

The Impact of Lifelong Learning on Happiness and Well-being

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Executive Summary

Introduction

1. This review summarises and synthesises research-based evidence concerning the impacts of lifelong learning on happiness and wellbeing. It is a contribution to the development of an empirically based, full understanding of the complex mechanisms through which education impacts on happiness and well-being, which we hope will be of use to policy makers who wish to promote these important outcomes.

Scope

2. The review focuses on ‘well-being’, which is a multi-dimensional concept. We limit our analysis to an exploration of subjective well-being and psychological well-being.
3. Subjective well-being encompasses self-assessed life satisfaction and happiness, which may apply generally or more specifically to particular aspects of individuals’ lives, for example satisfaction with one’s job
4. Psychological well-being concerns an individual’s potential and encompasses self-esteem and self-efficacy.
5. We also investigate the impact of learning on reducing the risk of depression, which is one of the most common mental health problems amongst adults in the UK.
6. A key issue in this review is whether relationships between learning and well-being reflect effects of learning. It could be that the sort of people who do well in education are those who tend to be happy and mentally resilient in the first place and that attaining educational qualifications per se makes little difference. There are no randomised control trials in this area and we cannot make assumptions about the causalities that underlie statistical associations. However, some studies use methodologies that provide evidence about causality, namely the positive effects of learning on well-being.

Key Messages

7. *The positive impacts of education on happiness and well-being*

In general, having higher qualifications is associated with greater happiness, life satisfaction, self-esteem, self-efficacy, and reduced risk of depression. There is some robust evidence that having higher qualifications has positive effects on these outcomes.

8. *How education affects happiness and well-being*

The positive effects of education on happiness and well-being result from a variety of intermediary processes, which probably include higher income, non-alienating work,

household composition, health behaviours, use of health services, emotional resilience, social capabilities and, amongst older adults, better physical health.

9. *Effects of adult learning on self-esteem and self-efficacy*

There is robust evidence that adult learning leads to increases in self-esteem and self-efficacy. Adult learning has its most positive impacts on self-esteem and self-efficacy when the learning provided meets the needs of the learner and when the learner is at a stage in their life when they are ready and receptive to benefit from it.

10. *Education may have negative effects on happiness and well-being*

Associations between education and happiness and well-being are not always positive. Adults with higher qualifications report relatively low job satisfaction, and there is some evidence that adults with high level qualifications are not much happier or resistant to depression than adults with qualifications at an intermediate level. Maybe education has negative as well as positive impacts, for example through raising aspirations and expectations that are not met and by leading to occupations that carry high levels of stress.

12. *Defining well-being*

For purposes of measurement, 'well-being' should be defined clearly and consistently. Otherwise, (i) it is not possible to compare results across different studies when these studies focus on different aspects of well-being and (ii) research may mislead policy.

Specific findings

Subjective well-being

7. The effects of education depend on the measurement of subjective well-being, e.g. life satisfaction, happiness, job satisfaction. Direct comparisons can only be made between studies that use the same indicator of subjective well-being, with similar scales, and also assessed by groups who do not interpret the indicator in different ways. We can make inferences from comparing findings from studies that draw on different groups and use slightly different measures of well-being.
8. There is robust evidence that people with more education are both happier and have higher levels of life satisfaction than people with lower levels of education. The size of the association is small.
9. Most studies measure level of education by years at school or highest qualification attained. There is also some evidence for a positive association between participation in adult learning and increases in life satisfaction.
10. Some European studies find that people with higher education qualifications are less happy and have lower levels of life satisfaction than those with intermediate levels of education. A suggested explanation for this finding is that attaining higher education qualifications in Europe raises aspirations that prove to be unrealistic.

11. Some findings suggest that effects of education on life satisfaction are channelled through higher income, better health, perceived trust and household composition
12. Education appears to moderate effects of relative income on happiness and life satisfaction. There is no consistent relationship between happiness or life satisfaction and absolute levels of income. However, how rich a person is relative to other people does matter for happiness and life satisfaction. Those with relatively high incomes tend to be relatively happy and report relatively high levels of life satisfaction. This finding applies to adults with lower levels of education but it does not apply to those with higher levels of education. Perhaps those with higher levels of education feel more confident about their status irrespective of relative income, and also believe that they have the capability to improve their economic situation if they choose to.
13. Most of the evidence suggests that individuals with higher levels of education are relatively dissatisfied with their employment.
14. More highly educated adults tend to be relatively satisfied with their pay and more generally, their financial situation.
15. The previous finding indicates that the reasons why more educated individuals tend to report relatively low levels of job satisfaction are not to do with the financial rewards of the job. Other possible explanations include stress related to jobs at higher positions and lack of control and autonomy, especially in positions that carry high levels of responsibility and mismatches between expectations and employment possibilities.

Psychological well-being

16. There is consistent evidence that adults with higher levels of education tend to enjoy relatively high levels of self-esteem and self-efficacy.
17. Participation in adult education is associated with positive changes in self-esteem and self-efficacy.
18. Qualitative studies identify a variety of processes through which participation in adult learning can have positive effects on self-esteem and self-efficacy.
19. Education is not beneficial to the self-esteem and self-efficacy of all individuals. Nearly all members of society participate in education but it is only those who attain high levels of qualifications who have relatively high levels of self-esteem and self-efficacy; the rest have relatively low levels. In addition, qualitative studies find that participation in adult learning can undermine the self-esteem and self-efficacy of individuals who feel that they have not succeeded. Participation involves risk taking and when individuals are not prepared for the learning experience or when the content, pedagogical style or peer group do not suit the learner, then self-confidence, self-esteem and other aspects of psychological well-being can be negatively affected.

Mental disorder (depression)

20. A few sound empirical studies find that higher educational attainment is both associated with a lower prevalence of depression and can actually reduce the risk of depression.
21. Having intermediate as opposed to low levels of qualifications affords protection from the risk of depression, but having high-level qualifications affords no protection over and above that associated with having intermediate level qualifications.
22. The previous finding parallels findings from some studies that happiness and life satisfaction are positively associated with education only up to an intermediate level of education (see point 10). Although success in higher education almost certainly has a range of outcomes that have positive impacts on happiness and mental health, it appears also to be potentially undermining, possibly through raising expectations and aspirations to levels that are difficult to meet and through leading to stressful lifestyles and occupations.
23. Channels through which education protects individuals from the onset and progression of depression include financial/economic situation, non-alienating work, emotional resilience, health behaviours, use of health services, social responsibility, social capabilities, and, amongst older adults, physical health.

Gaps in the Literature

24. In order to inform policies designed to improve levels of happiness and well-being, we need to fully understand the mechanisms through which education impacts on these valuable outcomes. Of prime importance is the need for more robust empirical studies that provide evidence about effects of education, over and above mere associations.
25. A variety of studies provide clues to the mechanisms through which education impacts on happiness and well-being. These include studies which find negative or null associations between level of education and job satisfaction, studies which find negative or null associations between higher as opposed to intermediate levels of education and happiness and well-being and other studies that seek to identify the channels through which education affects happiness and well-being. Thorough comparisons of these existing studies and more quantitative studies of this kind, coupled with in-depth qualitative studies, all in a range of contexts, will enhance our understanding of the roles that education can play in promoting happiness and well-being.
26. There is little research on the impacts of highest educational qualifications and continuing adult learning on satisfaction with specific aspects of life, for example, marriage, social support, involvement with the community and housing.
27. There is very little research on the impact of adult learning on happiness or well-being. Are those who engage in learning in adulthood happier or more satisfied with their lives than those who do not engage in learning?
28. Furthermore, little is known about the impact of learning on individuals' well-being over time. In other words, does learning over the life course increase happiness or life satisfaction?

29. The evidence about relationships between education, well-being and income is contradictory. Absolute level of income is not associated with well-being but relative income is. Two studies provide evidence that education moderates this association. The first suggests that the well-being of adults with higher levels of education is relatively resilient to relative income, whilst the second suggests that relative income matters more for the well-being of adults with high level qualifications than it does for adults with lower level qualifications. More research is needed in this area.
30. What do we mean by well-being? There is a need to bring together research on well-being from different disciplines.
31. Is the impact of learning on psychological well-being short term or does it have long-lasting effects?
32. Is lifelong learning one of the important channels for the impact of highest educational qualifications on reducing the risk of depression?

1. Introduction

This report 1) summarises findings from a review of the evidence about the impact of lifelong learning on happiness and well-being; 2) points out the gaps in the literature and; 3) provides some key messages for NIACE's Commission of Inquiry.

In order to undertake this review, we identified the main indicators of well-being. For each of these indicators, we reviewed empirical studies where education or learning is used at least as an explanatory factor if not the main focus of the study. We summarise the main findings and address the following areas of interest for the Commission:

- What does evidence tell us about the impact of lifelong learning on happiness and well-being?
- In particular, what do we know about the impact of lifelong learning on mental health, satisfaction with life, and self-efficacy?
- What are the gaps in evidence?
- What are the key messages for the Inquiry?

We have not conducted a systematic review of the literature; this would not have been feasible within the time available. Rather, we relied on previous work undertaken by researchers from the Centre of Research on the Wider Benefits of Learning (Feinstein, et al. 2006), which we updated with more recent work on education and well-being. We conducted searches in Scholar Google as well as scientific publishers such as Ingenta, Elsevier Science Direct and JSTOR. As a search criterion we focused exclusively on articles published within the last five years (from 2002 onwards).

1.1. Well-being: Definitions and Indicators

There are two main domains of research traditions on well-being (Keyes, Shmotkin, and Ryff, 2002). One tradition, referred to as subjective well-being, deals with happiness and investigates factors related to self-assessed life satisfaction in general or applied to specific areas of one's life. The other tradition, referred to as psychological well-being, focuses on human potential, which reflects personal growth, sense of control over one's actions and purpose in life.

Subjective well-being emerged in the late 1950s in the search for useful indicators of quality of life to monitor social change and improve social policy. The two main indicators of subjective well-being that emerged from this research were life satisfaction and happiness. Life satisfaction reflects individuals' perceived distance from their aspirations (Campbell, et al 1976). Happiness results from a balance between positive and negative affect (Bradburn, 1969). Although these indicators are different, they are used interchangeably in the empirical literature.

Conceptualisations of psychological well-being draw on formulations of human development in the context of external life challenges. On the basis of these formulations, Ryff (1989) suggested seven dimensions of psychological well-being, differentiated by the different challenges that individuals encounter as they strive to

function positively. The dimensions were: self-acceptance, ability to shape the environment, personal autonomy, self-determination, purpose in life, personal growth, and positive relations with others.

In this review we focus on happiness and life satisfaction as indicators of subjective well-being. For psychological well-being we focus on just two of the dimensions proposed by Ryff (1989). The first indicator is self-esteem, defined as self-acceptance and a basic feeling of self-worth (Rosenberg, 1965). The second is the ability to shape one's own environment (Ryff, 1989). This is closely related to Bandura's (1994) notion of self-efficacy, which he describes as an individuals' beliefs about his or her capabilities to produce designated levels of performance that exercise influence over events that affect their lives.

In their broadest definitions, subjective well-being and psychological well-being encompass many aspects of good mental health. According to the World Health Organisation, positive mental health incorporates the state of well-being in which the individual realises his or her own abilities, can cope with the normal stress of life, can work productively and is able to make contributions to the community (WHO, 2007). Mental health is not only the absence of disease or infirmity, but includes physical, mental and social well-being.

But these definitions of well-being do not include mental disorders, such as depression or anxiety, which affect mainly the adult population and for which learning can have important benefits. According to Butler, et al. (2004) depression is the third most common reason for consultation in general practice in the UK. It is estimated that the prevalence of major depression among 16 to 65 year olds in the UK to be 17/1000 for males and 25/1000 for females. For a broader category of mixed depression and anxiety the prevalence is estimated to be 71/1000 for males and 124/1000 for females. Therefore, we also focus on depression as an indicator of a mental disorder.

2. Review of Empirical Literature

We start by reviewing evidence on the impact of learning on subjective well-being (Section 2.1), followed by psychological well-being (section 2.2), and finally on reducing the risk of depression (Section 2.3).

2.1. Happiness & Life Satisfaction (subjective well-being)

What are the measures for subjective well-being? Studies in this area usually gather information from answers to satisfaction questions and use them as measures of subjective well-being. Commonly these answers are on a discrete scale, ranging from unsatisfied to satisfied, with zero at one end and anything between 5 and 11 at the other. One measurement of subjective well-being records individuals' satisfaction with life as a whole. Others focus on specific domains, like leisure, work, finances, health, housing, family, and so on. Sometimes questions ask about feelings of happiness whilst others ask about satisfaction. The relationships found between education and subjective well-being depend on the measure used.

Empirical studies using data from different countries have shown a low positive association between education and life satisfaction (Veenhoven, 1996; Caporale, et al. 2007) and between education and satisfaction with financial situation (Seghieri, Desantis and Tanturri, 2006) for most countries. There is also a positive association between education and happiness, which is robust to the inclusion of background family factors (Hartog and Oosterbeek, 1998; Gerdtham and Johannesson, 2001). Studies from Britain and the United States found a negative correlation between education and job satisfaction, indicating dissatisfaction among individuals with higher levels of education (Clark and Oswald, 1996; Ross and van Willigen, 1997). This dissatisfaction may be due to the lack of jobs at higher levels, the stress related to jobs at higher positions, and to mismatches between aspiration and expectations with employment possibilities.

In the next sections, we review empirical evidence on the impact of education on different indicators of subjective well-being: overall life satisfaction, happiness, and satisfaction with economic situation (which includes job satisfaction, financial satisfaction and pay satisfaction).

2.1.1 Life Satisfaction

There is evidence for both positive and negative correlations between education and life satisfaction. We consider this evidence and also evidence concerning the channels through which education might affect life satisfaction.

Helliwell (2002) estimated a multivariate regression using individual level data from the World Values Survey for 46 countries. Results showed that when overall life satisfaction was regressed on education (measured as the age at which individuals completed full-time education), there was a strong, statistically significant, positive association. However, when other individual and national variables were included in the model, the association disappeared. Similar results were found by Ferrer-i-Carbonell (2005) for Germany. The author used the German Socioeconomic Panel dataset and modelled the determinants of life satisfaction. The impact of years of education on life satisfaction was not statistically significant in a model that included income, relative income, and other demographic and socioeconomic variables. These results suggested that educational effects may be channelled via higher income, better health, higher perceived trust and household composition, which were controls included in the models.

Another positive association between education and life satisfaction was found by Oswald and Powdthavee (2007) using the British Household Panel Survey. Individuals with A-levels and higher degrees reported higher levels of life satisfaction than individuals with lower levels of educational qualifications. In the United States, Oreopoulos (2003) found that years of schooling were positively associated with life satisfaction, and that this result held up after using features of compulsory schooling laws as an instrumental variable for schooling to address the possibility of reverse causation (that is, that having greater life satisfaction in the first place may cause people to be more likely to stay longer at school).

In contrast, Caporale, et al. (2007) found a negative association between having higher education qualifications and life satisfaction using data from the European

Social Survey. The authors suggest that having a higher education qualification could raise aspirations that are not often fulfilled, leading to dissatisfaction and the negative association found. When reference income (income of individuals with similar characteristics) was included in the analysis, the association between having a higher education qualification and life satisfaction became positive. A possible explanation is that the higher education qualification leads to aspirations about income, which are not often met. Once these are taken into account (i.e. included in the analysis), the positive impacts on life satisfaction of having a higher education qualification prevail.

Frey and Stutzer (2002) analysed data from Switzerland gathered in 1992-1994 and estimated that achieving middle and high levels of formal education increased life satisfaction by 2.19 and 2.09 percentage points, respectively. However, when aspirations were included in a later analysis, Stutzer (2004) found a statistically significant difference in life satisfaction only between those with mid-level educational qualifications and those with low-level educational qualifications. He did not find evidence of differences in life satisfaction between those with low-level qualifications and those with higher education, which could be explained by aspirations raised in unrealistic ways as a result of success in higher education.

In contrast to these findings that suggest negative as well as positive impacts of attaining higher education qualifications, Kingdon and Knight (2004) found a small positive association between overall life satisfaction and education but only at higher levels of education (achieving a degree). This study was conducted in South Africa. Possibly, attaining a higher education qualification in South Africa is associated with aspirations that are different from those which result from attaining a similar level of qualification in Europe. Also, the economic situation for those with these qualifications is probably different in South Africa and Europe.

Ferrante (2007) investigated the channels through which education affects life satisfaction, hypothesising that the main channels were via (i) access to stimulating employment and consumption activities matching preferences and skills and (ii) how the rewards of such activities compare with expectations. Results using data from the 2004 Italian Survey of Household Income and Wealth showed that education may exert a negative effect on life satisfaction through raising individuals' aspirations and expectations above real life chances. This empirical result confirmed earlier theoretical suggestions by Ross and van Willigen (1997) about the mechanisms through which education may negatively impact on job satisfaction.

It is also possible that learning begets learning and this strengthens the relationship with life satisfaction. Feinstein and Hammond (2004) used the 1958 cohort to examine the contribution of adult learning to changes in life satisfaction between the ages of 33 and 42 years, controlling for initial level of education and many other factors. Their results showed that participation in adult learning had positive effects on changes in life satisfaction. Effect sizes were small in absolute terms. However, for most cohort members, there is little change in life satisfaction during mid adulthood, and relative to this baseline, participation in adult learning is an important driver for change in life satisfaction.

The work of Ferrer-i-Carbonell (2005) and Helliwell (2002) described above suggests that channels for the positive impacts of education on life satisfaction are health, trust,

household composition and income. Research on the impacts of income on happiness indicates that relationships are complex. Layard (2003) reports that the proportions of people who are very happy in Western countries has not changed at all even though the level of real income in each group, especially at the top end of the distribution, has risen considerably. This phenomenon is known as the Easterlin Paradox (Easterlin, 1995), after the seminal work of Easterlin (1974) on income and happiness. Easterlin pointed out that while richer individuals in a country are happier than their poorer fellows, income increases in themselves do not lead to increases in well-being of the same magnitude. This suggests that it is relative rather than absolute levels of income that are important for life satisfaction.

The impacts of income on happiness are moderated by level of education. Income matters for happiness more for those with lower levels of education than it does for those with higher levels of education. Castriota (2006) analysed the effect of absolute income on well-being by education level using data from the World Bank's World Value Survey. His results showed that the higher the education level, the less relevant the absolute income level for predicting self-reported life satisfaction. Higher income makes everybody happier but, everything else being equal, the marginal utility of additional income is higher for less educated people. A possible explanation is that highly educated persons have on average more interesting jobs and more active and stimulating cultural lives. Consequently, the quantity of material goods a person can buy becomes less important. This result contradicts that found by Caporale, et al. (2007) mentioned above. Maybe this is because Caporale used European data whilst Castriota used data from the World Bank.

2.1.2 Happiness

In Sweden, Gerdtham and Johannesson (2001) found a direct positive association between education and the probability of being happy; individuals with the highest educational qualifications were most likely to report the highest levels of happiness. In contrast, Caporale, et al. (2007) found a negative association between education and happiness using data from the European Social Survey. Compared with individuals without educational qualifications, higher levels of educational qualifications were associated with higher levels of unhappiness, controlling for socioeconomic and demographic factors including absolute income. However, when relative income was included in the analysis, the authors found contrasting results. This suggests that for individuals with more education, their level of happiness is particularly dependent on relative income. They differ from individuals with less education in that being relatively rich or poor makes more difference to their level of happiness. Perhaps this is because having high-level qualifications raises expectations about income, which are not always met.

Easterlin (2003) also found a positive association between education and happiness, but only at one point in time and not over the life course. His results showed that at any given age, individuals with higher levels of education are happier than those with lower levels of education. However, over the life course, there is no significant trend in happiness for those with higher levels of education or those with lower levels of education and there is no evidence to support a happiness differential by educational status. Although those fortunate enough to start out with higher income and education remain, on average, happier throughout the life cycle than those of lower

socioeconomic status, there is no evidence for either group that happiness increases with income (although there is no empirical evidence linking happiness and lifelong learning over the life course).

Hartog and Oosterbeek (1998) used data from a cohort of adults born in 1940 in Holland in the province of Noord-Brabant to investigate the relationship between education and happiness, controlling for wealth and health and early life circumstances. Their results indicated that the positive relationship between education and happiness reached a maximum for intermediate level of qualifications. The relationship between education and happiness was parabolic and it remained statistically significant only for intermediate qualifications and for a higher vocational qualification.

2.1.3 Satisfaction with economic situation

We examine research on the relationships between education and three measures of economic situation; job satisfaction, pay satisfaction and financial situation. Negative associations are found between level of education and job satisfaction, whereas the associations between education and pay satisfaction, and between education and satisfaction with financial situation are positive. One reason why more educated individuals report lower levels of satisfaction with their jobs may be that education raises job aspirations, which are not met. These aspirations are not simply about pay, for the argument does not apply to satisfaction with pay or financial situation. More likely, they concern autonomy and control within work and the opportunity to work creatively.

Clark and Oswald (1996) found a strong negative association between job satisfaction and education levels using data from the British Household Panel Survey. Similarly, Ross and van Willigen (1997) report that education has a negative association with job satisfaction in the US. Results using two nationally representative datasets showed that among people in the same work situation and the same income bracket, those with higher levels of education reported more dissatisfaction with their work than those with lower levels of education. The authors suggested that the impact of education on job dissatisfaction may be due to higher expectations. People are generally satisfied with conditions that are the best they can expect. Thus, all else being equal, those who expect more are more dissatisfied and individuals with higher levels of education have higher expectations. Another reason why more educated individuals tend to report lower levels of satisfaction with their jobs could be that they are more aware of their dissatisfaction and more articulate in voicing it, as opposed to actually being more dissatisfied with their jobs than individuals with lower levels of education.

In contrast, Balchflower and Oswald (2007) did not find statistically significant gradients between job satisfaction and education for Australians. No associations were found between education and stress at work or levels of tiredness after returning home from work. This may be because Australians, whatever their level of education, have very low levels of job satisfaction. In the same paper, Balchflower and Oswald report that using data on approximately 50,000 randomly sampled individuals from 35 nations, Australians had some of the lowest levels of job satisfaction in the world.

In the paper cited above, Clark and Oswald (1996) found a positive association between pay satisfaction and education. This association disappears when income is controlled for in the regression, suggesting that educational effects on pay satisfaction are strongly mediated by income.

A positive association between education and satisfaction with financial situation was found by Seghieri, Desantes and Tanturri (2006) for Spain, Greece, Portugal, Italy, France, Ireland and Belgium using the European Household Panel Survey. They did not find evidence for this association in Denmark and they found a negative association in the Netherlands.

Summary

- The effects of education depend on how subjective well-being is measured, e.g. life satisfaction, happiness, job satisfaction. They also depend on context, and hence the country in which the data were collected. Hence, comparisons can only be made when using the same indicator of subjective well-being (with similar scale and comparability between different groups who may interpret these indicators differently).
- There is a positive association between levels of education and life satisfaction, but this association is small and tends to disappear when controls for background family factors are included in the analysis.
- One of the reasons why the effects of initial education are small (or statistically insignificant) is because education can have both positive and negative impacts on life satisfaction. It can increase employment possibilities and promote further training opportunities but it can also raise aspirations above unreachable or unattainable levels.
- There is robust evidence indicating that individuals with higher levels of education are happier than those with lower levels of education.
- However, there is no evidence to show that happiness increases with income over the life course (although there is no empirical evidence linking happiness and lifelong learning over the life cycle).
- Most evidence shows that individuals with higher levels of education are more dissatisfied with their employment. However, those with higher levels of education are more satisfied with their pay and financial situation.
- The impact of education on job dissatisfaction may be due to lack of jobs at higher levels, the stress related to jobs at higher positions, or mismatches between aspiration and expectations with employment possibilities.
- The mixed results reflect differences in measurement and context as mentioned in the first bullet point. They also depend on which controls are included in models. More important theoretically, it is likely that education generates a range of outcomes, some of which have positive and some of which have negative effects on life satisfaction. These include employment possibilities and further learning and positive consumption activities, which would increase life satisfaction, and also raised aspirations which may, unfortunately, be unrealistic and lead to disillusionment and lower levels of satisfaction.

2.2. Self-esteem and self-efficacy (psychological well-being)

In this section we describe evidence from quantitative studies that assess the relationships between initial education and levels of self-esteem and self-efficacy, quantitative and qualitative studies investigating the impacts of adult learning on these outcomes, evaluations of specific learning programmes and a survey of learning practitioners.

There is consistent evidence that adults with higher levels of education tend to also enjoy relatively high levels of self-efficacy and optimism. For example, correlations have been found between years of education and self-efficacy, self-esteem, optimism and happiness amongst residents of the US aged between 70 and 79 (Kubzansky et al., 1998) and pregnant women living in California (Rini et al., 1999). Hammond and Feinstein (2006) analysed data from the British cohort study of individuals born in 1958 and found that after taking social and psychological background factors into account, cohort members who had flourished at secondary school (during the late 60s and early 70s) had, at age 33, relatively high levels of optimism and self-efficacy. Interestingly, both educational attainment and engagement at school were important aspects of **school flourishing** for these positive outcomes in adulthood.

Feinstein and Hammond (2004) and Hammond and Feinstein (2006) analysed the 1958 cohort study data and found correlations between participation in adult learning and positive changes in efficacy and optimism between the ages of 33 and 42, after controlling for family, social and educational background, and current life circumstances. They were found for both men and women, regardless of their levels of education at the beginning of the course. Hammond and Feinstein (2005) supplemented the findings for self-efficacy with in-depth interviews with members of the same cohort study who had left school with few, if any, qualifications. This small-scale qualitative study found that taking courses in adulthood can lead to improvements in self-efficacy for people who did not attain many qualifications at school.

Dench and Regan (1999) used a combination of quantitative and qualitative methods to investigate the impacts of participation in learning for adults aged between 50 and 71 living in England and Wales. Respondents reported that learning had led to increases in their self-confidence, their enjoyment and satisfaction with life, positive changes in how they felt about themselves and their ability to cope with everyday life.

Similar findings are reported by Schuller and colleagues, who conducted a large-scale in-depth qualitative investigation of the impacts of adult learning (Schuller et al., 2002; Schuller et al., 2004). This involved 145 biographical interviews with adults who were currently participating in various types of adult education, together with group interviews with practitioners providing adult education. One of the authors' conclusions is that:

The most fundamental and pervasive benefit from learning of every kind is a growth in self-confidence (Schuller et al., 2002: 14)

The study found that participation in a range of adult learning programmes could give adults the confidence to take on more active social roles, to try out new things, and to tackle issues rather than brush them under the carpet. It empowered some learners to

take additional courses and apply for jobs and to visit places that they would not otherwise have visited, such as art galleries, museums, libraries, and to travel abroad. 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 competences and communication and better social integration (Hammond, 2004). All of these are important aspects of psychological well-being. Respondents of both genders, all ages, every ethnic background interviewed, every occupational class, all levels of previous education and living in families or households of every kind, mentioned that they had experienced increased self-esteem (self-acceptance or self-worth) as an outcome of learning at some point during their life. Respondents also mentioned as outcomes of learning self-understanding, doing something for oneself, purpose and hope (Hammond, 2004).

Numerous evaluations of educational initiatives provide evidence that outcomes include self-esteem, self-efficacy and self-understanding for different types of courses and for different groups of people. These include evaluations of courses in Higher Education in England taken by mature women (Cox and Pascall, 1994), adults participating in Higher Education and Access courses in England (West, 1995), adults in England who were returning to education (Hull, 1998), older adults receiving mentoring support on a psychosocial support programme in the US (Koberg et al., 1998), and courses offered at various levels to adults with chronic health problems and/or employment difficulties living in England (McGivney, 1997).

Wertheimer (1997) reviewed evaluative studies of community-based adult education courses that were attended by mental health service users. She also conducted a survey of over 30 such courses using questionnaires to investigate the experience of participants. She concludes that for mental health service users, participation in these community-based courses led to improvements in confidence, self-esteem, self-efficacy and mental health. More recent qualitative studies indicate that participation in education has positive outcomes for mental health service users (e.g., Westwood, 2003).

Theodorakou and Zervas (2003) found that physical education had impacts on children's self-esteem. They examined the influences of two physical education teaching methods on children's self-esteem in a publicly funded school in Athens. Both methods were associated with increases in self-esteem but the more child-centred approach, which used group discussion and creative techniques, was associated with increases in all aspects of self-esteem – cognitive, physical and social, as well as global – whereas the more traditional teacher-directed methods of teaching physical education were associated with increased global self-esteem, but more particularly with the physical as opposed to the social aspects.

Preston and Hammond (2002) investigated the views of lecturers and managers in Further Education colleges in England and Wales about the impacts of participation on their students (n>2,700). The most commonly reported outcomes of participation were self-esteem and self-efficacy. Analysis of answers to open-ended questions indicated that practitioners believed that amongst their students, increased self-efficacy led to increased propensity to participate in the community and improvements in psychological health. These results are important in understanding the possibility that education can lead to improvements in self-efficacy, but would be

given more strength if responses were also obtained from learners as well as from learning providers.

Bandura (1997) reviews the evidence to examine the sources of self-efficacy. We suggest that these sources are likely to be affected by education. One source of self-efficacy is vicarious experience, which refers both to learning from the competence of others (e.g. teachers and peers) and social comparison. Social comparison is difficult to avoid in educational settings because students are aware of each others' attainment and ability. Students who are more successful at school may engage more with, and gain more self-efficacy from, role models provided by other successful students and teachers, and they may also gain self-efficacy because social comparisons are positive, at least in relation to attainment.

Another source of self-efficacy is verbal persuasion, when significant others express faith in one's abilities rather than convey doubts. This source of self-efficacy is also relevant to education because students receive from their teachers and peers explicit as well as implicit feedback on their performance and abilities. Bandura suggests that verbal persuasion has more impact when it is within realistic bounds and on people who already believe that they can produce effects through their actions (Chambless & Murray, 1979a, 1979b), so we predict that teachers' feedback to pupils is particularly likely to impact on their self-efficacy.

The arguments and studies described above present a glowing impression of the potential impacts of the educational experience on self-esteem and self-efficacy. It is important to remember, however, that education also has the potential to undermine self-esteem and self-efficacy and create confusion. In a study described earlier in this section, Hammond and Feinstein (2006) found that adults who had flourished at secondary school had relatively high levels of efficacy, life satisfaction and optimism. However, every member of this cohort should have attended secondary school and according to the definition used in the research, about half of this group did not flourish there, and later in life experienced relatively low levels of efficacy, life satisfaction and optimism.

Similarly, not all evaluations of adult education programmes report positive impacts of participation. For example, Randle (2003) found that amongst students on a diploma course in nursing, self-esteem decreased dramatically between the start and the end of the course. The qualitative part of the study indicated that during the 3 years, students felt increasingly powerless to be the sort of nurse they wished to be.

Participation in particular educational streams also appears to have consequences for self-esteem and they are positive for some streams and negative for others. Houtte (2005) examined the consequences for self-esteem of being in a technical / vocational secondary school as opposed to a general secondary school in Belgium. Houtte found that boys in technical / vocational schools have lower self-esteem than boys in general schools, but for girls there was no difference with school type.

So which aspects of education are important if we wish to increase levels of self-efficacy and self-esteem? In the large-scale qualitative study described above, Schuller et al. (2002, 2004) found also that participation in adult learning programmes has the potential both to promote and to undermine psychological well-being. This is

because participation involves risk taking; in order to learn, the individual must be prepared to admit a degree of ignorance and adopt new aspects of knowledge and perspective or try out new skills. If the learner feels successful in their endeavours or if they feel that they have benefited from the experience, this will make them feel more confident in themselves and more confident about taking risks. Consequently, it will build their sense of self-esteem and self-efficacy. It may also broaden their horizons so that they understand themselves in a different context, invest more in their future and change their hopes and aspirations. Lack of success, on the other hand, can undermine self-esteem and aspirations and lead to alienation.

The content of what is learnt, the pedagogical style and who one learns with are aspects of learning that influence psychological well-being (Schuller et al., 2004). For example, self-esteem and self-efficacy increase as learners are praised or receive formal feedback or accreditation for succeeding in tasks which they perceive as challenging (Schuller et al., 2004). Courses in the social sciences taught through discussion with students from diverse backgrounds promote self-understanding and independent thinking and can lead to changed hopes and aspirations (Preston and Hammond, 2002). These can in turn increase overall life satisfaction.

Summary

- There is consistent evidence (at the level of associations) that adults with higher levels of education tend to also enjoy relatively high levels of self-efficacy and optimism.
- In particular, taking courses in adulthood can lead to improvements in self-efficacy for people who did not attain high or indeed any qualifications at school.
- Participation in learning can also increase self-confidence and self-esteem. This has been documented by several qualitative evaluations of adult learning programmes.
- However, learning has also the potential to undermine psychological well-being. This is because participation involves risk taking and when individuals are not prepared for the learning experience or when the content of what is learnt, the pedagogical style and who one learns with are inadequate, then self-confidence, self-esteem and other aspects of psychological well-being can be affected.

2.3. Mental disorders (Depression)

Within the scope of this paper, we cannot examine all mental health disorders but rather focus on depression. We choose depression for three reasons. Firstly, depression is the most common psychiatric disorder (Miroswki and Ross, 2002). It is the third most common reason for consultation in general practice in the UK (Butler, et al. 2004) and its estimated prevalence in the UK amongst 16 to 65 year olds is 17/1000 for males and 25/1000 for females. Secondly, various studies have shown that societal factors contribute to the onset and progression of depression (e.g. Brown REF) and so it is possible that educational experiences are important. Related to this is the third reason, which is that there is more research concerning the societal causes of depression than there is for most other mental health disorders.

It is well established that the prevalence of depression is greatly influenced by a number of socioeconomic factors, which interact in a complex way. Episodes of depression are strongly associated with adverse social and economic circumstances, such as unemployment, divorce or separation, inadequate housing, lack of educational qualifications and poverty. There are complex interactions between these factors and an important role for lifelong learning in protecting individuals from the risk of depression. In this review, we first establish whether education can help to protect individuals from depression and then examine the main mechanisms through which education affects depression.

Is education causal?

Various studies have found positive correlations between more education and lower rates of depression. For example, Mirowsky and Ross (2002) investigated the role of education as a protective factor against depression in the context of entry age of parenthood, controlling for a large set of background characteristics. Using the U.S. 1995 Survey of Aging, Status and the Sense of Control, they found that years of schooling were associated with a 6% decrease in the symptoms of depression. When other socio-economic variables and physical health were introduced as controls in the analysis, the estimated coefficient was reduced to 2.3%, but remained statistically significant.

Feinstein (2002), using data from the 1958 and 1979 British cohorts and matching methods, showed that taking childhood abilities, health and family background factors into account, women from the 1958 cohort with qualifications at U.K. National Vocational Qualification at Level 1 – which is roughly equivalent to lower secondary education – had 6 percentage points lower likelihood of depression than women with no qualifications. For women in the 1970's cohort the equivalent estimated effect was 10 percentage points. For men these effects were smaller. In general, results showed that differences between those with different levels of qualification but with qualifications above Level 1 were substantially eroded when background factors and previous childhood controls were introduced in the analysis.

Chevalier and Feinstein (2006) used on a rich longitudinal dataset to control for childhood determinants and measure mental health over the individuals life span to estimate the causal effect of education on depression. They found that achieving qualifications significantly reduced the risks of adult depression. The effect was non-linear and was greater for differences between lower educational levels. Estimates using two-stage least squares were much larger but in most cases, it was not possible to reject the exogeneity of education. Using propensity score matching, they estimated that having level 2 or higher qualifications reduced the risk of adult depression by 6 percentage points. This effect was similar for men and women.

What are the mechanisms for educational effects?

Having established above that education plays a part in reducing the risk of depression, we now investigate the mechanisms through which this might take place. Hammond (2002) found clear evidence that highest qualifications achieved can protect against that onset and progression of depression and suggested that the impact of education on depression was mainly mediated by economic factors, the adoption of

health behaviours, the development and maintenance of resilience, access to and take up of health services, and the promotion of social responsibility, social values and social skills.

Miech and Shanahan (2000) looked at the relationship between education and depression over the life course. Using data from the 1990 Work, Family and Well-Being Study in the U.S., they found that the association between education and depression increases with age, and that in older age, this association is (to some extent) mediated by physical health. Amongst older individuals, higher levels of education are associated with having better physical and mental health.

Other mechanisms for the effect of education on mental health were investigated by Ross and Van Willigen (1997). They hypothesised that education is valuable for individuals' mental health because it provides access to two primary sources of well-being: non-alienated paid work and supportive relationships. Compared to individuals with low levels of education, those with high levels of education have access to non-alienated paid work that increases the sense of personal control. Also, those with high levels of education have access to stable social relationships, especially marriage, that increase social support. Results using two nationally representative datasets from the United States showed that individuals with high levels of education have lower levels of emotional distress (including depression, anxiety, and anger) and physical distress (including aches and pains and malaise). In terms of their hypotheses, they found that education reduces distress largely by way of paid work, non-alienated work, and economic resources, which are associated with high personal control. However, the extent to which education reduces distress by way of marriage and social support is much more modest.

Summary

- Sound empirical studies find robust evidence that higher educational attainment can reduce the risk of depression. The impact of education is more important amongst those with low to intermediate levels of education.
- For higher levels of education, the effect of education on depression may be both positive and negative.
- For example, a higher occupational grade is associated with more control over working lives, more varied and challenging work and thus has a positive effect on mental health (Marmot et al., 1991). However, higher occupational attainment also leads to higher levels of stress (Rose, 2001).
- Therefore, there may be important trade-offs between stress and satisfaction that may lead to a complex and non-linear relationship between educational success and risk of depression.

3. Gaps in Evidence

33. In order to inform policies designed to improve levels of happiness and well-being, we need to fully understand the mechanisms through which education impacts on these valuable outcomes. Of prime importance is the need for more robust empirical studies that provide evidence about effects of education, over and above mere associations.
34. A variety of studies provide clues to the mechanisms through which education impacts on happiness and well-being. These include studies which find negative or null associations between level of education and job satisfaction, studies which find negative or null associations between higher as opposed to intermediate levels of education and happiness and well-being and other studies that seek to identify the channels through which education affects happiness and well-being. Thorough comparisons of these existing studies and more quantitative studies of this kind, coupled with in-depth qualitative studies, all in a range of contexts, will enhance our understanding of the roles that education can play in promoting happiness and well-being.
35. Due to time constraints, we have not reviewed the evidence that concerns impacts of highest educational qualifications and continuing adult learning on all aspects of well-being, for example, satisfaction with marriage, social support, involvement with the community and housing. In addition, several of the aspects of well-being proposed by Ryff (1989) are not covered; positive relations with others, sense of self-determination and personal autonomy and an endeavour to find the meaning or purpose of life.
36. There is very little research on the impact of adult learning on happiness or well-being. Most of the evidence concerns years of education or highest qualifications achieved.
37. There is also little evidence on how changes in learning affect changes in well-being using large scale longitudinal datasets.
38. Most evidence on the benefits of learning on self-esteem and self-efficacy comes from well-designed qualitative studies examining the outcomes of participation in adult learning. There are far fewer quantitative studies using longitudinal data which examine the impacts of initial education on psychological well-being, which would provide evidence about the impacts of education on self-esteem and self-efficacy are long lasting.
39. What do we mean by well-being? Most studies based on economics focus on subjective well-being while those from psychology focus on psychological well-being. Very few studies differentiate between subjective well-being and psychological well-being and most studies simply refer to their findings as well-being. There is a need to develop a conceptual framework, which will enable us to synthesise research on well-being from different disciplines.
40. Is the impact of learning on psychological well-being short term or does it have long-lasting effects?
41. Is lifelong learning one of the important channels for the impact of highest educational qualifications on reducing the risk of depression?

4. Key Messages for the Inquiry

Message 1. The positive impacts of education on happiness and well-being

In general, having higher qualifications is associated with greater happiness, life satisfaction, self-esteem, self-efficacy, and reduced risk of depression. There is some robust evidence that having higher qualifications has positive effects on these outcomes.

Message 2. How education affects happiness and well-being

The positive effects of education on happiness and well-being result from a variety of intermediary processes, which probably include higher income, non-alienating work, household composition, health behaviours, use of health services, emotional resilience, social capabilities and, amongst older adults, better physical health.

Message 3. Effects of adult learning on self-esteem and self-efficacy

There is robust evidence that adult learning leads to increases in self-esteem and self-efficacy. Adult learning has its most positive impacts on self-esteem and self-efficacy when the learning provided meets the needs of the learner and when the learner is at a stage in their life when they are ready and receptive to benefit from it.

Message 4. Education may have negative effects on happiness and well-being

Associations between education and happiness and well-being are not always positive. Adults with higher qualifications report relatively low job satisfaction, and there is some evidence that adults with high-level qualifications are not much happier or resistant to depression than adults with qualifications at an intermediate level. Maybe education has negative as well as positive impacts, for example through raising aspirations and expectations that are not met and by leading to occupations that carry high levels of stress.

Message 5. Defining well-being

For purposes of measurement, 'well-being' should be defined clearly and consistently. Otherwise, (i) it is not possible to compare results across different studies when these studies focus on different aspects of well-being and (ii) research may mislead policy.

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