relationships between the measure of life satisfaction and either obtaining a qualification or attendance at music, arts or evening classes, regardless of whether other variables were in the model or not. Visiting the gym or an exercise class was significantly associated with life satisfaction in some models, but this became non-significant once health and mobility variables were brought into the model. The interpretation here would be that someone in good health tends to have higher life satisfaction, but they are also more likely to visit the gym or attend an exercise class than someone who is in poor health or who has limited mobility. Formal education/training courses were also linked to life satisfaction, and this association persisted, even when a wide range of controls were in the model. Why formal education and training courses would impact on life satisfaction while other forms of learning do not is not immediately obvious. Further analysis of the results revealed that the association of formal courses with life satisfaction was stronger for men than for women, while the results broken down by age group suggested it was people in their 70s for whom the association between formal courses and life satisfaction was most apparent.

About a quarter (24.7 per cent) of the sample reported depression in the first wave of the ELSA survey, i.e. scored three or more on the eight-item CES-D scale. Since the outcome here is binary – being depressed versus not being depressed – a different form of analysis, logistic regression was used, and it seemed inappropriate to report the estimates alongside the other findings in Table 3. However, the results are discussed briefly here. In these models, the statistical significance of most forms of adult learning (including formal courses and evening classes) largely disappeared once allowance was made for highest prior qualification, and disappeared completely as further controls were added. That is, any association between learning and lower risk of depression was probably because well-qualified people were both less likely to suffer depression and more likely to enrol on courses rather than have any effect of adult learning per se. However, the gym/exercise classes variable was statistically significant, even when all controls were in the model. Therefore, of the forms of learning measured in the ELSA survey, only participation in gym/exercise classes was associated with lower risk of depression after controlling for prior education and other factors.

The research also considered the change in each of the outcome measures from one wave of the survey to the next. The main findings are shown in Table 4. An important finding was that music, arts and evening class participation was strongly related to the change in quality of life. This persisted even after allowing for many other variables that could affect quality of life.

The magnitude of the estimated effect was about three-quarters of a point. During the time between two waves of the survey (about two years), respondents' quality of life tended to decline by about half a point on average, so participation in evening classes would be sufficient to convert the small decrease in quality of life, which occurred on average between waves of the survey into a modest increase. No significant

associations were found between other forms of learning and quality of life of older adults once other factors were controlled for in the statistical model.

The GHQ well-being measure was only included in ELSA at waves 1 and 3, so the change between those two waves here covers a longer period of four to five years. Unfortunately, an error occurred at wave 3 of ELSA in the computer-assisted interviewing, with the result that people were not asked about acquiring qualifications at wave 3. The information on adult learning at wave 3 therefore relates to formal courses, music, arts and evening classes and gym and exercise classes. After making allowance for the other factors which can influence well-being, such as physical health, presence of a partner and support from family and friends, the effect of attending the gym and exercise classes was no longer statistically significant while the music, arts and evening classes variable was significant at the ten per cent level. There was, then, weak evidence that attending evening classes was associated with an improvement in well-being, as measured by the GHQ well-being score, over the approximately five-year period between wave 1 and wave 3. There was no convincing evidence that either formal education and training courses or gym and exercise classes had any impact on this measure, and it was not possible to comment on any effects of acquiring qualifications due to data problems.

Life satisfaction was measured at waves 2 and 3 in ELSA, so the change between the two waves can be analysed over a period of approximately two years. As before, it was not possible to include acquisition of qualifications, so there were three measures of learning activity: formal education and training courses, music, arts and evening classes, and gym and exercise classes. There was no evidence at all that formal courses had any association with the change in life satisfaction and, once a wide range of controls were in the models, gym and exercise classes were also not significantly associated with the change in life satisfaction. However, there was very strong evidence that participation in music, arts and evening classes was positively associated with the change in life satisfaction. This finding persisted, even in the presence of all controls, and was highly statistically significant. The coefficient of approximately 0.65 is 'worth' roughly one-tenth of a standard deviation increase in life satisfaction for someone participating in a course relative to someone who does not participate, i.e. a modest improvement in measured life satisfaction. Typically, life satisfaction fell by about one point between waves of the survey, i.e. over a period of about two years, and so participation in music, arts and evening classes would be sufficient to offset about two-thirds of this.

Data from two waves of the survey were also used to consider the onset of depression for those who did not report depressive symptoms in the initial survey and, conversely, to consider the factors associated with moving out of depression for ELSA respondents who did report depressive symptoms in the first survey. As before, the starting point was a model including only the adult learning variables, and control variables were then added in stages. For the onset of depression, even in the absence of any control variables, only the gym and exercise class variable was

Table 4: Regression results for effects of learning on change in outcome variables (estimates take account of all control variables in the models)

	Quality of life	Well-being	Life satisfaction
	(CASP-19)	(GHQ-12)	(SWLS)
Qualifications	–	–	–
Formal training	–	–	–
Music, arts and evening classes	0.7	0.3	0.7
Gym and exercise	–	–	–
Note: only estimates which were statistically significant in models with all control variables reported here			

significant among the several measures of adult learning, and even that soon became insignificant as controls were included. Likewise, the results for exiting depression revealed some evidence for an association between participation in music, arts, evening classes and an improved probability of emerging from depression; however, this was not statistically significant when all control variables were included in the model. Other forms of adult learning also were not significantly associated with exiting depression once controls were added to the models. In short, no evidence was found that adult learning had any effect either on the incidence of depression or moving out of depression among this large sample of older adults.

The effects of prior education

A large proportion of the adults in the ELSA survey had no qualifications – some 43 per cent of cases reported not having any qualifications (see Table 2). Just over a fifth had obtained an HE qualification, evenly divided between those with a degree and those with a HE qualification below degree level. Also, just over a fifth had Level 2 or Level 3 qualifications, while the remainder had qualifications which were either at Level 1, or else were difficult to classify hierarchically and were labelled as foreign/other qualifications.

Differences on the various well-being measures by highest qualification are shown in Figures 3 to 5. Differences by qualification level were statistically significant for each measure. In Figure 3, a clear pattern of higher quality of life at higher qualification levels is readily apparent. On the health-oriented well-being measure, GHQ-12 (Figure 4), there was also a tendency for the score to be higher for those with higher qualifications. There was almost no difference in score here between those with a degree and those with higher education below degree level. There was also little difference between those with qualifications at Levels 1 to 3. Those with any form of higher education had larger well-being scores than those with qualifications at Levels 1 to 3, and this group in turn had a larger mean well-being score than those with no qualifications. On life satisfaction (shown in Figure 5), again those with higher education tended to have the largest life satisfaction scores, but those with no qualifications or Level 1 qualifications had larger scores than those with qualifications at Level 2 or Level 3.

In the statistical models, the largest category – those with no qualifications – was used as the base case and the associations between having each form of qualification assessed relative to the base case after taking account of the range of other factors which influence quality of life, well-being and life satisfaction. In the simplest models, with no control variables, education had a strong association with each of the various well-being measures, confirming what is apparent in the graphs. As controls for work status, income and health status were added to the models the prior education variables declined greatly in size and became statistically insignificant for well-being (GHQ-12) and life satisfaction, but remained significant for quality of life (CASP-19). This shows that the channels through which education influenced quality of life were overwhelmingly via its effects on work, income and health status. In other words, prior education, measured in terms of the highest qualification attained, had an impact on people's assessment of their quality of life, satisfaction with their life and well-being. The influence of education occurred either wholly or at least predominantly through its ability to open up better job opportunities, and to yield higher incomes and healthier lifestyles.

Figure 3: Quality of life score (CASP-19) by level of education

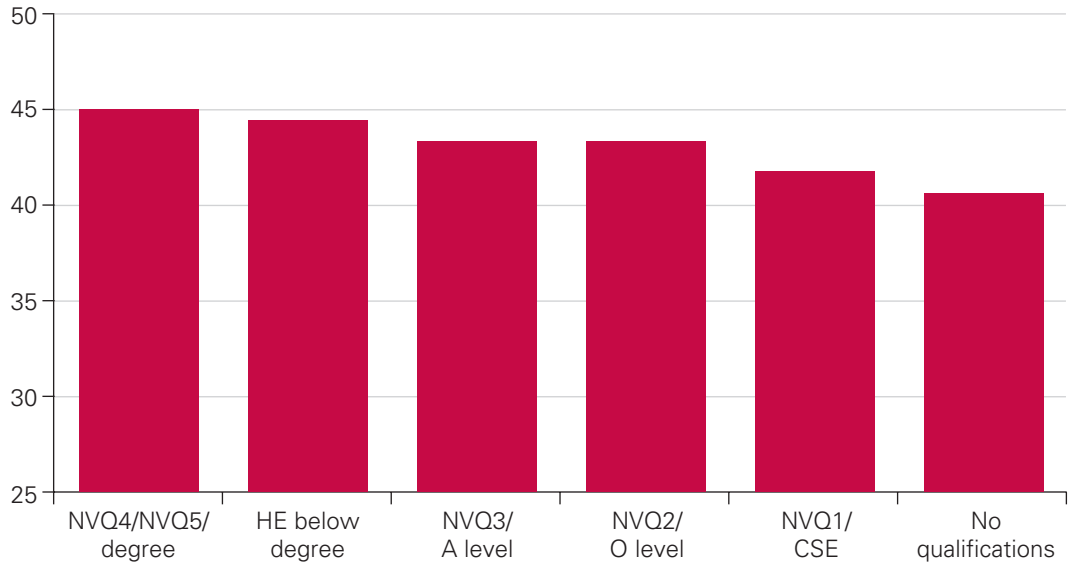


Figure 4: Well-being score (GHQ-12) by level of education

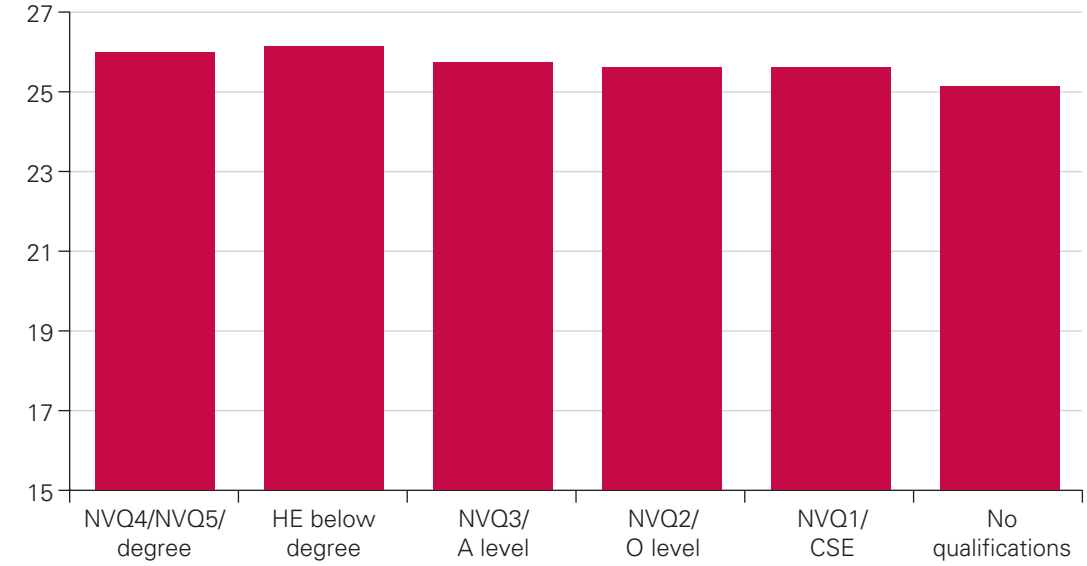
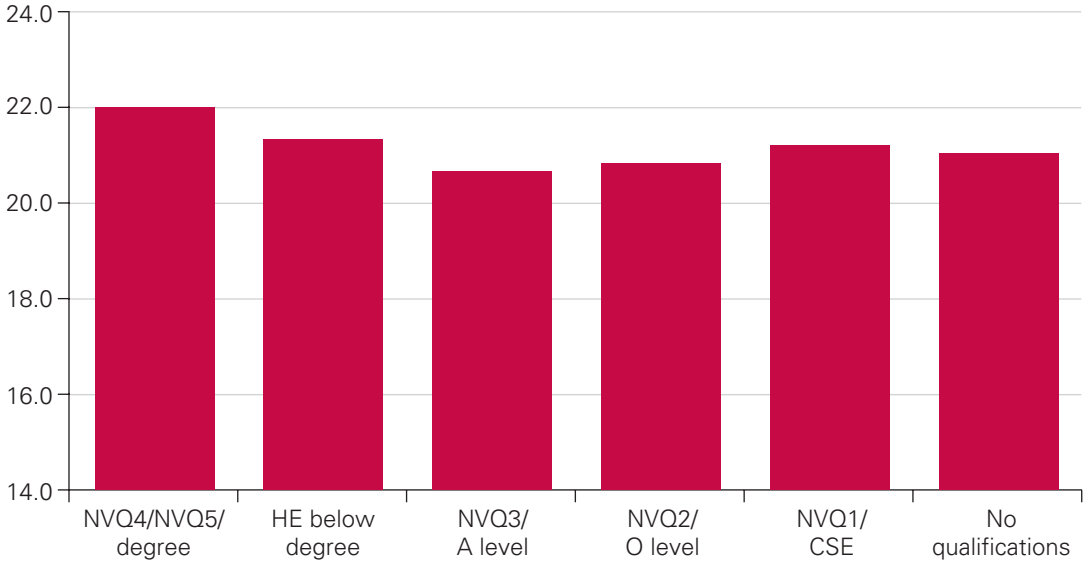


Figure 5: Life satisfaction score by level of education



The influence of other factors on well-being

All things being equal, people in their 50s had lower quality of life and life satisfaction than those in their 60s, while women's quality of life and life satisfaction was higher than that of men. Experiencing pain or being in poor physical health was negatively related to all of the well-being/quality-of-life measures and being unemployed was also associated with lower well-being. Mobility difficulties, and disabilities which affected daily living were strongly associated with lower quality of life and well-being. People in relationships scored higher on the various well-being or quality of life indicators – for given levels of other factors such as work and health status – than people who were

single, divorced or widowed. The expectation of financial difficulties in the future was found to be linked to lower well-being and quality of life.

Turning to change over time, improvements in financial situation increased self-reported quality of life and life satisfaction, and conversely worsening finances reduced it. Changes in health status were also strongly associated with changes in quality of life, well-being and life satisfaction. For example, those who reported becoming troubled by pain also had decreased quality of life, as might be expected. Moving from retirement into work or *vice versa* had surprisingly little impact on measured quality of life, but moving into retirement had a positive and significant impact on well-being.

As for depression, women were more likely to report depression than men. Those in their 50s were more likely to be depressed than older adults (note this is *after* allowing for a range of other factors including health and work status). The probability of experiencing depression was much higher amongst those who were either unemployed or permanently sick/disabled compared to those who reported that they were in employment or retired. Indicators of poor health were associated with an increased risk of depression, and those with mobility difficulties or disabilities, including ADL disability or IADL disability also had markedly higher odds of reporting depression. Both the extent of emotional support and the frequency of contact with family and friends were associated with a reduced risk of reporting depression.

Implications and evidence gaps

Discussion

A wide range of influences on measures of well-being among adults have been considered, but the main interest is in the effects of adult learning, and in this section the main findings on this topic will be highlighted, their implications drawn out and some areas where further evidence may be needed will be assessed.

Several forms of learning, including obtaining qualifications, attending arts/evening classes and gym/exercise classes, were positively associated with the score on a quality of life measure among adults aged 50 and above. There was some evidence that obtaining qualifications in later life was positively associated with a health-oriented measure of well-being (GHQ-12), although this was perhaps not entirely robust (statistical significance was only reached in some specifications of the model). A measure of overall life satisfaction tended to be higher among those who had attended formal education and training courses. In addition, the odds of depressive symptoms were significantly reduced for those who visited the gym or participated in exercise classes, even when controlling for a wide range of other influences on the likelihood of experiencing depression.

Studying the change in well-being outcomes is probably more robust statistically than cross-sectional analyses of the level of well-being, as discussed in the *Method and data* section. So analyses were conducted of the change in each of the various well-being outcome measures. When this was done, the striking finding was that it was music, arts and evening classes which were significantly associated with changes in each of quality of life, well-being and life satisfaction. In the presence of control variables the change in well-being was only weakly associated with music/arts/evening classes, but both the change in quality of life and change in life satisfaction were very strongly associated with music/arts/evening classes, even when all control variables were also included in the model. There was also some evidence of an association between participation in music, arts or evening classes and an improved probability of emerging from depression by ELSA Wave 2, but this was not statistically significant when all other factors were controlled for. In summary, it was the music, arts and evening classes which were found to be related to improved quality of life and life satisfaction among older adults, rather than formal training courses, or courses which led to qualifications.

The quantitative results do not provide reasons why participation in music, arts and evening classes would tend to boost quality of life and life satisfaction. However, it is likely that formal courses and courses leading to qualifications would often have been undertaken for work-related reasons and would boost well-being only in the longer term if they led to more satisfying work or promotion. Participation in music, arts and

evening classes, on the other hand, might occur because of the intrinsic enjoyment of the subject or possibly because the class also provided opportunities for getting out and socialising.

Research by NIACE gives some indications of the reasons that people engage in learning (see Table 5) and it is clear that intrinsic interest in learning and/or in a specific subject, and meeting people become more important reasons for learning at older ages. Qualitative research such as Withnall[26] has also shown that older adults appreciated learning because it helped them to be receptive to new ideas, to improve understanding and maintain a positive outlook. Later-life learning helped older adults to keep their minds active and to gain a sense of enjoyment and self-satisfaction. It played a part in successful ageing.

Recent government policy towards adult learning has tended to both emphasise, and channel funds towards, accredited and vocational learning. It has been reported that many learners have been lost to publicly funded adult learning, especially since 2005, and the heaviest losses have been identified amongst those aged 65 plus (Aldridge and Tuckett).[27] Yet the findings here suggest that, for older adults, it is the disparaged 'leisure courses' rather than narrowly vocational or qualification-bearing courses that are most likely to have an effect on increasing their well-being over time. These results may indicate that policy, at least in its influence on older adults, has been on the wrong track. This point has frequently been made by the adult learning community and by 2009 there were some encouraging signs that policy makers had begun to absorb the message, with the *Learning Revolution*[28] acknowledging the importance of informal learning activities and a white paper on policy towards older adults, *Building a Society for All Ages*,[29] recognising a role for adult learning, not just in the labour market, but also in contributing to healthy ageing and an active life.

Table 5: Older learners' motivation to learn (percentage stating as a reason)

	45–54	55–64	65–74
Rising importance with age			
Interest in the subject	31	42	51
Enjoy learning	20	30	53
Improve self-confidence	12	13	14
Meet people	6	8	16
Falling importance with age			
Help in current job	39	25	8
Develop myself as a person	29	28	20
Get a recognised qualification	21	9	5
Make my work more satisfying	17	13	6

Source: McNair (2008), based on NIACE Learning Participation Survey 2005

[26] Withnall (2008).
[27] Aldridge and Tuckett (2007).
[28] Department for Innovation, Universities and Skills (2009).
[29] HM Government (2009).

Evidence gaps

One limitation of the research is that it has not covered all types of learning. In particular, it was not possible to consider the more informal types of learning. It is known that older adults, including those who do not wish to participate in formal learning, may engage in various kinds of informal learning such as self-directed learning, perhaps at home and often related to particular hobbies or interests.[30] Analysis of the benefits of informal learning among older adults would therefore be an important part of an agenda for further research.

The large-scale quantitative research reported here did not uncover evidence of a relationship between learning and the amelioration of depressive symptoms. However, there has been qualitative evidence, notably in Schuller *et al.*,[31] that learning could help some adults to cope better with, or overcome, depression. As for mental disorders more generally, some small-scale research projects evaluating the impact of having learning advisers in GP surgeries to encourage and facilitate the take-up of learning opportunities have also shown that this can be helpful for improving patient well-being.[32] So it seems likely that learning could be beneficial in treating mental disorders, but there is more to be discovered about in what circumstances learning is effective and whether it is likely to be helpful for some cases and not others.

A related point is that the research reported in this paper has focused on the benefits of learning for mental health and well-being of older adults mostly over a period of two years, but it would also be worth investigating longer term benefits, if suitable data can be found. There is a growing body of evidence that engagement in learning can boost self-efficacy, including among adults with relatively low skills.[33] In the longer term, this may provide resilience in the face of adverse life events. Feinstein *et al.* argue that education in childhood has long-lasting effects on mental resilience in early adulthood, and it would be useful, if challenging, to try to extend that work to later adulthood.[34] While the evidence base on learning benefits continues to grow, then there is still scope for more research in this field.

[30] Withnall (2008); Aldridge and Tuckett (2007).
[31] Schuller *et al.* (2002).
[32] James (2001).
[33] Tett and Maclachlan (2007).
[34] Feinstein *et al.* (2008).

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Key findings

The purpose of this paper was to contribute new evidence on the effects of learning by older adults on mental health and well-being. The key points to emerge were as follows.

The quality of life of older adults was positively associated with several forms of learning including obtaining qualifications, attending arts/evening classes and gym/exercise classes. There was evidence that obtaining qualifications in later life was positively associated with self-reported well-being, while life satisfaction was higher among those who had attended formal education and training courses. The likelihood of depressive symptoms was significantly reduced for older adults who visited the gym or participated in exercise classes.

- As respondents were interviewed more than once over the course of several years it was also possible to look at the change in well-being, life satisfaction and quality of life and test whether adult learning had any impact on changes over time in these variables. The main finding here was that, after allowing for other relevant factors, music, arts and evening classes were significantly associated with changes in each of quality of life, well-being and life satisfaction. This association was quite weak for the change in well-being but both the change in quality of life and change in life satisfaction were very strongly associated with participation in music/arts/evening classes even when allowing for many other things in the statistical model. Once other factors were included in the models there was no evidence that other forms of learning such as obtaining qualifications or attending formal courses – had any impact on changes over time in any of well-being, quality of life or life satisfaction.
- Prior qualifications were found to have a significant impact on quality of life, well-being and life satisfaction among the over-50s. As controls for work status, income and health status were added, the influence of prior education declined, and sometimes became no longer significant. This suggests that the channels through which education influences quality of life are mainly via its effects on work, income and health status.
- Investigation of the factors associated with the onset of depression between the baseline survey and the follow-up did not find any evidence that engagement in adult learning reduced the likelihood of becoming depressed. Those with qualifications were less likely to report depression in the initial survey than adults with no qualifications. Also, compared to the base category of no qualifications, those with qualifications at Level 3 or above (i.e. at least the equivalent of an A level) had a reduced risk of onset of depression by the follow-up and this remained the case even after controlling for many other factors. Several indicators of poor health or disability were associated with the onset of depressive symptoms, as might be expected.

- Previous quantitative studies on the benefits of adult learning have mainly studied young adults and people in their 30s and early 40s. The objective of this research was to extend the analysis to older adults, those aged 50 and above. Are the findings for older adults consistent with the previous research on younger adults? Some caution is needed in making comparisons as both the outcome variables and the measures of adult learning used here differ in detail from those used in studies of younger adults. Nonetheless, the findings in Feinstein *et al.* that adult learning was associated with increases in life satisfaction and in Hammond and Feinstein of improvements in self-efficacy being associated with adult learning for people in their 30s are similar to some of the present findings for older adults.[35] However, it was academic courses and work-related courses which were related to changes in life satisfaction in the study by Feinstein *et al.*, whereas among older adults obtaining qualifications and formal training courses were not found to have any significant effects on the change in life satisfaction, rather the significant relationship was with music, arts and evening classes. On depression, the results presented here for older adults are broadly consistent at least with other *quantitative* research which has looked at adults in their 30s and also found no compelling evidence of adult learning reducing the odds of becoming depressed.

[35] Feinstein *et al.* (2003); Hammond and Feinstein (2006).

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