Health Impacts of Education
a review

IPH

Institute of Public Health in Ireland

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Foreword

The Institute of Public Health in Ireland (IPH) was established to promote cooperation for public health across the island of Ireland. It aims to improve health by working to combat health inequalities and influence public policy in favour of health.

One of the objectives of IPH is to provide clearly interpretable, easily accessible information on public health. In recognition that health is determined by social, economic and environmental circumstances, IPH has previously produced review documents focusing on the health impacts of transport, the health impacts of employment and the health impacts of the built environment. This review is the fourth in the series and illustrates how education impacts on health.

It shows how education influences health through a range of interconnecting pathways and identifies the ways in which social, economic and cultural differences within the population impact on the experience of and outcomes from education with subsequent implications for health.

This document is aimed at a wide audience, including policy-makers and practitioners in health and education and those working in the community. We hope it will help inform debate about the links between education and health and be a useful resource for those working to influence public policy for health at local and national level across the island.

Jane Wilde
Chief Executive
Institute of Public Health in Ireland

1. Introduction

1.1 A shared responsibility for health

People's opportunities for health are strongly influenced by the social and economic conditions in which they live. These opportunities are encapsulated in a social determinants approach to health which recognises that a broad range of factors at local, national and global level have important influences on health. As most of these factors are outside the direct responsibility of the healthcare sector, building greater awareness amongst the non-health sector of the impact of their policies and practices on health is vital in working to create better health.[1,2]

1.2 Education as a social determinant of health

Education is an important social determinant of health. For the population as a whole, greater levels of education help to create wealthier economies. However the benefits of education go far beyond economic ones. Education can impact positively on levels of social engagement, an important factor in generating more cohesive, safer and healthier societies. At an individual level, the knowledge, personal and social skills provided through education can better equip individuals to access and use information and services to maintain and improve their own and their family's health.

Improved understanding of the relationship between education and health will help to identify where intervention is most appropriate and effective in improving both individual and population health.

1.3 Inequalities in education and health

Access to and participation in the education system are prerequisites to achieving the health benefits that education can provide. While the percentage of the population across the island of Ireland participating in education for greater lengths of time has increased substantially over the last 20 years some groups within the population continue to be more disadvantaged educationally.

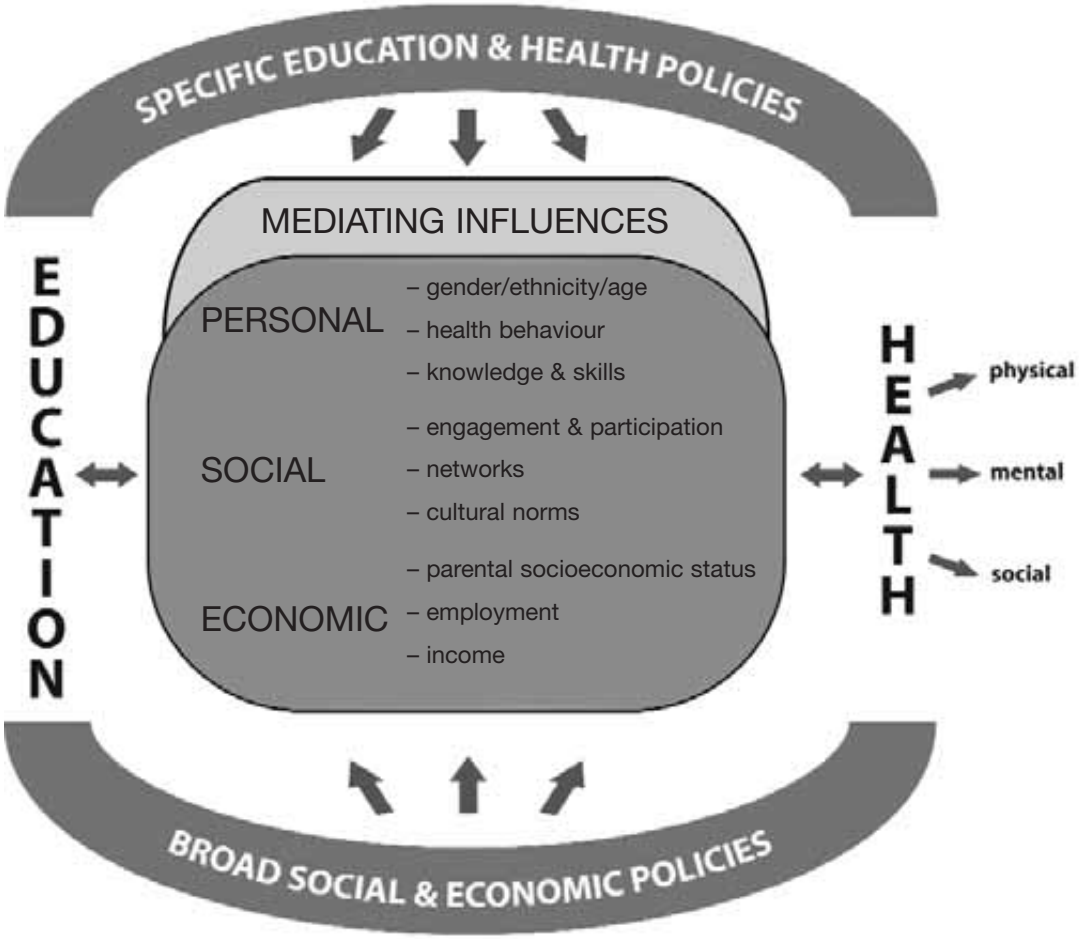
Many of the root causes of inequalities in education mirror those of health inequalities, a term used to describe the unfair distribution of health in society. Health is not experienced equally by all people; a strong social gradient exists between the average years of good health enjoyed by those in higher socioeconomic groups and those in lower groups.[3,4] Improving educational outcomes amongst the most disadvantaged groups has the potential to make a positive impact on health inequalities.

1.4 Research methodology

An initial scan of selected literature established a framework for this document and this was followed by a review of the international literature on the topics identified. A particular focus was placed on accessing relevant data and research from the Republic of Ireland and Northern Ireland.

1.5 Diagram showing links between education and health

The diagram below illustrates the relationship between education and health. It shows that education and health are influenced by broad social and economic policies as well as specific education and health policies. Personal, social and economic factors play a role in determining the health outcomes of education. The diagram also shows the interdependent nature of the relationship between education and health, indicated by two way arrows.



2. How education influences health

A substantial body of international evidence clearly shows that those with lower levels of education are more likely to die at a younger age and are at increased risk of poorer health throughout life than those with more education. Extensive research has been conducted to better understand the multiplicity of ways in which education influences health.

The first section in this chapter presents some findings from the literature on the health outcomes associated with education. These include differences in mortality and morbidity, health related behaviours and health knowledge between those with varying levels of education.

There are many similarities between the health status of those with lower education and those in lower socioeconomic groups. This is unsurprising as educational attainment strongly influences subsequent employment chances and earnings potential. In the second section, links between education, employment and income and their impact on health are considered. The health impacts of some other benefits of education including social and psychological resources are also explored.

The final section in this chapter illustrates how schools can promote healthier environments for both immediate and long term health improvement.

2.1 Health outcomes associated with education

A strong positive relationship exists between education and health outcomes whether measured by death rates (mortality), illness (morbidity), health behaviours or health knowledge.

Education, mortality and morbidity

A recent review of international literature conducted as part of the Organisation for Economic Cooperation and Development (OECD), Social Outcomes of Learning project, concluded that there is reasonably strong evidence of large effects of education on health.[5]

Associations between education and mortality are not new. One of the earliest studies to demonstrate higher mortality rates amongst lower educated groups was conducted on data from the 1960 United States National Longitudinal Mortality Study.[6] A later study found that, while life expectancy had increased for all between 1960 and 1980, the gap between those with highest and lowest education remained. The difference in life expectancy at age 25 between those with highest and those with lowest levels of education was 6 years for white men and 5 years for white women.[7] Subsequent research has suggested a causal effect between education and health.[8]

Cross country comparisons in Europe have produced similar findings. One study across 22 European countries found that overall, people with low education were more likely to report poor general health and functional limitations.[9] Low education level has been associated with increased risk of death from lung cancer[10], stroke[11], cardiovascular disease[12] and infectious diseases.[13] Associations have also been found between education and a range of illnesses including back pain[14], diabetes[15], asthma[16], dementia[17,18] and depression.[19]

Education can affect health in different ways at different stages of the life cycle. Level of education has been shown to have greater impact on mental health in younger age groups and physical functioning in older people.[20]

Education and health behaviours

Evidence suggests that those who achieve a higher level of educational attainment are more likely to engage in healthy behaviours and less likely to adopt unhealthy habits.[21] This is particularly true in relation to physical activity, diet, smoking and sexual activity. The relationship between alcohol consumption and education is less straightforward as different patterns are seen depending on whether drinking patterns or overall consumption is measured.

Physical activity

Being physically active every day contributes to personal, social and physical development and is recognised as one of the best ways to maintain and improve health. It is recommended that young people engage in moderate to vigorous amounts of physical activity for at least 60 minutes every day.[22]

Research indicates that those with more education are more likely to be physically active generally and more likely to participate in sports. In the UK, those with upper secondary level qualifications or above were found to be more likely to take part in regular exercise than those with lower qualifications.[23] A study of sports participation in Ireland found a similar pattern; those with lower second level education or less were five times less likely to play sport than those with third level education.[24]

Diet

Dietary guidelines recommend that grains, fruit and vegetables should form the base of a healthy diet while only small amounts of fats should be consumed.[25,26] Healthy dietary habits have been found to be associated with education level. Those with higher levels of education are likely to consume more fruit, vegetables and fibre and less fat than those with less education.[27,28]

Sexual activity

The likelihood of practising safe sex may also be education dependent. A study conducted amongst young adults in Ireland found that those with lower levels of education were more likely to have sexual intercourse at a younger age, were less likely to use regular contraception and were less well informed about sexually transmitted infections such as chlamydia.[29] Teenage births are more common amongst girls with less education.[30]

Substance use

There are clear links between the level of educational attainment and patterns of smoking. Those with higher levels of education are less likely to smoke and are more successful when attempting to quit.[31] One study found that those in the lowest educational group were eight times more likely to be smokers than those in the highest educational group.[32] Other research has shown a greater difference for men than women in cigarette consumption according to education level.[33]

With regard to alcohol consumption, a study conducted in Northern Ireland found that those with A level education or higher were more likely to drink alcohol than those with no qualification.[34] However patterns of drinking and binge drinking may vary by age and gender. In the UK, research has indicated that men with lower education levels are three times more likely to binge drink than those with higher levels and this does not vary by age group. However highly educated women are

more likely to binge drink in their 20's but curb the habit by the time they reach 40, with the opposite trend noted for women with fewer qualifications.[35] Cocaine use shows little variation by educational level[36], however correlation has been found between cannabis use and low level of education.[37,38,39]

Education and health knowledge

Those with more education are likely to have greater knowledge of health conditions and treatment regimens and have better self-management skills than those with less education. This has been found across a range of illnesses including HIV/AIDS[29], diabetes[40,41] and rheumatoid arthritis.[42] There is also evidence to suggest that those with more education have higher participation rates in prevention programmes such as cancer screening.[43,44]

Individuals with low educational levels are less likely to be knowledgeable about the health effects of smoking, particularly the effects of smoking during pregnancy.[45,46] A study of people categorised as obese found that those with lower literacy levels were less likely to believe they needed to lose weight or that to do so would be a health benefit.[47]

Health literacy has been defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions".[48] Limited health literacy is associated with increased health care costs, higher rates of hospitalisation and greater use of health care services.[49]

Parental education and child health

The educational level of parents can influence child and family health related behaviours. Studies have shown that the education level of mothers is likely to have a greater impact than that of fathers.[50] An association has been found between higher parental education level and increased likelihood of consuming a healthy diet.[51,52] Adolescents in families with low maternal education may also be more likely to use illegal drugs.[53] Parental education can also influence children's health care. A review of childhood vaccinations in the USA found that mothers with low or no qualifications were less likely to have their children vaccinated than those with higher qualifications.[54] However the reverse has been found with regard to the Measles Mumps Rubella vaccine (MMR) in the UK where there is a lower uptake of the single vaccine among children with a highly qualified mother.[55]

2.2 Routes to health through education

Education impacts on health through a number of interlinking routes which include material, psychosocial and behavioural factors.

Employment

Those with more years of education are more likely to be employed, which is better for health than being unemployed.[56] Unemployment rates are much higher among those with low levels of education. In 2007, 23.4% of 18-24 year olds in the Republic of Ireland with lower second level education or less were unemployed compared with the average in that age group of 8.4%.[57] Similarly, in Northern Ireland, the likelihood of being unemployed is strongly correlated with level of education as shown in Table 1.

Table 1: Unemployment in Northern Ireland according to education level [58]

	No qualifications	Level 1[1]	Level 2[2]	Level 3[3]	Level 4[4]
Unemployment	49.5%	19.7%	13.6%	7.7%	9.6%

Higher educational attainment is also associated with the potential to earn a higher income. Evidence suggests that an additional year of education can yield between 8 – 10% higher earnings per annum.[59] However, men and women may experience different rates of return. A Northern Ireland study found that women earned up to 12% more per year of education compared to 8% for men.[60] Furthermore, ethnicity may play a role in the capacity to earn a higher income. There is evidence to suggest that a Bangladeshi or Pakistani person living in the UK who holds a degree has the same risk of poverty as a white person with no qualifications.[61]

The type of work undertaken, the likelihood of encountering hazards and the physical work environment all influence health. Health can also be affected by the degree of control one has in the working environment as well as relationships with colleagues and management.[56] Those with higher educational attainment are more likely to work in a safer environment and report an increased likelihood of having fulfilling, subjectively rewarding jobs.[62,63,64]

1 Level 1: 1-4 GSCE, 1-4 'O' level passes, NVQ level 1, Foundation GNVQ or equivalents
2 Level 2: 5+ 'O' level passes, 5+ CSE (grade 1), 5+ GCSE (A-C grades), Senior Certificate, 1 'A' levels, 1-3 AS levels, Advanced Senior Certificate, NVQ level 2, Intermediate GNVQ or equivalents
3 Level 3: 2+ 'A' levels, 4+ AS levels, NVQ level 3, GNVQ Advanced or equivalents
4 Level 4: First degree, Higher degree, NVQ levels 4 and 5, HNC, HND

Social behaviours and attitudes

Education plays a crucial role in the socialisation process by supporting and embedding habits, skills and values conducive to social cooperation and increased participation in society. Those with higher levels of education are more likely to join voluntary associations and participate in community activities.[59,65] They are also more likely to show greater interest in politics and take part in political activities such as voting.[66] Higher educational attainment is associated with particular social attitudes such as greater understanding of diversity and commitment to equality of opportunities.[65,66,67] All of these factors contribute to increased levels of social capital which in turn is associated with better health.[68]

Social benefits of education are not limited to education received in childhood or adolescence. Participation in adult learning courses has also been shown to have a positive impact on civic participation.[69] In addition, institutions of higher education, adult learning and professional associations can foster networks of learning, enterprise and voluntary initiative.[69] An extensive social network can reduce the risk of dying, increase happiness levels and help to maintain mental health.[68,70,71]

Conversely there is an association between likelihood of spending time in prison and poor educational attainment. The Prison Adult Literacy Survey conducted in the Republic of Ireland found that 40% of prisoners had left school at age 14 or younger.[72] Research findings in the UK suggest that increased education may thus be seen as an effective intervention to reduce crime and improve social cohesion.[73,74]

Personal behaviours and attitudes

Education can contribute to psychological development through enhancing an individual's self-efficacy. It can also increase psychological resilience and improve coping mechanisms.[75] Those with higher education report a greater sense of control over their lives which in turn may lead to better health.[69,76,77] Education can have a lifelong impact on life satisfaction, with higher educated older adults more likely to demonstrate more positive psychosocial traits.[78]

Moreover education may increase the likelihood of identifying more closely with attitudes that improve health. Mixing in an environment where others have acquired specific cognitive and personal development skills can support positive attitudes towards health. Norms learned in the cultural setting of the school classroom can reinforce or modify perceptions.[79]

A number of explanations have been offered as to why people with more education are more likely to have better health related behaviours. In general, those with more education are likely to allocate more resources to health, but even where the amount allocated is the same, those with more education derive greater health benefits from this investment than those with less education.[80] Another proposition is that a person with more education has a greater incentive to reduce activities such as binge drinking and smoking that might limit earning capacities by causing ill health in the future.[81] It has also been suggested that education leads to a lower time preference for consumption in the present and a higher time preference for consumption in the future. Higher educated people are more likely to defer immediate gratification for more benefits in the future.[82,83] It is likely that all of these theories play some part in explaining links between education and health related behaviour and must be borne in mind when introducing policies or programmes aimed at improving health.

2.3 Supporting healthy behaviours and attitudes in the school environment

School settings can play a key role in promoting healthy behaviours and attitudes. The Health Promoting School (HPS) model, present in schools in more than 40 countries throughout Europe, adopts a framework which encompasses the curriculum, physical and social environments and the involvement of parents and the wider community. HPS aims to provide knowledge, information and skills to empower young people to make good decisions regarding their health at both primary and second level.[84] A pilot HPS initiative was led by the Health Promotion Agency in Northern Ireland from 2002–2006, and since then further information and guidance materials have been developed to support the development of healthy schools.[85] A similar initiative has taken place in the Republic of Ireland.[84]

Healthier behaviours and lifestyles can also be supported through the delivery of programmes such as Social, Personal and Health Education (in the Republic of Ireland) and Personal Development (in Northern Ireland). These programmes aim to support personal development, health and wellbeing and the development of supportive relationships. In the Republic of Ireland the Transition Year programme represents another opportunity to address health issues with an emphasis on the personal, social, educational and vocational development of students.[86] A number of health promotion packages are incorporated into these programmes which target specific areas such as drug use and sexual health.[87,88]

School counselling services play an important role in contributing to mental health and wellbeing of students. Furthermore there are a range of specific interventions in place around issues such as bullying and suicide prevention.[89,90]

Schools can provide opportunities for both pupils and staff to adopt and sustain healthy eating patterns. School meal schemes are in operation across the island although the practice is more widespread in Northern Ireland. These schemes allow children from disadvantaged backgrounds to obtain nutritious lunches and in some cases, breakfast.[91,92]

All school meals and other foods provided through tuck shops and vending machines are required to meet national nutritional standards in Northern Ireland.[93] In the Republic of Ireland, guidelines for healthy eating in schools have been produced by the Department of Health and Children.[91] Students also have the opportunity to develop practical skills in healthy food preparation through Home Economics. In addition, a range of other measures aim to embed healthy eating habits in young people and their families including; developing healthy eating recipe books and establishing healthy tuck shops. Fresh fruit in school initiatives have been particularly successful across the island of Ireland.[94,95]

Exercise habits established in childhood are a key indicator of levels of physical activity in adulthood.[96] While the majority of school children in Ireland participate in Physical Education (PE), the average amount of time allocated at primary school level has been found to be less than half the EU average. Across the EU, the average weekly allocation for PE in primary schools is 109 minutes compared to only 54 minutes in the Republic of Ireland.[97]

Walking or cycling to school can contribute significantly to levels of physical activity. It also instils an important habit of incorporating activity into everyday life, which has been found to be the most sustainable way of maintaining levels of activity. However the number of children walking or cycling to school is rapidly decreasing. In Northern Ireland the proportion of primary aged children walking to school has declined from 61% in 1994 to 50% in 2004.[98]

Table 2: Percentage of children walking or cycling to school in the Republic of Ireland[99]

Year	5-12 year olds	13-18 year olds
1986	49%	46%
2002	27%	29%

Distance is unlikely to be the main impediment to active means of travel. A survey of length of car journey to school or college in Dublin in 2002 found that more than half of all journeys were for distances less than two miles and 89% were for distances of five miles or less.[100]

Initiatives to promote active means of school travel include the Walking School Bus which is a group of children who walk together with an adult, meeting at designated points along the route to school and Bike It which supports schools to increase cycling activities for young people.[98,101]

The Extended Schools initiative in Northern Ireland, which operates as a partnership between schools and statutory and voluntary organisations in the community, aims to provide a range of services and activities during and beyond the school day, to help meet the needs of children, their families and the wider community.[102]

3. Education and health in Ireland

Access to and participation in education are prerequisites to achieving the health benefits that education can provide. While educational attainment has increased substantially in recent decades for the population as a whole, some groups continue to experience poorer educational outcomes. This chapter firstly presents information on educational outcomes across the island and then highlights issues of unequal participation in education. It then considers the measures in place throughout the education system, from pre-school through to third level and beyond, to redress such disadvantage.

3.1 Educational outcomes

Overall increases in education

Compulsory school attendance ceases at age 16 across the island of Ireland but many young people remain in education well beyond this. In Northern Ireland, 81.9% of 16-17 year olds were in full time education in 2006/07, while 46% of those aged 21 or less entered third level education during the same period.[103] In the Republic of Ireland, 86% of 17 year olds and 45% of 20 year olds were in full time education in 2006.[104]

The percentage of young people in Ireland with third level education is higher than the EU average. In 2007, 41.3% of the population aged 25-34 in the Republic of Ireland had third level education, compared with 29.1% across the EU 27 as a whole.[57]

Free second level education was introduced in the Republic of Ireland in the 1960's followed more recently by the abolition of fees for many third level students. Opportunities to participate in third level education have also widened in recent years.

The changing levels of education across the island are clearly illustrated in Tables 3 and 4 which show comparisons of educational attainment between younger and older people.

Table 3: Highest level of qualification by age group in Northern Ireland (2001)[105]

Qualification level	Age 25-44	Age 45-74
None	27.8%	66.1%
Lower level (1-3)	50.3%	21.6%
Higher level (4-5)	21.8%	12.3%

Table 4: Highest level of qualification by age group in the Republic of Ireland (2006) where full-time education has ceased[106]

Qualification level	Age 25-44	Age 45-74
Primary or less	5%	28.9%
Junior Certificate	18.9%	22.5%
Leaving Certificate	31.3%	23.8%
Non-degree third level	14.9%	7.5%
Degree or higher	26.6%	12.7%
Not stated	3.3%	4.6%

Poor literacy and numeracy skills

The International Adult Literacy Survey (IALS), conducted in the Republic of Ireland in 1994, found that 25% of people aged 16-64 scored at the lowest level of literacy (Level 1). The survey showed that early school leavers, older adults and the unemployed were more likely to be at risk of literacy difficulties than the general population.[107] A similar pattern can be seen in Northern Ireland where 24% of the working age population scored Level 1 in the IALS conducted in 1996. Literacy was strongly associated with education for the majority of those surveyed.[108]

Gender differences are also evident in the literacy levels of second level students in Northern Ireland with girls achieving higher rates than boys [109] which is also reflected at a European level.[110]

Early school leavers

Despite overall increases in the length of time spent at school, a significant minority continue to leave the education system with low or no formal qualifications. In the Republic of Ireland, the proportion of people aged 18-24 who left school with, at most, lower second level education was 12.3% in 2006.[57] In 2007, 3.9% of young people in Northern Ireland left school with no GCSEs[111] and approximately 10% of 20-29 year olds hold no educational qualifications.[112]

Socioeconomic status

Low family socioeconomic status can be a barrier to educational attainment throughout the lifespan, from pre-primary through compulsory schooling to higher education and beyond. It underlies many other factors which can contribute to poorer participation in education. For example, while poor health in childhood can affect the ability to learn or participate in education, further analysis suggests that experiencing ill-health in childhood impacts much more strongly on those from socioeconomically disadvantaged backgrounds.[113,114] Equally, geographical location may be a factor in educational disadvantage, but a study in Northern Ireland found that whilst lower educational attainment was observed in rural areas, this was linked primarily to socioeconomic disadvantage and not geographical location.[115] In other words a higher socioeconomic position can buffer the effects of childhood illness or geographical location on academic achievement.

Parental socioeconomic position is strongly associated with child educational attainment, with those from a lower socioeconomic background less likely to perform well academically.[116] The socioeconomic background of a child can even negate their natural academic ability. This has been demonstrated in a recent UK report which showed that by the age of seven, bright children from poor homes will be overtaken academically at school by less gifted pupils with wealthier parents.[117]

This intergenerational cycle of disadvantage is evident in Ireland. Table 5 shows the highest level of education attained amongst those aged 25-65 according to parental occupation in the Republic of Ireland and clearly illustrates a relationship between the two. For example, respondents whose parents had an elementary level occupation were much less likely to proceed to third level than those with parents in skilled, non-manual occupations.

Table 5: Highest level of education by by parental socioeconomic group in the Republic of Ireland 2005 [118]

Highest level of education achieved	Parental occupation				
	No occupation	Elementary occupation	Skilled manual	Low skilled non manual	High skilled non manual
Primary or lower	33.9%	36.8%	20.5%	12.5%	12.3%
Secondary	32.0%	45.7%	45.0%	36.2%	25.1%
Third level non-degree	15.5%	11.0%	23.2%	20.2%	23.3%
Third level degree	16.3%	4.7%	10.8%	30.7%	29%
Other	2.3%	1.7%	0.5%	0.5%	0.4%

Furthermore, students attending schools in designated areas of disadvantage may have poorer educational outcomes than the national average. Studies have found that 30% of children in disadvantaged primary schools suffer from severe literacy problems and up to 50% have some difficulties.[119] Similarly pupils in disadvantaged post-primary schools achieved lower reading literacy scores on average than those in non-designated schools.[120] While the gap is narrowing, notable differences remain in entry to third level education by socioeconomic group as illustrated in Table 6 below.

Table 6: Entry rates to higher education in the Republic of Ireland by socioeconomic group[121]

Year	Higher professional	Farmer	Employer/ Manager	Skilled manual	Semi & un-skilled manual
1998	100%	65%	65%	33%	22%
2004	100%	89%	65%	50%	33%

Entitlement to free school meals is used as a proxy measure for socioeconomic disadvantage in education in Northern Ireland. Table 7 illustrates the difference in educational attainment in 2004/05 according to this measure.

Table 7: Difference in educational attainment in Northern Ireland by socioeconomic status 2006/07[111]

Educational attainment	Students entitled to free school meals	Students not entitled to free school meals
No formal qualifications	6.1%	2.3%
5 GCSE pass grades or higher	14.9%	18.1%
Entry to Institutes of Higher or Further Education (2006/07)	47.6%	69.8%

In Northern Ireland an academic selection process may be undertaken at age 11 which determines whether children will transfer to grammar or secondary school. There is a marked difference in educational attainment between the two types of schools with students at grammar schools generally achieving a higher educational attainment. In 2006/07, 96% of grammar school students achieved five or more GCSEs (A*-C grade) compared with 45% of secondary school students.[123] Students entitled to free school meals are much more likely to transfer to a secondary school; only 7% of students in grammar schools were eligible compared to 28% in secondary schools in 2005/06.[124]

Gender differences

There has been a marked gender shift in educational attainment in recent decades. In Northern Ireland, more women than men over the age of 50 lack formal qualifications whilst the reverse is true for younger groups, highlighting the increased participation of women in the education system.[112] In 2007-08, 95.8% of girls aged 16-17 remained in an education setting in Northern Ireland compared to 89% of boys.[125]

In the Republic of Ireland, men and women are increasingly likely to attain at least upper second level education, however women continue to do so at a higher rate. This is illustrated in table 8 which shows the increase between 1992 and 2006 in the percentage of 20-24 year olds with at least a Leaving Certificate qualification. Girls are also consistently obtaining higher grades than boys at this level.[126]

Table 8: Percentage of students attaining Leaving Certificate qualification in the Republic of Ireland [127]

Gender	1992	1999	2006
Females	72.5%	85%	89.1%
Males	62.7%	79.1%	81.8%

A similar trend is seen at third level education. Men outnumbered women in Irish universities throughout the 1980's but in recent years, women have become the majority. Enrolment in the Republic of Ireland in 2003 was 58% to 42% in favour of women[126], while in Northern Ireland, women accounted for 60% of all students in higher education in 2006-07.[128]

Ethnicity and cultural background

There has been limited exploration in Ireland of differences in educational attainment according to ethnicity or cultural background. However the findings of a recent survey of school attendance amongst members of the Travelling Communities suggest that this is another area of inequality. Average attendance at second level education was less than 50% with only 7% of those surveyed achieving a 90% attendance rate.[129] This compares with a national average attendance rate in the Republic of Ireland for 2003-04 of 91.3%.[130] In Northern Ireland, only 24% of Travellers in Year 12 achieved five or more GCSEs (A*-G) in 2003/04 – 2004/05, compared to an average of 88% of all Year 12 pupils.[131]

Studies conducted in the USA indicate the potential scale of this issue amongst other ethnic groups. In 2000, only 52% of Hispanics completed high school, compared with 85% of non-Hispanic Whites. This gap continued through to higher education with only 10% of Hispanics obtaining a degree qualification compared to 27% of non-Hispanic Whites.[132]

3.2 Targeting educational disadvantage

The term educational disadvantage is used to describe a situation whereby individuals derive less benefit from the education system than their peers. Thus, even when children from poor backgrounds have access to the same education system as their more advantaged peers, they are unlikely to attain the same levels

of education. This suggests that interventions which work in isolation to improve the educational progress of children in poverty are unlikely to be effective; they need to be embedded in policies which tackle childhood poverty in a more comprehensive way.[133,134]

A range of education policies and initiatives have been introduced across the island of Ireland which seek to offset the effects of social disadvantage in education. These include measures which target schools with high numbers of children from low income families as well as population wide measures with specific supports for vulnerable individuals. A brief outline of such measures and relevant research is given below.

Pre-school

Research has shown that attendance at pre-school has a significant impact on cognitive levels which improves with greater length of attendance.[135] While beneficial for all children, those from disadvantaged backgrounds are even more likely to benefit. A study conducted in the Republic of Ireland more than 40 years ago demonstrated that disadvantaged children who attended pre-school were almost three times as likely to complete lower secondary education (Intermediate Certificate Examination) as those who did not attend.[136]

Through the Pre-School Education Expansion Programme in Northern Ireland, places are now available for over 90% of children in their immediate pre-school year.[137] Additionally, the Sure Start programme targets disadvantaged communities to provide childcare and support to parents.[138]

In the Republic of Ireland, a limited number of Early Start Programmes have been established which specifically target children most at risk of educational disadvantage.[139] More broadly, the Early Years Education Policy Unit, co-located with the Office for the Minister for Children and the Department of Education and Science, has overall responsibility for early childhood care and education.[140] The Centre for Early Childhood Development, established in 2002, seeks to increase awareness of the importance and opportunities for pre-school education for all children.[141]

First and second level

In Northern Ireland, the School Improvement Programme, launched in 1998, provides a comprehensive strategy to tackle low achievement and raise standards for all.[142] One of the strategies within this overall framework specifically targets literacy and numeracy in both first and second level schools and more recently attention has been specifically directed towards groups identified as disadvantaged.[143,144] The Entitled to Succeed programme coordinates a number of initiatives designed to raise standards in Northern Ireland schools.[145] A range of additional measures are in place to support particularly vulnerable groups.

Delivering Equality of Opportunity in Schools is an initiative in the Republic of Ireland which attempts to offset the effects of social disadvantage in education. Actions include a concentration on literacy and numeracy from an early stage and strong links between the home, school and community, strong links between schools working co-operatively, additional supports to help tackle early school leaving and added value from links between education and other services.[146] Initiatives such as Youthreach aim to support those particularly vulnerable to early school leaving.[147]

Third level

In the Republic of Ireland, the National Plan for Equity of Access to Higher Education sets a number of targets with regard to improving access for students from lower socioeconomic groups as well as other disadvantaged groups within the population.[121]

In Northern Ireland, Widening Participation seeks to increase the participation of those from disadvantaged backgrounds and students with learning difficulties and disabilities in higher education. The policy aims to ensure that those with the ability to benefit from higher education are given the opportunity to participate.[148] In recognition of the cost barrier to remaining in education, an Education Maintenance Allowance is available for young people aged 16-19 from low income households who remain in education or training.[149]

Adult education

Lifelong learning encompasses a range of adult education opportunities with a common aim of improving knowledge and skills. This has been strongly driven in recent years by the EU Lisbon Agenda and a move towards a Knowledge Society, which has increased interest and capacity in member states for further and higher education. In the Republic of Ireland, the National Skills Strategy[150] has set out a framework for upskilling of the workforce in line with this while, in Northern Ireland, Success through Skills: The Skills Strategy for Northern Ireland, outlines a partnership approach to deliver a long term approach to skills development.[151]

Back to Education Initiative is a programme coordinated by the Department of Education and Science which seeks to provide further opportunities for those who wish to return to education.[152]

For adults with literacy difficulties, the Department of Employment and Learning in Northern Ireland has launched Learning Works in response to the high level of literacy problems identified in the IALS. The initiative targets adults with literacy problems and provides a range of courses free of charge.[151] In the Republic of Ireland, the National Action Plan on Social Inclusion sets targets to reduce significant literacy difficulties and the National Adult Literacy Agency has responsibility for developing relevant programmes.[153]

4. Conclusion

The evidence in this review shows strong links between education and health. Greater levels of education can lead to:

- Improved chances of finding secure, well paid employment, with subsequent health benefits
- More opportunities for social development and enhanced social skills, with positive impacts for both the individual and wider community, and subsequently, for general health
- Greater likelihood of developing knowledge, attitudes and behaviours conducive to good health.

Education can also contribute to increased health inequalities by perpetuating cycles of intergenerational and socioeconomic disadvantage. Acting to ensure this does not happen requires strategic investment in education, an appreciation of the links between education and health and strong champions to support the role of education in contributing to a healthier society. This review concludes by identifying four areas which merit particular attention in pursuit of a healthier island:

- Addressing inequality
- A lifecourse perspective
- Cross jurisdictional learning
- Cooperation between education and health.

4.1 Addressing inequality

While it is clear that education benefits health, such benefits do not accrue equally to all population groups in society. A growing body of evidence documents the link between education and health inequalities. This review shows that young people from socioeconomically disadvantaged backgrounds and young people from some ethnic groups are less likely to gain health benefits from education. Overall girls are deriving greater benefits from education than boys.

In addressing these inequalities it must be borne in mind that many education initiatives and opportunities catering for all the population may result in additional benefit for the more advantaged. It is therefore essential that interventions concentrating on the most disadvantaged should be given priority. For example, the increasing numbers attending third level education may result in enormous benefit to some but only widen the education gap, with corresponding health consequences, between those who attend and those who do not. In the absence of effective education and social policy targeting such inequalities, education can contribute to social selection and reproduction of inequality. Selection procedures such as the 11+ in Northern Ireland, that screen at a population level for progression to particular aspects of the system clearly have the potential to perpetuate and exacerbate inequality. Therefore there needs to be investment and support for those who do not benefit from such procedures.

4.2 A lifecourse perspective

Virtually all the evidence points to positive effects on both educational and health outcomes of good pre-school and early years provision. The continuing development and evaluation of coordinated, good quality pre-school and early years provision is essential. Schemes for this age group that target disadvantage are particularly important to redress current inequality and bestow protective benefits.

Retaining as many of the school age population as possible in the education system is important to achieve benefits at population level. This review highlights a number of initiatives that put in place possibilities to re-engage with the system or provide alternative options for those who do not fully engage or drop out. Good quality initiatives of this kind have the potential to make a significant contribution to the health and wellbeing of vulnerable groups.

While there are many encouraging initiatives that allow ample opportunity to explore health issues in a direct manner, such as the Social Personal and Health Education, Personal Development and Transition Year Programmes, it is important to explore in further detail the impact of these programmes to ascertain which aspects are most effective.

Greater levels of participation at third level contribute enormously to economic and social opportunities and are welcome. However, care must be taken to ensure that this greater level of participation does not exacerbate inequality.

Whilst it has not been the focus of this review it is also clear that many adult learning schemes have a critical role to play in providing second chance, later chance and continuing opportunities to engage with education in a productive and worthwhile manner.

4.3 Cross jurisdictional learning

The unique situation of two systems within one island with a relatively small population means there are many opportunities for comparative cross border research studies, learning and cooperation which could lead to improved education and health on the island. Examples include the impact of providing school meals in Northern Ireland, the difference in the compulsory starting age within the two systems, and the relative merits of innovative programmes such as the Transition Year in the Republic of Ireland. To assess the impact of programmes and polices in each jurisdiction and make valuable cross jurisdictional comparisons, it is essential to have more data and information available on an all island basis. A forum to discuss such issues would be welcome. The North South Ministerial Council Education Sector Committee could support action in this area.

4.4 Cooperation between education and health

Given the large spill over effects between education and health it is important that policies in these areas are not looked at in isolation. Instead, a systematic and coordinated approach should be taken by the relevant government departments. By applying Health Impact Assessment to their policy-making process, departments can be supported in making better decisions for better health.

Alongside the benefits of all island cooperation, there are also advantages for the relevant departments within Northern Ireland and the Republic of Ireland to coordinate responses at policy level. Cross departmental approaches can provide better policy, better education, better health and more productive economies. This joined up approach makes particular sense for two departments who have so much to contribute to the health of the people on this island.

Appendix: Education systems in Ireland

Republic of Ireland

The Department of Education and Science is responsible for educational policy and administration of the education system from pre-school though to second level.

Education is compulsory in Ireland between the ages of 6 and 16. However 50% of 4 year olds and over 95% of 5 year olds attend school. Pre-school is provided for the majority of children aged 4 to 6 years in junior and senior infant classes in primary schools, which are financed by the Department. Provision under the age of 4 years is mainly provided by privately funded childcare facilities. A limited number of places are available on the Early Start Pre-school programme which is funded by the Department of Education and Science as part of its educational inclusion programme.

First level education commences at age 6 for a period of six years. Second level education commences at age 12. A three-year Junior Cycle ends with completing the Junior Certificate Examination at age 15-16. An optional Transition Year is offered by most schools after the Junior Certificate which focuses on work experience and other educational inputs which are free from formal examination. This is followed by a two year Senior Cycle leading to the Leaving Certificate Examinations taken at age 17-18. Further information is available on the Department of Education and Science website http://www.education.ie. The Department is also responsible for Further Education while Higher Education is coordinated by the Higher Education Authority.

Northern Ireland

The Department of Education is responsible for the overall coordination of education from pre-school through to second level. Whilst recent developments, particularly the Review of Public Administration, may lead to changes in administrative arrangements, functional responsibility currently lies with a number of agencies, primarily the five Education and Library Boards, together with the Council for Catholic Maintained Schools, Comhairle na Gaelscolaiochta and the Northern Ireland Council for Integrated Education.

Education is compulsory in Northern Ireland between the ages of 4 and 16. Pre-school is provided through a combination of nursery schools affiliated with a primary school and private day nurseries and playgroups. The Pre-School Education Expansion Programme introduced in 1998 aims to provide a free pre-school place to children in the year prior to commencing primary school. The programme provides opportunities for over 90% of all children to attend pre-school education free of charge and uptake has exceeded this level.

First level education commences at age 4, which makes Northern Ireland one of the earliest compulsory school starting ages in Europe. At age 11, students may undertake an academic selection process known as the Transfer Procedure which determines whether they will attend grammar or secondary school for their second level education. A five year curriculum ends with completing the General Certificate of Secondary Education (GCSE) examination at age 15-16. Some students will then proceed with a two year cycle leading to Advanced Level (A level) examinations taken at age 17-18. Further information is available on the Department of Education website http://www.deni.gov.uk. Further and Higher Education is the responsibility of the Department for Employment and Learning.

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