



# Literature Review Evaluating the Impact of PSHE on Students' Health, Wellbeing and Academic Attainment

A report for the PSHE Association

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## **About Pro Bono Economics**

Pro Bono Economics (PBE) helps charities and social enterprises understand and improve the impact and value of their work. Set up in 2009 by Martin Brookes (Tomorrow's People) and Andy Haldane (Bank of England), PBE matches professional economists who want to use their skills to volunteer with charities.

PBE has over 500 economists on its books and has helped over 300 charities large and small, covering a wide range of issues including education, employment, mental health and complex needs.

PBE is a charity and is supported by high-profile economists, including Andy Haldane (Bank of England) and Dave Ramsden (HM Treasury) as trustees, and Kate Barker, Lord Jim O'Neill, Robert Peston, Martin Wolf and Lord Adair Turner as patrons. Lord Gus O'Donnell joined the Board of Trustees as Chair in September 2016. Find out more at: [www.probonoeconomics.com](http://www.probonoeconomics.com).

## **About the PSHE Association**

The PSHE Association is the national body for personal, social, health and economic (PSHE) education, a non-statutory school curriculum subject in England.

The PSHE Association is a charity and membership body, supporting over 19,000 teachers and schools with advice, training and support on how to deliver high quality PSHE education. As well as producing a PSHE programme of study and other curriculum planning resources, the Association has produced guidance on behalf of the Government on aspects of PSHE education such as teaching about consent, mental health and body image. The Association also works with a range of corporate, public and voluntary sector partners to produce resources and improve PSHE provision in schools.

The PSHE Association leads the call for PSHE education to have equal (statutory) status with other curriculum subjects, so that all pupils in all schools can benefit from high quality, regular PSHE lessons taught by trained professionals. Find out more at [www.pshe-association.org.uk](http://www.pshe-association.org.uk).

## Foreword by Professor Diane Coyle



On behalf of Pro Bono Economics, of which I am trustee, I am delighted to introduce this report on the impact of personal, social, health and economic (PSHE) education on students' academic attainment, physical health, mental health and behaviour.

The report is a systematic literature review, analysing three types of literature, covering the UK and other countries, in order to identify impact. Andrew Barnard is an economic adviser at the Cabinet Office and undertook this review with other UK government economists Andrew Carey (Department for Transport), Amy Regan (Ministry of Justice), Justin Seth (Cabinet Office) and Ravi Sharma (Home Office). All parties volunteered their time and expertise in order to conduct this research and I would like to thank them for their hard work.

The review reached broadly positive conclusions. High-quality PSHE helps children develop skills and knowledge to be used throughout their lives, and supports their wellbeing. The wider implications of these lessons will be clear to most of us, and so it is concerning to see Ofsted highlight the lack of high quality provision in many schools. While there is an expectation that this subject should be provided in English schools (and in different forms in the UK's other nations as well as in other countries), data from the Department of Education showing that the time dedicated to PSHE has decreased since 2011. The lack of priority and resources given to this area may increase costs to the taxpayer in the longer term.

There are some gaps in the existing research, and it is of course hard to disentangle the effects of PSHE from other influences. Yet the results here show that high quality PSHE education benefits young people, and may be particularly helpful targeted at those from disadvantaged backgrounds.

The PSHE Association operates as both a charity and national body for PSHE education, representing and supporting teachers through guidance, training and resources. The Association wished to ascertain the potential impact of universal access to high quality PSHE for students, in all schools, particularly with regards to academic attainment.

This report summarises the positive impact on academic attainment, including through benefits to physical health, mental health and behaviour, all of which greatly affect students not just in the classroom, but continue to benefit them in their adult life. The value of this Pro Bono Economics report is to establish from the literature the evidence that PSHE is effective in these respects.

I hope, like me, you find the report engaging, informative and useful.

**Professor Diane Coyle, Trustee at Pro Bono Economics**

## Foreword by Professor Dame Alison Peacock



The health and emotional wellbeing of our children and young people is of great importance. This review draws upon evidence both nationally and internationally to examine academic and attendance outcomes related to social and emotional learning, bullying interventions, behaviour interventions, physical health and emotional well-being, relationships and sex education and drug and alcohol education.

Although recognition is given to the many competing factors that support or limit educational attainment the review concludes that PSHE has a positive impact on academic attainment both directly and indirectly. The authors call for further primary research into the impact of timetabled PSHE to support their finding from the literature that there is significant evidence to suggest that PSHE and related approaches impact positively on academic attainment.

This review is timely. School leaders and teachers are increasingly interested in responding to evidence about approaches to pedagogy, curriculum design and assessment. It is essential that we learn more about optimal ways of supporting the development of children and young people's capacity to learn and thrive.

**Professor Dame Alison Peacock, Chief Executive of the Chartered College of Teaching**

# PSHE Education: Literature Review

## Executive summary

1. Personal, Social, Health and Economic (PSHE) education is a school curriculum subject designed to develop the knowledge, skills and attributes students need to manage their lives, now and in the future. Evidence indicates that the quality of PSHE education varies and is often poor: a 2013 Ofsted review found that PSHE was inadequate in 40% of English schools.
2. PSHE education covers a range of topics, including many pressing issues facing young people today including: mental health, staying safe online, positive relationships, drugs, alcohol, challenging extremism, careers and financial literacy. The subject aims to have a positive impact on a number of outcomes for young people, including their physical and mental health, safety, careers, financial capability and economic wellbeing.
3. Owing to the scope of this report, it has not been possible to cover all aspects of PSHE education. For instance, the impact of economic and financial education as well as careers education and preparation for the workplace are not the focus of this study. This is not to undermine the importance of these aspects of PSHE learning and the evidence which supports them
4. This literature review focuses on the impact of PSHE on students' physical health, mental health, and behaviour. It also investigates evidence of how these improved outcomes may lead to an improvement in students' attendance and attainment. It was undertaken in 2016 and 2017 for the PSHE Association.
5. Three types of literature were reviewed: analysis of the effectiveness of PSHE-type interventions, those considering the direct links between outcomes but not in a PSHE education setting, and studies with analysis of both the direct links and PSHE-type studies (a logic map is presented in Annex A). We have included both UK-based and international studies.
6. PSHE education covers a number of topics: within the scope of this review we found significant international research covering social and emotional learning, bullying, behaviour, physical health and emotional well-being, relationships and sex education, and drugs and alcohol education. The literature suggests that PSHE and PSHE-type interventions have at least some positive effect on all of these outcomes. In summary:
  - a. **Social and Emotional Learning** has a significant positive impact on the academic achievement of students. To a lesser extent, there is some indication that it has a positive impact on attendance and truancy levels.
  - b. **Bullying** interventions have a significant positive impact on the academic achievements of students, but do not impact on attendance rates.
  - c. **Behaviour** interventions have a positive impact on academic attainment, even if some have a negligible impact on behaviour. Targeting reduced negative behaviour (and promoting pro-social behaviour) has a positive impact on behavioural outcomes and, in turn, academic attainment. The literature suggests the format and execution of the intervention is key to success.

- d. **Physical Health and Emotional Well-being** interventions can have a positive impact on academic attainment by enhancing the physical and mental health of students. However, the evidence for attendance was not as strong.
  - e. **Relationships and Sex Education** interventions can have a positive impact on teenage-pregnancy rates, and can, in turn, improve academic attainment. We found no literature covering the impact of such programmes on attendance or truancy rates.
  - f. **Drug and alcohol education** can enable young people to make healthier choices. However, it was difficult to draw conclusions in relation to academic attainment or attendance, particularly given the limitations to the evidence available.
7. The size of the impact of PSHE can be difficult to isolate from many other factors known to improve attainment and attendance (e.g. socio-economic background). This review considers two such factors: socio-economic background and differences in how PSHE is taught. We find that PSHE-type interventions may have a larger impact on students from disadvantaged backgrounds.
8. A lack of available studies means we have not been able to consider the wider question of the benefit of PSHE-type interventions as opposed to the same time being devoted to other subjects. Further research into this is necessary.
9. Overall, we found that PSHE-style interventions have been shown to have a significant positive effect on academic attainment and, to a lesser extent, attendance.

# Introduction

10. This review was undertaken in 2016 and 2017 by Andrew Barnard, Andrew Carey, Amy Regan, Justin Seth and Ravi Sharma via Pro Bono Economics for the PSHE Association. It aims to answer the following two questions:
  - a. Are PSHE-type interventions effective at impacting on key outcomes for children (as outlined and explored in the sections below)?
  - b. Do the outcomes directly impact children’s attendance and attainment?
11. Personal, Social, Health and Economic (PSHE) education is a school curriculum subject designed to develop the knowledge, skills and attributes students need to manage their lives, now and in the future. These skills and attributes can be applied to staying healthy, safe and prepared for life and work in modern Britain.
12. The PSHE Association is a UK-based charity and membership organisation that supports teachers of Personal, Social, Health and Economic (PSHE) education. It provides guidance, resources and training to schools in England<sup>1</sup> and promotes the delivery of PSHE. According to the PSHE Association (2014) PSHE education helps students to develop *“the knowledge, skills and attributes they need to thrive as individuals, family members and members of society, now and in the future”*.
13. As noted above, owing to the scope of this report, PSHE education covers a wide range of issues and it has not been possible to cover all aspects. For instance, the impact of economic and financial education as well as careers education and preparation for the workplace are not focus areas of this study. This is not to undermine the importance of this aspect of PSHE learning and the evidence which supports it.
14. Evidence indicates that the quality of PSHE education is patchy and that the time allocated to teaching it has fallen recently. A 2013 Ofsted review of PSHE provision in English schools found that teaching was inadequate in 40% of schools, while the House of Commons Education Committee stated in 2016/17 that PSHE provision was *“deteriorating”* because of its non-statutory curriculum status. Other evidence points towards reduced class time being allocated to PSHE: Department for Education Workforce Survey data suggests the proportion of school hours allocated to PSHE reduced by approximately 29% between 2011 and 2015.<sup>2</sup> The PSHE Association believes the inconsistent quality of PSHE provision and lack of time on the timetable is a serious issue as many children and young people will not be receiving an effective PSHE education.
15. We have developed a logic map (detailed in in **Annex A**), outlining the channels through which PSHE education is thought to influence children’s lives. The effects of PSHE are split into three causal steps: outcomes, short-term impacts and long-term impacts. This literature review examines the evidence base for the role of PSHE education in these steps:
  - a. The first step concerns *“outcomes”* resulting from PSHE education (whether or not they are the

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<sup>1</sup> PSHE is taught to students up to the age of 18 in participating schools.

<sup>2</sup> School Workforce in England Statistics, DfE



primary aims of PSHE education). These include improved physical and mental health, and behaviour.

- b. Outcomes lead to the second causal step: “short term impacts”. Those of interest in this review are attendance and academic attainment. For instance, improvements in outcomes such as physical health may improve attendance.
- c. The third causal step concerns “long-term impacts” such as labour market outcomes and improved life expectancy. These are beyond the scope of this study because of difficulties in their measurement and a lack of literature.

16. We aim to establish the effectiveness of PSHE-type interventions through answering these questions. To do this, three types of literature were reviewed in this study. The first focusses on the direct link between outcomes (e.g. bullying) and impacts (e.g. academic attainment). This literature does not explore PSHE type interventions, but is important in establishing how PSHE education’s intended outcomes are linked to impacts. For example, children who do not experience bullying may be expected to have higher attendance rates. The second set of literature examines the effectiveness of PSHE-type interventions on the above stated outcomes. For instance, if PSHE-type interventions targeting bullying result in reduced bullying, this can indirectly influence attendance rates. The third set covers both of the above.

17. Due to the limited number of UK-based studies directly looking at PSHE interventions we have included international studies in this literature review. Our inclusion criteria (also applied to UK-based studies) was:

- The intervention was directly **comparable** to some aspect of PSHE (e.g. targeting impacts such as a reduction in bullying);
- The intervention was **classroom based** (PSHE is taught in classrooms whilst some similar interventions are non-classroom based);
- A **control group** was used;
- The study was **published in English**, and not a working paper or thesis;
- The sample group contains only children **under the age of 18** (to ensure comparability with the scope of this paper).

18. An important point to consider is the alternative to PSHE-type interventions in school. This can be considered the baseline i.e. the reference point that reflects a curriculum without PSHE education. This is an essential starting point to help consider the potential benefits and costs of PSHE. The baseline is usually considered the ‘do nothing’ option. In this case, this would be the possible alternative use of the time allocated to PSHE. For instance, the alternative could be extra Maths or English classes. These extra classes would have specific and separate benefits and costs from that of PSHE classes. From our research we have not found any studies to establish such a baseline; in other words, no studies that compare the costs and benefits of PSHE to alternative subjects. This creates limitations, when considering improving academic attainment, in the extent to which it can be inferred that PSHE is a better use of class time when compared to an alternative.

19. The main body of this literature review is structured into two sections. Section one covers literature by theme: social and emotional learning; bullying; behaviour; physical health and emotional wellbeing; sex and relationship education; and drug and alcohol education. Section two details literature on the factors affecting the scale of impact, including social and economic variables. We then summarise our conclusions.

## Section 1: Thematic Analysis

20. This paper focuses on the PSHE education areas subject to significant international research: social and emotional learning; bullying; behaviour; physical health and emotional well-being; relationships and sex Education (RSE); and drugs and alcohol education. We judge these areas as most likely to hold lessons for the effectiveness of PSHE on improving academic attainment

### ***Social and Emotional Learning***

21. The Collaborative for Academic, Social, and Emotional Learning (CASEL) define social and emotional learning (SEL) as *“the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions”*.

22. As noted by Humphrey et al (2010), in a report for the Department for Education (DfE), SEL can be taught in school through either specifically set aside time or within PSHE time. We assess that all SEL literature is relevant to this review, whether the delivery is via PSHE-type courses or as distinct SEL lessons. This is based on the assumption that the content is sufficiently similar.

23. The link between emotional well-being and academic outcomes is established by Gutman and Vorhaus (2012). This paper, produced for the DfE, examines how various aspects of children’s well-being are associated with their educational outcomes. This is analysed using data from the Avon Longitudinal Study of Parents and Children (ALSPAC).<sup>3</sup> Primary sources of ALSPAC data collection include self-completion questionnaires for mothers administered during pregnancy and at regular intervals following the birth, assessments of children in a clinic-based setting, and questionnaires for the cohort members themselves. These sources could be viewed as a limitation: self-completion of questionnaires may lead to less robust results. The analysis of ALSPAC data investigates the association between aspects of well-being at ages 7 to 13 and later educational outcomes at ages 11 to 16, including academic achievement (measured by national exam scores) and school engagement (measured by levels of stimulation at school).

24. The analysis had three main findings. First, children with better emotional well-being make more progress in primary school and are more engaged in secondary school. Second, as children move through the school system, emotional and behavioural well-being become more important in explaining school engagement, while demographic and other characteristics become less important. Finally, focussing in particular on the link with academic achievement, the study found that children with higher levels of emotional, behavioural, social, and school well-being, on average, have higher levels of academic achievement and are more engaged in school, both concurrently and in later years. In particular, emotional, behavioural, social, and school well-being at ages 7, 10 and 13 are significantly associated with later academic achievement at Key Stage 2 (age 11), Key Stage 3 (age 14) and Key Stage 4 (age 16).

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<sup>3</sup> ALSPAC is an ongoing longitudinal study of families in Avon. Over 14,000 women enrolled in the study during pregnancy in 1991 and 1992.

25. Berger et al (2011), a Chilean study, also looks to establish the link between emotional well-being and academic achievement. This study used data on Chilean primary school students and found that socio-emotional variables (in particular students' self-esteem, as rated by their teachers) were associated with academic achievement. In addition, significant connections were found between all socio-emotional variables and academic achievement. School attendance was not considered. Although this study supports the findings in Gutman and Vorhaus, we note that inferences from this study must be tempered by its limited scope: it focuses on only one urban school area in Santiago, Chile. In addition, this study did not establish a causal link.
26. While Gutman and Vorhaus (2012) address the relationship between emotional well-being and attainment, they do not address whether SEL-type interventions are effective. Addressing this, Durlak et al (2011), an American study, presented findings from a global meta-analysis<sup>4</sup> of 213 school-based SEL programs involving 270,034 students from nursery to secondary school. The paper found that, in most instances, the SEL participants demonstrated significantly improved social and emotional skills, attitudes and behaviour. Most importantly, there was an improvement in academic performance that reflected an 11-percentage-point gain in achievement. The study did not look at the impact on school attendance or truancy rates.
27. Diekstra (2008), a Dutch study, provided similar conclusions to those in Durlak et al. The study included a literature review<sup>5</sup> and a meta-analysis. The literature review found that SEL interventions enhance students' social and emotional characteristics, reduce rates of problem behaviours and mental health issues, promote positive attitudes towards others and themselves and "significantly" enhance school grades and academic achievements. The meta-analysis<sup>6</sup> found that SEL programmes enhanced academic achievement. In addition, it found that the programmes promoted the overall development of students and helped avoid development problems. As with Durlak, the paper did not consider the impact on attendance or truancy.
28. When inferring conclusions in relation to PSHE education's effectiveness from Deikstra a couple of limitations must be noted: although all interventions are school-based, teacher led and universal, 8% of interventions also had community-based elements. Furthermore, a quarter of the studies reported programmes that also involved families. This suggests programmes may have had their positive effects augmented by aspects that are not available in the standard PSHE curriculum.
29. Further support for these findings is found in Payton et al. (2008) and Sklad et al (2012). The former, a review of the positive impact of social and emotional learning on children from 5 to 13 years<sup>7</sup>, summarised three scientific meta-analyses based on social and emotional learning. The review indicated multiple benefits, including improvement in students' positive social behaviour and fewer behavioural problems. Other outcomes included improved socio-emotional skills, improved attitudes about the self and others, and lower levels of

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<sup>4</sup> A meta-analysis is a statistical analysis that combines the results of multiple scientific studies. It creates a weighted average of the results of multiple studies, the objective being to reduce the risk of error in any one study.

<sup>5</sup> Comprising 19 meta-analyses published between 1997 and 2008 on SEL programme effects from hundreds of interventions and hundreds of thousands of participant children in primary and secondary education.

<sup>6</sup> Included 76 controlled studies of SEL programmes published in the period 1997-2007 across multiple countries.

<sup>7</sup> Based on 180 school-based studies involving 277,977 students.

emotional distress. Importantly, in addition to the positive behavioural outcomes from SEL, they also found significantly better academic performance based on school grades and achievement test scores. Similar results were found in Sklad et al (2012), a meta-analysis examining the effectiveness of school-based universal social, emotional, and behavioural programmes.<sup>8</sup> The results showed positive improvements in academic achievement.

30. While the preceding studies addressed only one of the two impacts under consideration (academic attainment), Catalano et al (2004), an American study, looks at both.<sup>9</sup> The study concluded that SEL-type programmes established improvements in interpersonal skills, quality of peer and adult relationships, academic achievement and also reported reductions in problem behaviours such as school misbehaviour and truancy. We note some limitations with this study: 3 of the 25 studies were not school based, and a number of the other studies included elements that were not classroom based.

31. Schoneld et al (2015) used a more targeted approach to establishing the effectiveness of SEL type programmes.<sup>10</sup> Overall, 24 primary schools were assigned to receive either the intervention curriculum (Promoting Alternative Thinking Strategies) or a curriculum that delivered few if any SEL topics. Students enrolled in the intervention schools demonstrated higher levels of basic proficiency in reading, writing, and maths at some grade levels. We note that this paper's conclusions ought to be construed narrowly – they look only at the outcomes in a high risk, urban school district in the USA. It is likely that the impact is larger in such areas than in the population in general (see Section 2). As such, one ought to be careful in arriving upon broader conclusions on the basis of this study alone.

32. Overall, the evidence suggests that PSHE-type SEL interventions have a positive impact on academic achievement. There is also some indication that these interventions have a positive impact on attendance and truancy levels (but less strong than for academic achievement).

## **Bullying**

33. There are a number of studies that look at the impact of PSHE-type interventions on bullying rates. The link between such programmes and PSHE is clear: they both focus on recognising and responding to bullying behaviour in its various guises.

34. Ttofi et al (2011) undertook a systematic review and meta-analysis of the effectiveness of anti-bullying programmes in schools.<sup>11</sup> The meta-analysis of 44 evaluations suggested that school-based anti-bullying programmes are effective: bullying decreased by an average of 20–23% and victimization decreased by 17–20%. We note that the method used to report bullying varied across the studies. In addition, while there are positive conclusions to be drawn here in relation to the impact that PSHE may have on bullying, it must also be

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<sup>8</sup> Comprised of 75 universal studies from 1995-2008, 35 of which focussed on anti-social behaviour and 10 on pro-social behaviour.

<sup>9</sup> Including a meta-analysis of 25 SEL-type intervention.

<sup>10</sup> This primary research used a cluster randomised trial method to evaluate the results of a SEL program on academic achievement among students attending a large, urban, high-risk school district in the USA.

<sup>11</sup> Studies were included if they evaluated anti-bullying programmes against a control group. Of the 53 different programme considered, 44 provided data that could be used to calculate the effect of bullying or victimization.

noted that the interventions here were not uniform – with some going beyond the classroom interventions offered by PSHE. Langford et al (2014)<sup>12</sup> had similar findings to Ttofi et al (2011). The paper reviewed 67 studies, 8 of which looked at violent behaviour and 10 of which were concerned with bullying. Anti-bullying interventions (with 26,256 participants) showed an average reduction of 17% in reported bullying.

35. Ttofi et al (2011) and Langford et al (2014) do not come to conclusions as to the impact of such interventions on academic performance or attendance. They do, however, help establish the first of the two causal steps: that school based interventions on bullying reduce bullying rates. The next stage is to link such reductions to improvements in the two relevant impacts (attendance and attainment).
36. Returning to Gutman and Vorhaus (2012), the paper also found that bullied children are less engaged in primary school, whereas those with positive friendships are more engaged in secondary school. This suggests a negative relationship between bullying and academic achievement. Brown et al (2008), a British study looked specifically at the link between bullying and academic attainment using a sample of individuals drawn from the British National Child Development Study (NCDS).<sup>13</sup> The NCDS contains respondents' experiences of bullying at school and family background information. In addition, the study traces individuals over a relatively long time horizon with interviews being conducted at ages 7, 11, 16, 23, 33 and 42<sup>14</sup>. The study suggests that school bullying has an adverse effect on human capital accumulation<sup>15</sup> both at and beyond school. Furthermore, the adverse influence of bullying on educational attainment remains during adulthood. In addition, being bullied at school influences wages received during adulthood as well as indirectly influencing wages via educational attainment. An interesting finding is that being a school bully has a larger impact upon educational attainment than being bullied. Conversely, being a victim of school bullying reduces earnings later in life, whilst there is no significant influence from being a bully. Hence, being a victim of bullying has longer lasting effects than for those who are the perpetrators of bullying. The study does not look at the impact on school attendance.
37. Glew et al (2003) looked at the impact of reduced bullying rates on academic performance and attendance using 2001-2002 school data. This study looked at primary school bullying and its association with school attendance, academic achievement, disciplinary actions, and self-reported feelings of sadness, safety, and belonging. The study found that 22% of children surveyed were involved in bullying either as a victim, bully, or both. Victims of bullying were more likely to have lower achievement than bystanders. Further, achievement scores for all bullying-involved groups were significantly lower than the scores of those not involved in bullying either as victims or perpetrators. A student with a 10% higher achievement score had 20% lower odds of being a victim. Attendance was not associated with bullying or being bullied. Further, being suspended or expelled, and being from low socio-economic backgrounds were not associated with involvement in bullying in any way.
38. Overall, it is therefore apparent that there is evidence to suggest that PSHE-type anti-bullying interventions

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<sup>12</sup> Conducted for the WHO Health Promoting School Network. All studies used self-reports of students' behaviours to assess violent behaviours and bullying behaviours.

<sup>13</sup> The NCDS is a British cohort study with a target sample of all GB children born between 3 and 9 March 1958.

<sup>14</sup> The NCDS asks the mother of each respondent whether their child is bullied by other children when the child is ages 7 and 11.

<sup>15</sup> The knowledge, habits, social and personality attributes (including creativity) embodied in the ability to work, usually reflected in the ease with which individuals can find employment and generate earnings.

have a positive impact on the academic achievements of students, but did not find evidence of any impact on attendance rates.

## **Behaviour**

39. Teaching about behaviour (in various forms) is intrinsic to most areas of PSHE. We focus on studies and meta-analyses involving behavioural interventions (e.g. where 'good behaviour' is complying with the rules as set out by the teacher), their effect on behavioural outcomes and the impact on attendance and attainment. Although the literature shows that education related to equality, diversity and dealing with discrimination and harassment are vital components of practical safe living, there is a lack of literature on the outcomes of this type of education in relation to academic attainment and school attendance. It is therefore deemed to be out of scope of this literature review.
40. There is a body of literature on the relationship between behaviour and academic outcomes. Algozzine et al (2011) found that there was a negative association between poor social behaviour and academic achievement. This, however, did not establish causality. Similarly, the paper did not consider the potential for interventions to impact upon behaviour. Gutman & Vorhaus (2012) also looked at impact of student behaviour and well-being on educational outcomes. This paper looked at how multiple dimensions of well-being are associated with educational outcomes. The results show that children with higher levels of emotional, behavioural, and social well-being tend to have higher levels of academic achievement and are more engaged in school (including in future years). Neither papers established causality nor considered the potential for interventions to impact upon behaviour.
41. Unlike Algozzine et al (2011) and Gutman & Vorhaus (2012), Beelmann & L'osel (2006) did look at the potential for interventions to impact upon behaviour. This paper looked at social skills training programmes focussed on crime prevention, specifically anti-social behaviour and social competence.<sup>16</sup> Their results show that there was a significant reduction in anti-social behaviour due to these interventions. Similarly, Wilson & Lipsey's (2007) meta-analysis, comprised of 249 studies, focussed on school-based interventions for aggressive and disruptive behaviour.<sup>17</sup> Their results showed an overall decrease in aggressive/disruptive behaviour from the 77 universal programs.
42. Despite establishing important links, the aforementioned papers did not look at the potential for interventions with a focus specifically on behaviour to affect academic attainment or school attendance. Sklad et al (2012) went further by investigating the potential for behaviour-based interventions to impact on academic attainment or school attendance. This paper found positive effects of such interventions on pro-social behaviour and a reduction in anti-social behaviour following intervention. On follow up (less than 6 months

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<sup>16</sup> It used a meta-analytic technique, comprised of 127 treatment and control groups involving over 16,500 young people (ages 0-18). The studies included reported outcomes in relation to antisocial behaviour (e.g. aggression, delinquency, disruption, or other antisocial behaviour) and/or data on social competence (e.g. social interaction skills).

<sup>17</sup> There were 77 universal programs (delivered in classroom settings to all the students in the classroom). The majority of the interventions within the universal programs were cognitive oriented (focused on changing thinking or cognitive skills) and social skills training (learning about social behaviour and appropriate social skills).

after the end of the intervention), results showed positive effects on all outcomes including pro-social behaviour, though the effect had decreased substantially compared to the immediate effects.<sup>18</sup> The results showed positive improvements in academic achievement immediately and on follow up (where it had the largest positive effect for all variables).

43. Also considering the potential for behavioural interventions to impact upon academic outcomes was a 2013 evaluation<sup>19</sup> by the Society for the Advancement of Philosophical Enquiry and Reflection in Education (SAPERE) of the Philosophy for Children<sup>20</sup> (P4C) programme. The process evaluation collected feedback from teachers and students. This feedback suggested that the programme had a beneficial impact on wider outcomes such as students' confidence to speak, patience when listening to others, and self-esteem. Some teachers also perceived that the programme had a positive impact on general classroom engagement and may have resulted in some students asking more questions across all lessons. The study found a positive impact on student attainment at Key Stage 2, equivalent to approximately two months' extra progress for reading and maths, but no clear benefit for writing.
44. Overall, we find evidence to indicate behaviour related interventions have a positive impact on academic attainment, although some interventions have a negligible impact on behaviour. The literature suggests that the format and execution of the intervention is key to its overall success. This indicates that classroom-based PSHE-type education delivering behaviour programmes (e.g. targeting reduced negative behaviour and promoting pro-social behaviour) have a positive impact on behavioural outcomes and, in turn, academic attainment. We found no literature covering the impact of behaviour programmes on attendance or truancy rates.

## ***Health and Well-being***

45. There is a body of research into the impact of childhood experiences and the implications these experiences can have on health and well-being into adulthood. Kelder et al (1994) found that the majority of evidence suggests attitudes, beliefs, and behaviours developed during the formative years persist into later life.
46. According to Langford et al (2014), relevant beliefs include opinions relating to smoking, physical activity, and food choices. It is therefore important that children are exposed to health and well-being education from an early age in order to develop healthy habits. Langford et al (2014) in their review for the World Health Organisation (WHO) found that health and well-being are inherently linked with educational attainment: healthy children achieve better results at school. This, in turn, is associated with improved health later in life. It would therefore seem important that this type of education is provided. Responsibility for the provision of health and well-being education falls to schools. They concluded that schools have the potential to powerfully influence children's health. They also concluded that there is a "strong link between children's health status

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<sup>18</sup> The exception was anti-social behaviour, which was actually shown to have an increased effect at follow up.

<sup>19</sup> The study design was a randomised control trial for Key Stage 2 students (Years 4 & 5) in 48 schools across England.

<sup>20</sup> P4C is an approach to teaching run by SAPERE where students participate in group dialogues focused on philosophical issues. The aim of P4C is to help children become more willing and able to ask questions, construct arguments and engage in reasoned discussion. Teachers were trained by SAPERE with two days of training and on-going support.

and their capacity to learn”.

47. Lynagh (1997) found that the creation of positive and healthy school environments can lead to improved health, well-being, and academic performance. Heckman (2006) summarised this in his statement that investment in the “formative years can prevent suffering, reduce inequity, create healthy and productive adults, and generally benefit wider society”.
48. This paper divides the rest of the literature review on health and well-being education into a number of sub-themes. Although the sub-themes are not exhaustive, we think they cover the main issues. The themes are: physical health and emotional well-being; relationships and sex education; and drug and alcohol education. This is reflected in the structure below.

### ***Physical Health and Emotional Well-being***

49. Emotional health and well-being relates to taught programmes which aim to support positive mental health as well as addressing a range of issues including depression and anxiety. Challen et al (2011) conducted a review into the UK Resilience Programme (UKRP).<sup>21</sup> The primary aim of the programme is to improve psychological well-being (e.g. prevention of adolescent depression). The authors found a significant short-term improvement in students’ depression symptom scores, school attendance rates, and academic attainment in English. They also found some limited positive impacts on anxiety scores and maths attainment. The study also concluded that interventions could have a positive impact on behaviour, attendance and academic outcomes.
50. The results from Challen et al (2011) suggested that the size of impacts varied by how workshops were organised. According to the authors this was a key factor in influencing the size of the impact of the intervention. For example, weekly workshops showed a larger impact than those timetabled fortnightly. They also found that the effect of the workshops lasted an average of one academic year, after which there was a reduction in impact (the impact for students who had not attained the national target levels in English or maths at Key Stage 2 was larger). At the two year follow up there were no signs of impacts on any of the outcomes.
51. The Institute of Education, University of London, conducted research exploring the relationship between obesity and educational attainment. A review by Caird et al (2011) at Evidence for Policy and Practice Information (EPPI) found a weak negative relationship between obesity and academic attainment, but found that the relationship did not hold when socio-economic background was taken into account. They suggested this indicates a lack of direct causal link between increased obesity and academic attainment, but thought there is an indirect link (e.g. obesity can lead to poor mental health, which is in turn associated with academic attainment). They also concluded that a scarcity of data meant they could not explore this link further.
52. Dobbins et al (2013) conducted a review into school-based exercise and fitness promoting physical activity programmes. The aim of the review was to summarise the evidence on how effective school-based

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<sup>21</sup> This is the UK implementation of the Penn Resiliency Program. It is a well-being programme and has been trialled more than 13 times in different settings. The UKRP was taught from September 2007 in three participating local authorities.



interventions were in improving the physical health and fitness of children and adolescents. The review found that these programmes had a positive effect on some outcomes. For example the interventions had positive effects on students' duration of physical exercise per day, time spent watching television and level of fitness. The review also found that students taking part in the intervention were three times more likely to engage in moderate to vigorous exercise during the school day, compared with students in the control group. The review concluded that there was no impact on older students (those over twelve years of age).

53. A review of the World Health Organization's (WHO) Health Promoting Schools (HPS) framework by Langford et al (2014) reviewed 67 trials, comprising 1345 schools and 98 districts. Their study found that PSHE-type interventions contributed to students' increased physical activity and fitness levels, improved fruit and vegetable consumption and decreased smoking. Furthermore, their results indicated that students taking part in the intervention were 3 times more likely to engage in moderate to vigorous exercise during the school day, compared with students in the control group.
54. The authors found relatively few studies focusing on substance use, sexual health or mental health. Therefore, more evidence would be required to draw conclusions on whether the HPS framework is effective for these outcomes. They concluded that this may be because studies focusing on physical activity or nutrition tended to be shorter in duration (12 months or less), while those focusing on substance use, mental health or sexual health tended to be of longer duration.
55. These limitations led Langford et al (2014) to conclude that the impact of a PSHE-type approach on health outcomes including alcohol and drug use, sexual health, and mental health was difficult to determine.<sup>22</sup> Further to this, given the data quality concerns, it was difficult for the authors to draw firm conclusions from the interventions on attendance and attainment. These concerns included the way in which studies were conducted, which may have introduced bias. For example, some studies relied on students' accounts of their own behaviours (rather than these being measured objectively) and high numbers of students dropping out of studies. Other issues surrounded the quality of reporting and insufficient detail. On balance, however, the authors found that there was currently little evidence to suggest that the interventions that target health and well-being are likely to cause harm to students.
56. Overall the majority of evidence found that more positive and healthy students (and their school environments) were more likely to lead to improved health, well-being, and academic performance, particularly during the formative years. However, the evidence for attendance was not as strong.

## ***Relationships and Sex Education***

57. Wellings et al (2016) examined the link between deprivation and conception rates, particularly in women younger than 18 years of age.<sup>23</sup> The authors were interested in whether investment from the UK government

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<sup>22</sup> The authors found little evidence to suggest that interventions targeting health and well-being cause harm to students.

<sup>23</sup> They conducted an observational study to examine changes in conception rates in women younger than 18 years old, using data from Britain's National Surveys of Sexual Attitudes and Lifestyles (NATSAL) for two periods: 1994–98 to 2009–13.

- into a “nationwide Teenage Pregnancy Strategy” was effective in its aim of reducing teenage pregnancy. The government intervention involved both social and educational aspects, of which some were classroom based.
58. The authors found that conception rates in women younger than 18 years declined steadily from their peak in 1996–98 and more rapidly from 2007 onwards. Their results showed an estimated reduction in the conception rate of 11.4 conceptions per 1000 women aged 15–17 years for every £100 Teenage Pregnancy Strategy spend per head; and a reduction of 8.2 conceptions after adjustment for socio-economic deprivation and region. In conclusion they found that more deprived areas, which received greater Teenage Pregnancy Strategy-related investment because they had higher rates of conception in 1994–98, showed greater declines to 2009–13. This was compared to less deprived areas, which had less investment, and showed relatively lower declines in conception.
59. The authors concluded that “sustained, multifaceted policy interventions” involving social and educational changes, most likely contributed to a substantial and accelerating decline in pregnancy in women aged under 18 in England since the late 1990s. Further to this, the authors suggest that there are other factors which are difficult to separate out; and which can in part be attributed with the decline in teenage pregnancy rates. These include increased educational attainment and other factors such as improved use of contraception. Interpreting the links between educational level, effective contraception, and early pregnancy is difficult because they are hard to distinguish. Wellings et al (2016) concluded that low educational attainment is both a cause and consequence of teenage pregnancy, thus the direct impact of PSHE-type interventions is difficult to establish.
60. Similar results were found by Oringanje et al. (2009). These authors also examined interventions aimed at reducing rates of teenage pregnancy. Interventions included health education, counselling, and skills building. Interventions were not limited to schools and were rolled out in communities and healthcare facilities. Therefore, the results are not directly comparable to PSHE, but are considered sufficiently similar for inclusion in this review. This review of school-based programmes found that multidimensional interventions, which included sex education, life skills and also promoted the use of contraception, led to reductions in unintended pregnancies. The results showed that relationships and sex-education in schools has resulted in a reduction in unwanted pregnancies. However, the authors were careful to point out the limitations to their paper, including: the paucity of the studies; and the variability in study populations, interventions and outcomes of trials included. They therefore found that drawing any definitive conclusions was difficult.
61. Overall the evidence for this section would suggest that PSHE-type interventions can have a positive impact on teenage-pregnancy rates, perhaps through increased information and knowledge on contraception through sex education. This indicates that classroom-based PSHE-type education delivering sex education programmes (e.g. targeting increased knowledge around contraception) have a positive impact on behavioural outcomes and, in turn, can also improve academic attainment as a result of a decline in teenage pregnancy rates. We found no literature covering the impact of behaviour programmes on attendance or truancy rates.

## ***Drug and alcohol education***

62. Foxcroft et al (2011), is a review of universal school and family based, multi-component prevention programmes aimed at preventing alcohol misuse in young people.<sup>24</sup> Overall the authors concluded that the inferences that could be drawn from the results were limited because the reporting quality of trials was poor, data sets were incomplete and the interventions used were very different. Whilst there were significant positive effects, they concluded it was difficult to distinguish the cause. In addition, the interventions included a family element and were thus not directly comparable to PSHE.
63. Faggiano et al (2014) conducted research into how effective school based interventions were in deterring alcohol and drug misuse. They used a total of 51 studies, some of which had a 'social competence'<sup>25</sup> approach, while others had a curriculum based approach.<sup>26</sup> These interventions were compared to standard curriculum activities in order to indicate which was more effective. Overall, the authors reported the evidence was largely inconclusive, but suggested that drugs and alcohol education can enable young people to make healthier choices. This impact has been evidenced on smoking, drug use and alcohol habits. There were no conclusions in relation to academic attainment or attendance as these impacts were not considered.
64. A National Foundation for Educational Research Review (NFER) by Martin et al (2013)<sup>27</sup> examined the effect of life skills training and alcohol education on alcohol based outcomes. The review found that initiatives reduced alcohol consumption frequency and misuse, but the effect on changing attitudes was inconclusive. The authors therefore concluded that the results were inconclusive: it was unclear how effective alcohol education and life-skills programmes were. There was some evidence to suggest initiatives improved students' knowledge on alcohol and alcohol related issues. While it was unclear how life skills programmes enhanced students' knowledge, the review found that the most effective programmes were those which equipped teachers with the necessary delivery skills and engaged with parents and external professionals to deliver the programme and impart alcohol related knowledge on students.
65. According to Mentor<sup>28</sup> (2011), drug education programmes in schools can have a positive impact on young people's drug and alcohol consumption. They found that the most successful interventions were those which included life-skills training. They found several limitations to this finding, which included the delivery of these programmes: if these programmes were not completed then they were limited in their impact. The authors suggested that this, in turn, may be a teaching problem in that there was not sufficient resource or time

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<sup>24</sup> The review included 53 randomised trials comparing interventions such as sex education against a control group. The results found that 6 out of 11 trials aimed at evaluating alcohol-specific interventions indicated that there was some evidence that the interventions were more effective in comparison to the standard curriculum. In 14 of the 39 trials evaluating generic interventions, the programme interventions demonstrated significantly greater reductions in alcohol use. Results from the three remaining trials where the interventions were aimed at targeting cannabis, alcohol and or tobacco were inconsistent.

<sup>25</sup> This is the belief that children learn through modelled behaviour (e.g. through imitation attitudes) and this approach teaches self-management skills as well as other social and personal skills. The idea is that children with poor social skills are more susceptible to being influenced to (e.g. take drugs) according to Griffin (2010).

<sup>26</sup> The curriculum based interventions were mainly delivered to 12 and 13 year olds. The interventions lasted various lengths of time, but were all approximately one year. The authors found that interventions directed at combating alcohol and drug misuse should either focus on reducing the first use or focus on stopping the shift from experimental use to addiction.

<sup>27</sup> A National Foundation for Educational Research Review (NFER).

<sup>28</sup> A drug and alcohol prevention charity.

dedicated to this; or potentially that programme designers had not appropriately designed the programmes.

66. Overall the evidence would suggest that increased knowledge around drug and alcohol education could enable young people to make healthier choices. This impact has been evidenced on through improved smoking, drug use and alcohol habits. However, it was difficult to draw conclusions in relation to academic attainment or attendance, particularly given the limitations to the evidence available.

## Section 2: Factors Affecting Scale of Impacts

67. The section above has established that PSHE-type interventions can have a positive impact on students' academic attainment and attendance. Despite this, the size of the impact of PSHE is often difficult to isolate from other factors that are known to improve attainment and attendance, such as the child's home learning environment, socio-economic background, early years' education, prior academic attainment, teacher quality, and physical and mental health.
68. Studies also highlight the wide range of factors that can affect the scale of PSHE-type education effectiveness. There is a large range of factors which may have such a 'scale impact'. The coverage here is far from exhaustive; rather this review considers only two such factors: socio-economic background and school/classroom variables. There are a number of other factors which we wanted to consider (including gender, age<sup>29</sup> and location) but could not due to lack of literature: they were not singled out as scale factors and were not within the control of the school, or the student. Finally, we found a more general trend: where a targeted behaviour is worse, the scale of the impact is larger.<sup>30</sup>

### ***Socio-Economic Background***

69. A body of literature shows that socio-economic background is an important indicator of educational outcomes. Gregg et al (2010) found that only around 75% of children in the poorest fifth of society in the UK gain the 'expected' Key Stage 2 results compared to 97% of the richest fifth. This finding is reflected in the literature on PSHE-type interventions, where socio-economic background is highlighted as an important 'scale factor'.
70. As outlined in the SEL section above, Schoneld et al (2015) evaluated the results of a US-based SEL programme on academic achievement. Students enrolled in intervention schools demonstrated higher levels of basic proficiency in reading, writing, and maths at some (but not all) grade levels. This finding is important, and led the authors to conclude that "*Collectively, these findings indicated that social development instruction may be a promising approach to promote acquisition of academic proficiency, especially among youth attending high-risk school settings*". This is an indication that PSHE-type interventions may be more effective in raising academic attainment when undertaken in schools where students are predominantly from lower socio-economic strata – which may in turn be a proxy for the home learning environment – i.e. the nature of parenting experienced. This conclusion is, however, limited by the fact that the intervention did not include children in more advantaged areas. In other words, the intervention was targeted at children from disadvantaged backgrounds and its effectiveness was not measured against children from more advantaged areas. Thus, the inference that we may draw in relation to scale effects for socio-economic factors is limited.
71. McCormick et al (2015) tested the hypothesis that improvements in classroom social processes (in particular

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<sup>29</sup> Though note that Wilson & Lipsey (2007) found that younger students showed larger effects from the intervention than older students

<sup>30</sup> See, for instance, Wilson & Lipsey (2007), a paper on school-based interventions for aggressive and disruptive behaviour. Their results show a significant difference between the control and treatment groups and an overall decrease in aggressive/disruptive behaviour, which can have practical significance to students in schools which implement such programs. Importantly, they found that effects of a decrease in aggressive/disruptive behaviour were larger for those students currently at higher risk of aggressive behaviour.

emotional support and teaching) have a positive impact on academic outcomes. They found that SEL has a particularly positive impact on maths skills in low-income urban primary schools. This also reflects the findings of a range of earlier literature (Crosnoe et al., 2010; Hughes, 2011; McCormick et al., 2013; Spilt, Hughes, Wu, & Kwok, 2012). This is an important finding given the strong links between early maths skills and later achievement (Duncan et al., 2007). McCormick et al (2015) suggest that the effect on maths may reflect the fact that children who are in positive and safe school environments are more comfortable taking the types of cognitive risks (e.g., possibility of failure) necessary to learn new maths skills in first grade (Curby, Rimm-Kaufman, & Ponitz, 2009). Unlike Schoneld et al (2015), this study does not focus exclusively on those from disadvantaged socio-economic backgrounds, and thus is not vulnerable to the same criticism.

72. Challen et al (2011), detailed in the Physical Health and Emotional Well-being section above, found that the intervention under consideration led to significant short-term improvements in students' depression symptom scores, school attendance rates, and academic attainment in English. This impact varied by student characteristics: the impact was larger for students entitled to free school meals (a proxy for social disadvantage), those who had not attained national targets in English or Maths at Key Stage 2, and those with worse initial symptoms of depression or anxiety. They were all more likely to experience a larger impact as a result of the workshops on their depression and anxiety scores. However, there was little difference by student characteristics on the attendance rates.

73. The evaluation undertaken by SAPERE of P4C programme in 2013 (detailed in the Behaviour section above) found that the programme had a beneficial impact on outcomes such as students' confidence to speak, patience when listening to others, and self-esteem. Linked to McCormick et al (2015), this finding would suggest that PSHE-type interventions can build interpersonal skills, such as confidence, which can enable greater risk taking in class and therefore greater learning opportunities. The evaluation also established a positive impact on student attainment at Key Stage 2, equivalent to approximately two months' extra progress for reading and maths. There was no clear benefit for writing. Importantly, these benefits were found to be greater for students known to be eligible for free school meals (i.e. those from socially disadvantaged backgrounds).

74. In conclusion, a number of studies suggest that socio-economic background is an important 'scale factor'. In particular, the evidence suggests that PSHE-type interventions may have a larger impact when targeted at students from disadvantaged backgrounds (noting that there may also have been a positive impact on students from other backgrounds).

### ***School and class characteristics (i.e. how it is taught)***

75. A body of literature suggests the impact of PSHE is not only affected by the students' characteristics but also by the school environment and how it is taught. This section examines literature that could provide insight into the impact that school and class level effects might have on the effectiveness of PSHE, and wider SEL, programmes.

76. Banerjee et al. (2010) found that the school ethos, i.e. school philosophies and attitudes towards PSHE-type interventions and education in general, are important influences on the effectiveness of PSHE-type interventions. The authors used information taken from anonymous surveys from both students and staff and other information acquired from visits by regional advisors. Their aim was to quantify the effectiveness of both a 'whole-school'<sup>31</sup> SEL implementation approach and a school's 'ethos' in determining several outcomes. The outcomes include attainment, absence rates and OFSTED ratings.
77. Overall, the association between the perceived level of a whole-school approach, school ethos and the three outcomes were significant. A whole school approach was found to be a strong predictor of improved school ethos. They also found a strongly negative relationship between a whole-school approach and 'persistent absence'/attainment, suggesting that as a whole school approach improved absence rates fell.
78. Further to the importance of a whole-school approach, and the school's general outlook on PSHE-type education, Challen et al (2011) found that the method used to run and organise interventions was important to outcomes and impacts. They found significant short-term improvements in students' depression symptom scores, school attendance rates, and academic attainment in English. They also found some positive impact on anxiety scores and maths attainment, but reported that this was variable and only observed for a few groups of students. The authors concluded that the size of the impact varied by how workshops were organised. For example, weekly workshops showed a larger impact than those timetabled fortnightly. On average the authors found the effect of workshops lasted until the end of the academic year, but some groups (particularly for students who had not attained the national target levels in English or maths at Key Stage 2) showed greater signs of the impact after a year. There were no signs of impacts on any of the outcomes after two years.
79. The NFER report by Martin et al (2013) found that resources and equipping teachers with the skills and knowledge they need to deliver the programme were important. They also found that having engagement from a wide group of stakeholders that are involved in a student's life is important in determining the impact of the interventions. The main results of their research, which have already been detailed above, found that life skills education had positive effects on alcohol related outcomes including reduced alcohol consumption frequency, reduced alcohol misuse and increased student knowledge. While it was unclear how life skills programmes enhanced students' knowledge, the reviewers found that the most effective programmes were those which: equipped teachers with the skills to deliver the programme; engaged with parents and other carers; and engaged with external professionals.
80. We have also found literature that reports that the type of programme undertaken influences the scale of impact. Wilson and Lipsey (2007) noted that universal programmes (i.e. those delivered to all students whether or not displaying problematic behaviour) showed the greatest positive impact to students from economically disadvantaged backgrounds. They contrasted this with the impact of targeted programmes, which showed the

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<sup>31</sup> A 'whole school' approach is where the programme is implemented with engagement of families and communities, regular development opportunities for staff around SEL, enhanced staff engagement and improved data collection in order to track progress. High school 'ethos' refers broadly to positive social relationships, attitudes and behaviours.

largest effect for students already exhibiting problematic behaviours.

81. We conclude that there are many factors which impact the effectiveness of PSHE-type interventions, and these factors may not be limited to the ones mentioned above. In assessing any PSHE-type interventions, these factors must be given consideration before reaching an overall conclusion. Similarly, these factors should be taken into consideration during the initial design and roll out of any such programme.



## Conclusion

82. We were asked by the PSHE Association to look at whether literature on certain elements of PSHE education show a positive effect on school attendance and academic attainment (we note these are not the primary objectives of PSHE). As this paper highlights (and outlined in Annex A) attendance and attainment are affected through 'outcomes' such as improved behaviour. We initially looked for studies into PSHE education and then, owing to the lack of relevant papers, expanded into international reviews of PSHE-type interventions.
83. We were asked if PSHE-type interventions are effective at impacting on key outcomes for children (e.g. measures of physical health). This review has found that there is significant evidence to suggest that, in many instances, PSHE and PSHE-type interventions can have a positive effect on such outcomes. The key PSHE-related themes that emerged from the literature were: social and emotional learning; bullying; behaviour; emotional and physical health and wellbeing; relationships and sex; and alcohol and drug addiction.
84. We were also asked if these outcomes directly impact children's attendance and attainment. We found evidence to suggest that the outcomes are likely to have a significant positive effect on academic attainment; and, to a lesser extent, attendance. However, as illustrated in the Scale Impact section, the effect varies according to a number of factors. For example, we found that the impact of some interventions is stronger in more disadvantaged areas.
85. Whilst the literature suggests PSHE education is effective in boosting academic attainment, we note a number of limitations to this finding. Most of the papers included within this review have been interventions from outside of the UK and are thus not identical in nature to PSHE. Our assumption has been that the international interventions are sufficiently similar to PSHE, but this remains an important caveat. We also found evidence that PSHE-type interventions boost academic attainment (and to a lesser extent attendance), but we cannot say that PSHE does this to a greater extent than the alternative use of time (e.g. time spent in a mathematics class). Similarly, we have not assessed whether the money spent on PSHE is the most cost effective way of enhancing academic and attendance outcomes.
86. Overall, despite these caveats and limitations, we conclude that PSHE has a positive impact upon academic attainment. The evidence in the literature suggests that the positive impact on academic attainment is both a direct and an indirect result of PSHE-type interventions. The direct link has been explored to a lesser extent in this paper because there is limited literature available, largely due to the fact that it is very difficult to assign causality from PSHE-type interventions to better academic attainment. As a result, this paper has focused instead on the indirect link from PSHE-type intervention to academic attainment via various outcomes.
87. The outcomes focused on in this paper have been explored in detail in Section 1, and include: social and emotional learning, bullying, physical and emotional health, drugs and alcohol education, and relationships and sex education. From our review of the literature on the indirect links, there is very strong evidence to suggest that there is a positive indirect impact of PSHE-type intervention on academic attainment. For instance, a PSHE-type intervention can create an environment where students feel able to take cognitive risks, and

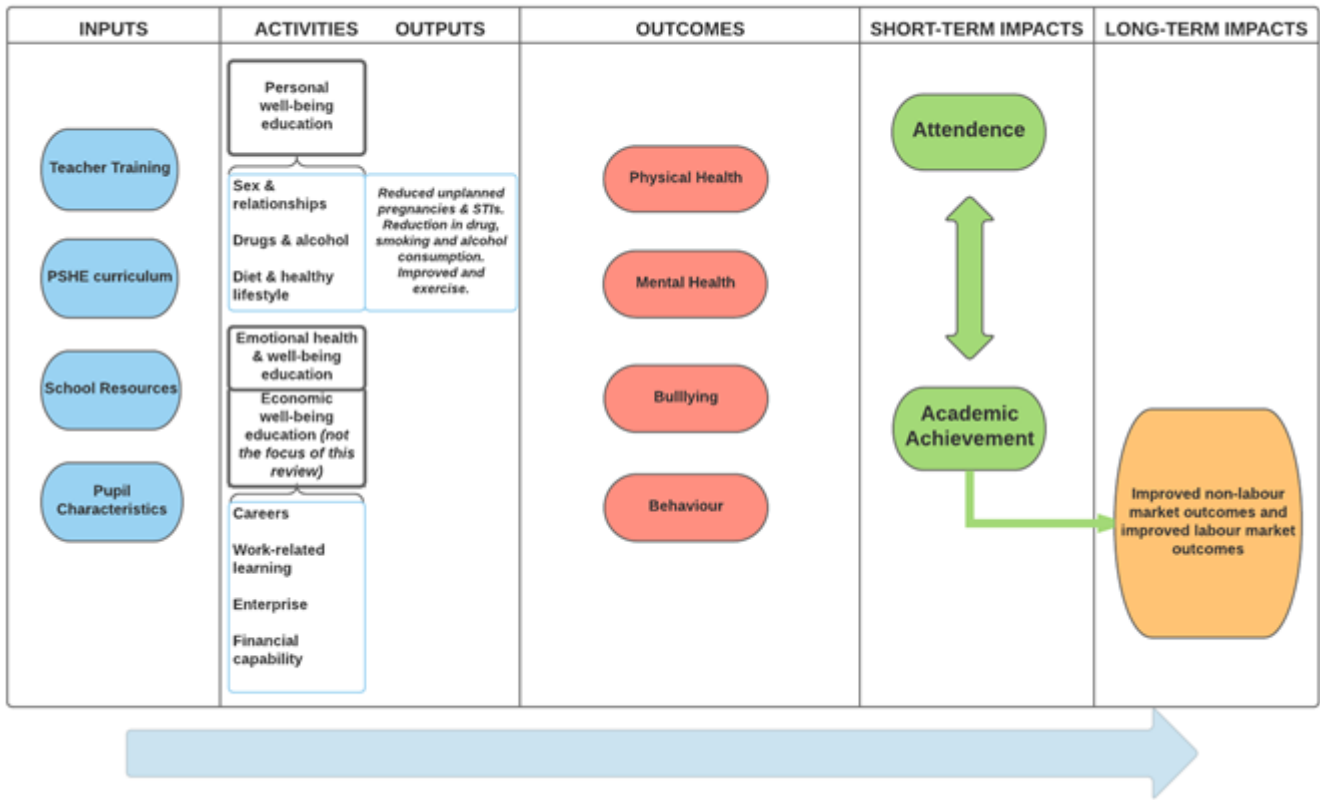
therefore facilitate greater learning opportunities. These greater learning opportunities may lead to greater academic attainment.

88. Whilst there is less evidence on the impacts of PSHE-type interventions on attendance, we have found that there is at the very least evidence to suggest some positive impact on attendance.

89. On balance, on the basis of the evidence we have reviewed, we conclude that PSHE-type interventions have a positive impact on both academic attainment and attendance. These effects vary and are a result of both direct and indirect links, as explained above. Given that this is a literature review and we have not conducted any primary research we would recommend that further research into the relative merits of PSHE as opposed to alternative class time usage would be necessary in order to conclude, with any certainty, that PSHE is either a better or worse use of time and money if looking to improve attendance and academic attainment.

# Annex A: PSHE Logic Map

PSHE LOGIC MAP



## Annex B: Nesta Levels Description

The objective of developing Standards of Evidence is to help us know how confident we can be in the evidence provided to show that an intervention is having a positive impact. The aim of the standards of evidence is to find alignment with academically recognised levels of rigour, whilst managing to ensure impact measurement is appropriate to the stage of development of a variety of different products, services and programmes. Nesta Standards of Evidence are on a 1 to 5 scale, with Level 1 being the minimum requirement that would be expected, all the way to Level 5 where the evidence should demonstrate that the product or the service can be delivered at multiple locations and still deliver a strong impact.

<b>Level 1</b>	<b>Our Expectation</b>	<b>How the evidence can be generated</b>
1	You can give an account of impact. By this we mean providing a logical reason, or set of reasons, for why your intervention could have an impact and why that would be an improvement on the current situation.	You should be able to do this yourself, and draw upon existing data and research from other sources.
2	You are gathering data that shows some change amongst those receiving or using your intervention.	At this stage data can begin to show effect but it will not evidence direct causality.
3	You can demonstrate that your intervention is causing the impact, by showing less impact amongst those who don't receive the product / service	We will consider robust methods using a control group that begin to isolate the impact. Random selection of participants strengthens your evidence, you will need a sufficiently large sample at hand
4	You are able to explain how and why your intervention is having the impact you observed and evidenced so far. An independent evaluation validates the impact.	At this stage we are looking for a robust independent evaluation that investigates the nature of the impact.
5	You can show that your intervention could be operated by someone else and scaled up, whilst continuing to have a positive direct impact on the outcome.	We expect to see use of methods like multiple replication evaluations; future scenario analysis; fidelity evaluation.

\*Nesta Scores source: NESTA Score [http://www.nesta.org.uk/sites/default/files/standards\\_of\\_evidence.pdf](http://www.nesta.org.uk/sites/default/files/standards_of_evidence.pdf)

## Annex C: Nesta Scores for Papers included in the Review

Source	Nesta Score	Description of Sample	Control Group	Methodology	Outcome/Results
Beelmann & L'osel (2006)	3	127 treatment and control groups involving over 16,500 young people (ages 0-18).	Yes	Meta-analysis technique on studies reporting outcomes in relation to antisocial behaviour (e.g. aggression, delinquency, disruption, or other antisocial behaviour) and/or data on social competence (e.g. social interaction skills).	A significant reduction in anti-social behaviour due to these interventions.
Wilson & Lipsey's (2007)	3	249 studies including 77 universal programs.	Yes	Meta-analysis technique on studies focussed on school-based interventions for aggressive and disruptive behaviour. The universal programs are delivered in classroom settings to all the students in the classroom. The majority of the interventions within the universal programs were cognitive oriented (focused on changing thinking or cognitive skills) and social skills training (learning about social behaviour and appropriate social skills).	An overall decrease in aggressive/disruptive behaviour from the 77 universal programs.
Evaluation Report SAPERE - Philosophy for Children	4	<p>Key Stage 2 students (Years 4 &amp; 5) in 48 schools across England. The 48 primary schools were recruited from five areas across England (Northeast, Northwest, Southeast, Southwest, and the Midlands) representing a range of geography, economy, local political control, population density, and levels of disadvantage.</p> <p>All schools have, or recently had, at least 25% of their pupils known to be eligible for free school meals (FSM). At least 10 of the schools had fewer than 60% of pupils achieving Level 4+ in English and maths, and with pupils making below-average progress in English and maths, in 2012 (or 2011).</p>	Yes	<p>A school-level randomised controlled trial with a waitlist control involving 48 schools across England.</p> <p>P4C is an approach to teaching run by SAPERE where students participate in group dialogues focused on philosophical issues. The aim of P4C is to help children become more willing and able to ask questions, construct arguments and engage in reasoned discussion.</p> <p>The primary goal of the evaluation was to assess whether a year of P4C instruction for pupils in Years 4&amp;5 would lead to higher academic attainment in terms of maths, reading and writing.</p>	The study found a positive impact on student attainment at Key Stage 2, equivalent to approximately two months' extra progress for reading and maths, but no clear benefit for writing.

Gutman, L.M. & Vorhaus, J. (2012)	2	Based on Avon Longitudinal Study of Parents and Children (ALSPAC) data. ALSPAC is an ongoing longitudinal study of families in the former county of Avon in the west of England. More than 14,000 women enrolled in the study during pregnancy in 1991 and 1992.	No	<p>The analysis of ALSPAC data investigates the association between dimensions of wellbeing at ages 7 to 13 and concurrent (i.e. measured at the same age) and later educational outcomes at ages 11 to 16, including academic achievement (i.e., national exam scores) and school engagement (i.e., being stimulated by school).</p> <p>The study utilises parent-reported data as they are the only consistent measures of wellbeing available from ALSPAC that span the period from childhood to adolescence. Key stage scores were obtained from the National Pupil Database. Several control variables, including English as a first language, SEN status, and eligibility for free school meals, were obtained from the Pupil Level Annual School Census administrative data.</p>	<p>Children with higher levels of emotional, behavioural, social, and school wellbeing, on average, have higher levels of academic achievement and are more engaged in school, both concurrently and in later years.</p> <p>Children who are bullied are less engaged in primary school, whereas those with positive friendships are more engaged in secondary school.</p> <p>As children move through the school system, emotional and behavioural wellbeing become more important in explaining school engagement, while demographic and other characteristics become less important.</p> <p>Relationships between emotional, behavioural, social, and school wellbeing and later educational outcomes are generally similar for children and adolescents, regardless of their gender and parents' educational level.</p>
Berger C. et al (2011)	2	All third and fourth graders of five elementary schools in Metropolitan Santiago, Chile, were invited to participate in this study. The total sample included 674 children (51.5% girls, 56.6% 3rd graders) distributed in 19 classrooms.	No	Participants were asked to report on their social emotional wellbeing, their self-esteem, their perception of their classroom social climate, and their social networks within their classrooms. Teachers were asked to rate	Significant correlations were found for all socio-emotional variables and academic achievement for both boys and girls (except social integration

				their students' self-esteem. The study then looks at the association (not necessarily causal) with academic attainment.	for boys).
Durlak, J.A. et al (2011)	3 or 4	Findings from a meta-analysis of 213 school-based, universal social and emotional learning (SEL) programs involving 270,034 kindergarten through high school students.	Yes (in that every intervention covered had to utilise a control group).	Meta-analysis looking to establish the effectiveness of SEL.	Compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behaviour, and academic performance that reflected an 11-percentile-point gain in achievement.
Schoneld, D.J. et al (2015)	3	Students attending a large, urban, high-risk school district. 24 elementary schools (705 students in total).	Yes	Using a cluster randomized design, 24 elementary schools were assigned to receive either the intervention curriculum (Promoting Alternative Thinking Strategies, or PATHS) or a curriculum that delivered few if any SEL topics (i.e., the control group).	Findings indicated that social development instruction (e.g. SEL) may be a promising approach to promote acquisition of academic proficiency, especially among youth attending high-risk school settings.
Ttofi, M.M. & Farrington, D.P. (2011)	3 or 4	44 evaluations included (total number of students not defined)	Yes (in that every intervention covered had to utilise a control group).	Meta-analysis looking to establish the effectiveness of anti-bullying interventions.	The meta-analysis of the 44 evaluations showed that, overall, school-based anti-bullying programs are effective: on average, bullying decreased by 20–23% and victimization decreased by 17–20%.
Brown, S. & Taylor, K. (2008)	3	Observed samples: 15,051 (age 7); 14,757 (age 11); 13,917 (age 16); 12,044 (age 23); 10,986 (age 33); and 10,979 (age 42),	No	Explores the effect of bullying at school on the educational attainment of a sample of individuals drawn from the British National Child Development Study (NCDS)  The NCDS is a British cohort study with a target sample of all children born in Great Britain during a given week – March 3rd to March 9th – in	Being a school bully has a larger impact upon educational attainment than being bullied by other children. Conversely, being a victim of school bullying impinges upon labour market earnings later in life, whilst there is no significant influence from being a bully. Hence, being

				1958. The NCDS contains information about the respondents' experiences of bullying at school as well as a wealth of information relating to family background in addition to having the advantage of tracing individuals over a relatively long time horizon being conducted by interview at ages 7, 11, 16, 23, 33 and 42. The NCDS asks the mother of each respondent whether their child is bullied by other children when the child is aged 7 and when the child is aged 11.	a victim of bullying has longer lasting scarring effects than for those who are the perpetrators of bullying.
Glew, G.M. et al (2003)	2	Three thousand five hundred thirty third, fourth, and fifth grade students.	No	Cross-sectional study using 2001-2002 school data. Objective was to determine the prevalence of bullying during elementary school and its association with school attendance, academic achievement, disciplinary actions, and self-reported feelings of sadness, safety, and belonging.	Twenty-two percent of children surveyed were involved in bullying either as a victim, bully, or both. Victims and bully-victims were more likely to have low achievement than bystanders.
Diekstra, R.F.W. (2008)	3 or 4	76 controlled studies of SEL/SFL programmes published in the preceding decade (total number of participants not specified).	Yes (in that every intervention covered had to utilise a control group).	Meta-analysis looking to establish the effectiveness of SEL.	Found that systematic, programmatic attention to the teaching of social-emotional promotes overall development of children and youngsters, prevents developmental problems and promotes academic achievement.
Payton et al. (2008)	3 or 4	Collectively the three reviews included 317 studies and involved 324,303 children.	Yes (in that every intervention covered had to utilise a control group).	Each review uses meta-analytic techniques. The report summarizes results from three large-scale reviews of research on the impact of social and emotional learning (SEL) programs on elementary and middle-school students	SEL programs improved students' social-emotional skills, attitudes about self and others, connection to school, positive social behaviour, and academic performance; they also reduced



					students' conduct problems and emotional distress.
Sklad, M. et al (2012)	3 or 4	75 recently published studies that reported the effects of universal, school-based social, emotional, and/or behavioural (SEB) programs (total pupils involved unspecified)	Yes (in that every intervention covered had to utilise a control group).	Meta-analysis looking to establish the effectiveness of school-based universal social, emotional, and behavioural programmes.	The analysis demonstrated that overall beneficial effects on all seven major categories of out-comes occurred: social skills, antisocial behaviour, substance abuse, positive self-image, academic achievement, mental health, and prosocial behaviour.
Catalano, R.F. et al (2004)	2	25 programmes met the evaluation criteria for inclusion. The number of pupils included is not specified.	No	Literature review. The authors undertook a systematic review of the literature both published and unpublished to find programs to include in the review. These had to be evaluations of relevant interventions.	Found a wide range of positive youth development approaches that resulted in promoting positive youth behaviour outcomes and preventing youth problem behaviours. Nineteen effective programs showed positive changes in youth behaviour, including significant improvements in interpersonal skills, quality of peer and adult relationships, self-control, problem solving, cognitive competencies, self-efficacy, commitment to schooling, and academic achievement.
Langford R. et al (2014)	3 or 4	Included 67 eligible cluster trials, randomising 1443 schools or districts	Yes (in that every intervention covered had to utilise a control group).	Authors performed random effects meta-analyses to provide a summary of results across studies	Authors found positive effects for some interventions for: body mass index (BMI), physical activity, physical fitness, fruit and vegetable intake, tobacco use, and being bullied. Intervention effects were generally small but have the potential to produce

					public health benefits at the population level
Wellings et al (2016)	2	Natsals samples which are probability sample surveys of British residents of whom 18 876 aged 16–59 years were interviewed between May, 1990, and November, 1991 (Natsal-1); 11 161 aged 16–44 years were interviewed between May, 1999, and February, 2001 (Natsal-2); and 15 162 aged 16–74 years between September, 2010, and August, 2012 (Natsal-3). P	No	An observational study, we used random-effects meta-regression to analyse the change in conception rates from 1994–98 to 2009–13 by top-tier local authorities in England, in relation to Teenage Pregnancy Strategy-related expenditure per head, socio-economic deprivation, and region. Data from similar probability sample surveys: Natsal-1 (1990–91), Natsal-2 (1999–2001), and Natsal-3 (2010–12) were used to assess the prevalence of risk factors and their association with conception in women younger than 18 years in women aged 18–24 years; and the prevalence of participation in education, work, and training in young mothers.	Authors found that conception rates declined from peak overtime and declined more rapidly in more disadvantaged areas.
Oringanje et al. (2009)	3 or 4	53 RCTs that enrolled 105,368 adolescents. Participants were ethnically diverse. Eighteen studies randomised individuals, 32 randomised clusters (schools (20), classrooms (6), and communities/neighbourhoods (6)). Three studies were mixed (individually and cluster randomised). The length of follow up varied from three months to seven years with more than 12 months being the most common duration. Four trials were conducted in low- and middle- income countries, and all others were conducted in high-income countries	Yes	Included both individual and cluster randomised controlled trials (RCTs) evaluating any interventions that aimed to increase knowledge and attitudes relating to risk of unintended pregnancies, promote delay in the initiation of sexual intercourse and encourage consistent use of birth control methods to reduce unintended pregnancies in adolescents aged 10 years to 19 years	Results showed that multiple interventions (combination of educational and contraceptive-promoting interventions) lowered the risk of unintended pregnancy among adolescents significantly (RR 0.66, 95% CI 0.50 to 0.87; 4 individual RCTs, 1905 participants, and moderate quality evidence. However, this reduction was not statistically significant from cluster RCTs. Evidence on the possible effects of interventions on secondary outcomes (initiation of sexual intercourse, use of

					birth control methods, abortion, childbirth, sexually transmitted diseases) was not conclusive.
Faggiano et al (2014)	3	Authors included 51 studies, with 127,146 participants. Programmes were mainly delivered in sixth and seventh grade pupils. Most of the trials were conducted in the USA	Randomised controlled trials (RCT) evaluating school-based interventions designed to prevent illicit drugs use	Authors searched the Cochrane Drugs and Alcohol Group's Trials Register (September 2013), the Cochrane Central Register of Controlled Trials (2013, Issue 9), PubMed (1966 to September 2013), EMBASE (1988 to September 2013) and other databases. We also contacted researchers in the field and checked reference lists of articles.	The author's conclusions were that School programmes based on a combination of social competence and social influence approaches showed, on average, small but consistent protective effects in preventing drug use, even if some outcomes did not show statistical significance. Some programmes based on the social competence approach also showed protective effects for some outcomes
Foxcroft, D. &. (2011)	3	53 trials were included, most of which were cluster-randomised	Randomised trials evaluating universal school-based prevention programs and reporting outcomes for alcohol use in students 18 years of age or younger were included. Two reviewers screened titles/abstracts and full text of identified records	Randomised trials evaluating universal school-based prevention programs and reporting outcomes for alcohol use in students 18 years of age or younger were included. Two reviewers screened titles/abstracts and full text of identified records	Authors found that due to extensive heterogeneity across interventions, populations, and outcomes, the results were summarized only qualitatively. Six of the 11 trials evaluating alcohol-specific interventions showed some evidence of effectiveness compared to a standard curriculum. In 14 of the 39 trials evaluating generic interventions, the program interventions demonstrated significantly greater reductions in alcohol use either through a main or subgroup effect. Gender, baseline alcohol use, and ethnicity

					modified the effects of interventions. Results from the remaining 3 trials with interventions targeting cannabis, alcohol, and/or tobacco were inconsistent.
Banajee et al (2010)	2	53 UK schools visited, 32 school's pupils surveyed (n=2537), 23 school's teachers surveyed (n=668)	N/A - correlation observed	Student and teacher surveys and expert visits	Significant relationship between perceived level of 'whole-school' approach and: attainment, lower absence rates and OFSTED ratings.
McCormick (2015)	3	22 elementary (US) schools, 435 parent/child dyads, 120 teachers	Yes - randomly assigned at school level	Cluster randomised trial with several regression techniques employed. These included multilevel analysis, instrumental variables estimation and inverse probability of treatment weighting.	The SEL programme (INSIGHTS) showed improvements in maths achievement and these were, at least partially, mediated through better emotional support and class organization by the programme. This effect was true first grade but no effect was found in kindergarten.

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