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**Understanding the sustainability of school interventions to
improve students' health, wellbeing and behaviour**

Lauren Herlitz

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**Department of Public Health, Environments and Society
Faculty of Public Health and Policy**

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I Lauren Herlitz, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

Background: The sustainability of school-based health interventions to improve students' health, wellbeing and behaviour after start-up funding/resources cease has been relatively unexplored compared to health-care. Discontinuing effective interventions prevents new practices from reaching wider student populations and wastes investment in implementation. This thesis examines evidence on whether/how schools sustain health interventions and explores sustainability processes.

Method: Empirical studies were systematically reviewed to assess the sustainability of school health interventions. A case-study was conducted of the sustainability of 'Learning Together', a bullying-prevention intervention initiated in English secondary schools through an effectiveness trial. The intervention entailed: restorative practice (RP), a staff-student action group, and a curriculum. Qualitative, longitudinal data were collected from five schools: interviews with multiple staff/school, and with students and external facilitators the first-year post-trial; interviews with one staff member/school two years post-trial; and descriptive data from the trial's process evaluation.

Results: Twenty-four studies of eighteen interventions were included in the systematic review. No interventions were sustained entirely; all interventions had some components sustained by some schools/staff, bar one that was discontinued. Key facilitators included commitment from senior leaders, staff observing an improvement in students' engagement/wellbeing, and confidently delivering valued intervention approaches. Important contextual barriers emerged: the norm of prioritising educational outcomes under time/resource constraints, insufficient funding/resources and ongoing training, and staff turnover.

Learning Together was not sustainable two years post-trial. RP had been continued by some individuals in all schools and was sustained at school-level in one school; the curriculum and action groups were discontinued in all schools, though actions initiated by the groups were sustained in two schools. Staff's experiences of components' effectiveness compared to existing provision and views of their long-term value affected components' sustainability. Sustainability depended on staff's ability to mainstream desired components across the school, which they had little capacity to do.

Conclusion: Intervention developers need to support schools to mainstream evidence-based interventions to sustain them at school-level. Methodologically stronger primary research on sustainability and sustainability strategies is needed.

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Abbreviations

CPD	Continuing professional development
EEF	Education Endowment Foundation
FSM	Free school meals
GCSE	General certificate of secondary education
GTI	General theory of implementation
INSET	In-service training day
NIHR	National Institute for Health Research
NPT	Normalization process theory
NQT	Newly qualified teacher
Ofsted	Office for standards in education, children's services and skills
PSHE	Personal, social and health education
RP	Restorative practice
SEL	Social-emotional learning
SLT	Senior leadership team
TAL	Teaching and learning day
ToC	Theory of change

Glossary

Action groups	Decision-making bodies that involve school staff and/or students.
Continuing professional development	Activities, formal or informal, that build teachers' professional skills and knowledge.
GCSE	A qualification in a specific subject taken by secondary school students in England, typically at age 16.
Health Promoting Schools framework	A whole-school approach to promoting health that recognises the reciprocal relationship between education and health.
Implementation	An attempt to introduce new, or modify existing, patterns of work – an intervention – in a school to improve students' health and wellbeing, and the intervention has been agreed by the school and its activities have been defined and planned.
INSET or TAL day	A staff training or curriculum planning day held at the school. Up to five days are allowed per school year.
Intervention	A set of resources and activities directed toward one or more common goals.
Personal, social and health education (PSHE)	PSHE education is a non-statutory school subject (that is, it does not have a standardised framework or programme of study) which develops students' knowledge, skills and attributes to lead healthy and safe lives. It contributes to schools' duties to "promote the spiritual, moral, cultural, mental and physical development of pupils at the school and of society, and prepare pupils at the school for the opportunities, responsibilities and experiences of later life" (2002 Education Act)
Restorative practice	Restorative practice is a disciplinary approach that focuses on improving relationships rather than sanctions (for example, detentions) and it aims to prevent and/or resolve conflicts between students or between staff and students. It enables both parties to tell their side of the story and the harms that have occurred, provide a chance to apologise, and work out what steps to take going forward so that no further harms occur.
School development/improvement plan	A school development or improvement plan is a document that sets out the changes a school needs to make to improve student achievement and how and when changes

	will be made.
Student voice	Student voice is the thoughts, views and opinions of students on learning, teaching and schooling.
Sustainability (as defined in this thesis)	The continuation or discontinuation of interventions after external funding and/or other resources to initially implement the intervention the intervention end.
Teaching School	A school with an 'outstanding' Ofsted status that leads a cluster of other schools to train teachers.
Tutorial/registration time	Tutorial time is a period of time, usually around 30 mins, at the beginning of the day that students spend with their class/form tutor. Tutors are a key point of contact for students and parents to discuss personal and academic issues.

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Foreword

“... various nefarious elements... can threaten even the best-planned sailing voyage. Masses of seaweed, whirlpools, backtides, typhoons, hidden shoals, sandbars, and dead air are not inherently fatal but can only be overcome with maximum coordinated and sustained effort. But negotiating such difficulties taxes the skills of the crew.”
Elias et al. (2003, p.309)

Chapter 1. Introduction: the importance of sustaining school health interventions

This thesis examines whether and how schools continue to implement interventions to improve students' health, wellbeing and behaviour (hereafter referred to as health interventions for brevity) after external or temporarily earmarked funding ends, and explores the processes and resources involved in sustaining school health interventions.

Its first aim is to identify and synthesise existing empirical evidence on the sustainability of school-based health interventions. Throughout the thesis, the focus is on high-income countries as the economic and political stability of health care and educational institutions is likely to affect resources and organisational processes for sustainability. The second aim is to explore sustainability processes and resources through a case study of the sustainability of Learning Together, a school-based bullying prevention intervention after the initial trial (which reported its effectiveness) was completed. The case study explores how school staff's motivation and ability, their actions, and the organisational context shape the implementation of an intervention over time. The rationale for these aims is that despite significant investment in and positive results from effectiveness trials of school health interventions, it is not clear how much such interventions are sustained and the existing evidence on intervention sustainability comes largely from health care settings. There is a lack of prospective, theoretically-informed, empirical studies on the sustainability of public health interventions, and fewer still focused on school settings.

This chapter explains my interest in sustainability and presents an overview of the interest and investment in school-based health interventions, with a focus on the English context. The evidence base for sustainability research is briefly described (more details follow in chapter 2) and an overview of the structure of the rest of the thesis is presented at the end of the chapter.

My interest in sustainability

For a short period of time, I was a Youth Offending worker. I met with young people who had been convicted of offences for the first or second time, and who had to see me to address the risk factors that might lead them to offend again. As an inexperienced practitioner, I felt the strong need for coaching and reflection, and some good theory to apply in practice; my self-assessment on the effectiveness of my work was that it was an entirely negligible factor in whether these young people offended again or not. About a decade later, I was working as a researcher on an evaluation of the What Works Centre for Crime Reduction, an organisation aiming to translate research evidence on crime reduction into practice. The gap was palpable between my experience of trying to engage a bored teenager in conversation in the small room of an ex-children's home, and selecting a star-rated evidence-based

intervention from a neatly constructed table. The experience of holding this contrast in my mind firmed up that my main research interest was the utility of research in everyday practice.

An opportunity arose to look at the sustainability of a school-based intervention my PhD supervisor was evaluating in an effectiveness trial, a chance to study whether a research-led intervention was translated into everyday practice and I happily took it. I viewed sustainability as a research subject at the heart of the knowledge-to-practice gap, to assess first, whether practitioners and other stakeholders think research-based practice is of enough value to sustain, and second, whether it *can* be sustained, that is, whether the right resources, organisational processes, and perhaps good timing, are in place to support organisational change. The school health intervention I study in the thesis is a whole-school intervention to reduce bullying and aggression in England; I should state that I was not a member of the project team for the evaluation and had no preconceptions or vested interest in the success of the intervention.

Investment in school-based health interventions

In the last thirty years, there has been a surge in effectiveness trials of school-based health interventions, for example, on obesity, physical activity, sexual health, mental health and drug prevention (Brown and Summerbell, 2009; Cuijpers, 2002; Denford et al., 2017; Kriemler et al., 2011; Langford et al., 2014; Wells et al., 2003). Healthy students are better able to learn, and health-related knowledge, skills and attitudes benefit young people throughout their lifetime (Durlak et al., 2011; Farahmand et al., 2011; Langford et al., 2014; Murray et al., 2007; Suhrcke and De Paz Nieves, 2011). Schools' attention to children's physical and mental health, cognitive and language development, and life skills in early years education and beyond has been highlighted by the World Health Organization as key to reducing global health inequities (Commission on Social Determinants of Health, 2008). The school environment can impact on students' self-esteem and educational achievement through its culture and climate, the quality of its physical and social environment, and its approach to learning and assessing students' progress (Bonell et al., 2013; World Health Organization, 1997). More practically, schools have a 'captive audience' for health promotion as schooling up to age 16 is compulsory in most countries, ensuring the presence of children and young people of nearly all socioeconomic and cultural backgrounds.

However, new interventions must be able to function within existing delivery systems and require the ongoing efforts of people working individually and collectively to implement them (May and Finch, 2009). If effective interventions require extensive resources to continue in schools, which are not available internally or realistically obtainable from external funders, then the time, funding and personal efforts invested in implementing and evaluating new interventions is in danger of becoming an academic exercise rather than a meaningful

attempt to change organisational practices. A lack of support to sustain an innovation can be a disruptive process for teachers and other members of the school community who have made considerable efforts to learn new skills or approaches (Scheirer and Dearing, 2011; Whelan et al., 2014; Yin et al., 1978). Discontinuing effective interventions could negatively impact on educators' trust and decrease their willingness to test out new interventions in the future (Bumbarger and Perkins, 2008; Pluye et al., 2004). To tackle pervasive health problems like childhood obesity or poor mental health through school interventions as part of a wider public health strategy, schools need to be able to sustain intervention so that further cohorts of students can benefit from them (Patton et al., 2006). Consequently, examining the likely sustainability of new interventions and the resources needed to sustain them should be part of evaluating interventions that seek to change everyday practice.

In England specifically, there has been significant investment in evaluations of school health interventions from the Medical Research Council (MRC) and the National Institute for Health Research (NIHR). For example, seventeen effectiveness trials of school health interventions in England (and other parts of the UK) were funded by NIHR in the last decade at an average cost of £1.3 million pounds each (range £0.2 – 2.6M, see appendix 1). The Education Endowment Foundation (EEF), a grant-making charity evaluating interventions that seek to narrow the attainment gap between low- and higher-income students, has also expanded its scope from learning pedagogy interventions to look at the educational impacts of interventions addressing student health, wellbeing and social functioning, sometimes working in partnership with NIHR (for example, Bonell et al., 2018; Humphrey et al., 2015). Evidence that promoting health can also promote attainment (for example, Durlak et al., 2011; Farahmand et al., 2011; Murray et al., 2007) has also prompted Public Health England to make the case to schools to focus on student health and wellbeing as part of their core purpose (Brooks, 2014; Lavis and Robson, 2015). Millions of pounds have been spent on developing, implementing and evaluating new school interventions to improve health but what we know about their likely sustainability is very limited.

At the same time, schools in England have been under immense pressure to produce students who perform well in core academic subjects, despite budget cuts (National Audit Office, 2016), shortfalls in teacher recruitment (House of Commons Committee of Public Accounts, 2016), and structural reforms, most notably the conversion of schools to academies with greater autonomy over funding and the curriculum taught. These economic and socio-political conditions are likely to diminish the resources schools can dedicate to sustaining new interventions.

The current status of sustainability research

The field of implementation science has expanded greatly since the millennium, of which sustainability research is a part (Sales et al., 2019). A vast array of implementation

strategies, facilitators and barriers have been identified and structured into conceptual frameworks, some of which refer to sustainability (for example, Damschroder et al., 2009; Fixsen et al., 2009). Although the body of evidence on whether interventions are sustained is growing in health care settings, the accumulation of knowledge is marred by differences in how sustainability has been defined and reported, if at all (Proctor et al., 2015; Stirman et al., 2012), discussed further in chapter 2.

A review of the sustainability of health care interventions carried out in 2012 found that partial sustainability was the most common outcome and few providers continued at high levels of fidelity (Stirman et al., 2012). Potential influences on sustainability can be found in multiple conceptual frameworks on the sustainability of health interventions (see chapter 2). However, the vast majority of frameworks have been developed from literature reviews and authors' experiences in implementing interventions, and have not been tested in empirical studies encompassing a sufficient range of settings from which to develop firm conclusions.

There has also been growth in studies of sustainability-focused strategies and influences in health care, though evidence has mostly come from literature reviews and professional expertise (Hailemariam et al., 2019; Lennox et al., 2018). In relation to school-based health interventions specifically, there have been reviews of implementation factors and strategies but none centred on sustainability (Cook et al., 2019; Pearson et al., 2015). Pearson et al.'s (2015) review of implementation factors found that evidence on how to embed school health interventions was mostly based on what teachers and managers thought would help, suggesting that most programmes were designed without consideration of sustainability.

In summary, research has shown that school-based health interventions can effectively improve childhood health and wellbeing, with associated benefits for educational achievement. However, evidence to date from health care settings indicates that interventions are difficult to sustain in everyday practice, and if continued, are sustained with lower levels of fidelity; consequently, their contribution to reducing public health concerns in the long-term is uncertain.

This thesis will contribute to gaps in our knowledge of whether and how schools sustain health interventions by conducting the first systematic review of empirical evidence on school-based health interventions and by carrying out an in-depth, retrospective and prospective examination of the sustainability of an effective school-based health intervention over time, exploring how the motivations of school staff and the organisational context shape its continued implementation. A case study was conducted of the sustainability of a whole-school intervention to reduce bullying and aggression in English secondary schools found to be effective at reducing bullying and improving students' health and wellbeing across other outcomes (Bonell et al., 2018). The study followed five schools that implemented the

intervention with differing levels of fidelity in the final year of the trial through the two years post-trial.

Thesis structure

This chapter (*chapter 1*) has presented an overview of the interest and investment in school-based health interventions, with a focus on the English context. Despite considerable investment in effectiveness trials of school health interventions and evidence to support the benefits that schools can have on students' health and wellbeing, there is a lack of prospective, theoretically-informed, empirical studies on the sustainability of health interventions, and fewer still focused on schools.

Chapter 2 examines the defining elements of sustainability and reviews the extent and quality of empirical evidence that exists on the sustainability of health interventions. The chapter identifies key theoretical concepts on the influences on sustainability and explores possible differences between sustainability in school and health care settings. It identifies gaps in the literature and how the empirical work contributes to knowledge in these areas. *Chapter 3* describes the conceptual framework used to inform the empirical work: the general theory of implementation (May 2013). *Chapter 4* sets out the research questions and methods for the systematic review and case study.

Chapter 5 is the first empirical results chapter in the thesis, a published paper of the systematic review of empirical evidence of the sustainability of school-based health interventions.

Chapters 6 to 9 focus on the case study of the sustainability of a whole-school bullying prevention intervention, 'Learning Together'. *Chapter 6* presents fidelity scores for the implementation (years 1 – 3) and sustainability (years 4 and 5) of each intervention component. Fidelity scores for implementation come from the trial's process evaluation data; fidelity scores for sustainability are derived from participant interviews in years 4 and 5 and from an analysis of schools' behaviour and anti-bullying policies. A qualitative description and summary of the journey of each component in the five schools is given.

Chapters 7 and 8 focus on the influence of staff motivation on sustainability. *Chapter 7* examines the impact of staff's experiences of the effectiveness of intervention components and *Chapter 8* looks at staff's individual intentions and shared commitment to sustaining the intervention's approaches. *Chapter 9* focuses on the influence of the school context on sustainability, its social norms, social roles, processes for transferring knowledge, information and skills, and material resources. *Chapter 10* presents a summary of the key findings from the systematic review and case study, strengths and limitations, and their implications for research and policy.

Chapter 2. Background: defining sustainability and reviewing the conceptual and evidence base

This chapter summarises the key defining characteristics of sustainability in the conceptual literature and informs how I define sustainability in the empirical chapters (chapters 5 – 9). It reviews the extent and quality of evidence that exists on the sustainability of health interventions after initial start-up funding and resources end. The chapter then identifies key theoretical concepts about the influences on sustainability and explores possible differences between sustainability in school and health care settings. Finally, it identifies gaps in the literature and how my empirical work contributes to addressing these. The review informs my selection of a conceptual framework for explaining sustainability (chapter 3) and the development of my research questions (chapter 4).

2.1 Defining interventions

Non-pharmacological health interventions are hugely diverse. Interventions can target an array of health outcomes at the level of individuals, organisations or populations, and can be comprised of one or more ‘core components’, parts of an intervention that are considered responsible for the targeted changes in participants’ outcomes. Interventions are diverse in function, content, interactivity of components, mode of delivery, types of provider, theoretical basis, settings and other contextual factors (Clark et al, 2013). When examining the sustainability of interventions, the lack of nuance in the word ‘intervention’ can obscure the complexity of the practices, people and contexts that are involved in supporting people’s health behaviours.

Three related facets of interventions have been described in the public health literature that might affect the sustainability of interventions: their form (for example, activities or mode), function and complexity. Scheirer (2013) argued that an intervention’s form moderated the importance of other influential factors on sustainability. Scheirer differentiated interventions based on her own reflections and experience, categorising them by: individual versus multiple practitioner delivery; intervention by policy, activities (e.g. education, counselling), capacity building (e.g. leadership training), or partnership work; and scale of change (individual practitioner or broader-scale system change). For example, the sustainability of intervention activities implemented by individual practitioners may depend on acquiring intervention skills during a trial phase and maintaining motivation, while the organisational context might have a greater influence on the sustainability of interventions that depend on the co-ordinated activities of multiple practitioners. However, Scheirer’s organising framework was not based on empirical evidence, has not been tested, and there is overlap between intervention categories; for example, interventions requiring coordination among multiple practitioners may also have components which require individual practitioners to deliver specific approaches. The typology is a mixture of intervention form and complexity.

Michie et al's (2011) Behaviour Change Wheel, created with more comprehensive and systematic methods than Scheirer's typology, categorises different behaviour change interventions by sources of behaviour change (capability, opportunity, motivation), intervention function (how it intends to change behaviour¹), and types of policies² that can support intervention function. For example, schools could increase the *opportunity* for students to engage in healthy eating by *changing the physical environment* by providing healthy vending machines and canteen food; alternatively they could influence students' *capability* by *educating* students about health eating and *training* them in how to prepare healthy meals and snacks. Sustainability may differ by intervention function; hypothetically, changes to the physical environment might be harder to undo, more impactful and less dependent on retaining knowledgeable and skilful teachers than providing healthy-eating education sessions. Scheirer (2013) and Michie et al's (2011) proposals indicate that it is important for sustainability researchers to fully report the rationale, resources and activities for the interventions that they study so that the influence of intervention form and function on sustainability can be examined as empirical evidence accumulates.

The third way that interventions have been differentiated in relation to sustainability in the public health literature is in their level of complexity (Craig et al, 2008; MRC, 2000). Altman (2009) distinguished between first-order and second-order change. First-order change involves an incremental or technical change, for example, a change in the content of the health curriculum. Second-order change involves a fundamental change to the system itself, for example, a whole-school change in approach towards healthy students in which school values, processes, and structures are targeted. A similar distinction between focused/technical change and more expansive system change is made by May and Finch (2009). MRC guidance on the evaluation of complex interventions describes intervention complexity in:

- the number of and interactions between components;
- the number and difficulty of behaviours required by those delivering or receiving the intervention;
- the number of groups or organisational levels targeted by the intervention;
- the number and variability of outcomes; and
- the degree of flexibility or tailoring of the intervention permitted (Craig et al, 2008).

This definition of complexity is congruent with an implementation science perspective where the focus is specifying, standardising and sequencing the core components of effective interventions in order to replicate them at scale (Greenhalgh & Papoutsis, 2019). However,

¹ Intervention types: education, persuasion, incentivisation, coercion, training, restriction, environmental restructuring, modelling, and enablement (Michie et al., 2011).

² Policy categories: communication/marketing, guidelines, fiscal, regulation, legislation, environmental/social planning, and service provision (Michie et al., 2011).

other complex systems and social science perspectives have directed attention to the entwined relationship between an intervention and the context into which it is introduced. A *complex* intervention is one that follows the rules of complex systems – there are multiple parts that interact and feedback to one another in unpredictable and emergent ways, while the multiple parts of a *complicated* intervention work in an intricate but predictable way (Clarke et al, 2013). Through a complex systems approach, the sustainability of an intervention is viewed as a nonlinear process where change, adaptation and uncertainty are expected. Interventions are perceived as ‘events in systems’ whereby interventions disrupt the functioning of systems through changing relationships, displacing entrenched practice, and redistribute and transform resources (Hawe et al., 2009). Racine (2006) hypothesised that simpler interventions may be easier to standardise and replicate, while more complex interventions are more likely to be adapted; and Scheirer (2013) suggested that system change was likely to take longer than small-scale demarcated intervention. Theoretically, it seems plausible that the level of complexity may affect whether an intervention is sustained with fidelity. However, who defines complexity and how it is defined is contested. Petticrew (2011) argues that there are simple and complex explanations of interventions, depending on the nature of the research question, rather than complexity being an inherent characteristic of an intervention. Even the introduction of a technical intervention that requires minimal coordination between staff, for example, moving to an online homework system, could affect daily interactions about homework between teachers and students and parents and may require whole-school training.

In this thesis, a broad definition of ‘intervention’ is applied; an intervention is defined as a set of resources and activities directed toward one or more common goals (Newcomer et al., 1994). The definition allows a wide range of interventions to be included and described in the map of existing empirical evidence on intervention sustainability (through the systematic review). A more tightly defined definition might have narrowed the scope of the map, reducing its ability to describe the state of the literature. In agreement with Hawe et al (2004) and Pettigrew (2011), I considered all interventions had the potential to be complex depending on the context into which they were placed and that complexity may be on a spectrum rather than a binary state. I did not wish to specify an examination of the sustainability of complex interventions and, as noted above, exploring organisational practices over time was itself complex. Although the definition was broad, every effort was made to describe interventions’ form and function in the systematic review and case study in detail.

A final note, the terms intervention and programme are used interchangeably throughout the thesis. Implementation is defined as a deliberately initiated process in which agents (individuals or groups) intend to bring into operation new or modified practices that are institutionally agreed and are performed by themselves or other agents (May et al., 2007).

2.2 Defining sustainability and terminology

A lack of consensus on how to define and conceptualise sustainability has impeded advancement in this area of implementation science (Proctor et al., 2015; Shelton et al., 2018a). The term sustainability has been used to refer to the sustained delivery of an intervention, an evidence-based practice, or changes in individuals' behaviours, and has been studied at the level of individuals (patients, students or service-users), organisations and communities (Moore et al., 2017a). A wide range of terms have been used to describe sustainability – for example, durability, long-term implementation, institutionalisation, normalisation, stabilisation, embedding, integration, routinisation – with nuanced and overlapping meanings (Proctor et al., 2015). For example, the term 'long-term implementation' focuses the mind on the continuation of the intervention and pays less heed to changes happening in the context to accommodate the intervention, while the term 'institutionalisation' implies a more complex process, an interweaving of the programme and the organisation whereby the intervention becomes a taken-for-granted aspect of everyday practice. Of course, the 'discontinuation' and 'de-adoption' of programmes have also been studied (Scheirer, 1990, Massatti et al., 2008).

Three defining characteristics

The three most common defining characteristics of sustainability used are: 1) the continuation and/or integration of programme activities; 2) the maintenance of health benefits, and/or 3) building of a community's capacity to develop and deliver the intervention (Fleischer et al., 2015; Lennox et al., 2018; Scheirer, 2005; Shediak-Rizkallah and Bone, 1998; Stirman et al., 2012). Table 1 presents an example research question for each characteristic. These different aspects of sustainability have been emphasised in different research traditions: the health promotion field has tended to focus on the maintenance of health benefits over time; the field of management and organisational change on the continuation of programmes; and community development perspectives on capacity-building for sustainable change (Gruen et al. 2008).

Table 1: Example research questions for different sustainability characteristics

Sustainability characteristic	Example research questions
Continuation of programme activities	"After the conclusion of an effectiveness trial of a nutrition intervention for year 5 students, did teachers continue to deliver the intervention the following school year to a new cohort of students?"
Maintenance of health benefits	"Did teacher training in nutrition, implemented with children in year 5, improve health outcomes for the next cohort of children in year 5?" "Did nutrition lessons delivered in year 5 continue to

	have an impact on the same children's fruit and vegetable consumption in year 6?"
Capacity-building to develop and deliver the intervention	"What was the legacy of school-community coalitions to improve children's nutrition?"

Maintenance of health benefits and programme continuation are two conceptually separate but related characteristics, as maintained interventions may not necessarily produce ongoing health benefits, as recipients' characteristics and needs change over time, as do the organisational staff responsible for implementation. Health benefits may also continue even if the intervention itself is discontinued: for example, because of other policy initiatives. Determining with rigour whether outcomes are maintained requires a control group, which is not feasible for many studies. An imperfect option is to monitor fidelity and trust that causality is still operating according to the original theory of change (if this has been articulated by implementers), but ultimately further evaluation of long-term effectiveness is needed.

Programme continuation and capacity building are also similar but conceptually distinct. Programme continuation assumes manualised evidence-based interventions can continue with the correct support in place, while capacity-building assumes that local practitioners and communities are better placed to decide on effective approaches and respond to dynamic changes in context. Studies of programme continuation may focus more on implementation fidelity, ongoing training, resourcing and other support mechanisms, while studies of capacity building may focus more on changes in the structural position of people and organisations in the system's network, the social bonds between different groups of stakeholders, and sustained intervention principles and values (Green, 1989; Hawe et al., 2009; Weiss et al., 2002). Each facet studied contributes to a deeper understanding of sustainability as a whole.

Adaptation: a contested characteristic of sustainability

Inevitably in the long-term, interventions that continue to be implemented will be delivered to or with populations and in settings or circumstances that differ culturally, socially or epidemiologically from those that originally participated in an effectiveness evaluation (Bonell et al., 2006; Cohen et al., 2008). Over the last decade, there has been a gradual shift from considering deviations from the original intervention protocol to be an implementation failure (Allen et al., 2012; Bellg et al., 2004), towards thinking of adaptations as a definitive part of or precursor to sustainability (Lennox et al., 2018; Moore et al., 2017a). However, this is a contested area and the evidence on how adaptation affects sustainability is weak (Stirman et al., 2012).

Some hold that any adaptation risks losing the key ingredients for effectiveness, which may not be well understood. Several studies have found that adaptations made to interventions were typically made without any regard to the theoretical rationale – ‘intervention drift’ – and involved dropping entire components, levels of required training or dosage levels, for example, in response to a lack of resources or difficulties in recruiting participants to the intervention (Bumbarger and Perkins, 2008; Elliott and Mihalic, 2004; Mihalic, 2004). Others assert that, without adaptations, interventions will fall flat (Dane and Schneider, 1998). Chambers et al. (2013) rejected the assumptions that interventions will naturally yield lower benefits as they move into real world use (‘voltage drop’) and that deviations from the original intervention will decrease benefits for recipients (‘program drift’). They argued these notions directed too much attention to the early phase of interventions when they were tested in artificial settings and the achievement of fidelity, and missed the opportunity to learn from adaptation. Chambers et al. contended that examining contextual factors affecting delivery could inform understanding about the optimal fit of an intervention to different settings and improve the efficiency of the intervention: that is, the minimal set of components needed to ensure benefits. Involving stakeholders throughout the research process and harnessing their knowledge to explore different service options could maximise an intervention’s potential. However, whether adaptations result in both improved sustainability *and* effectiveness has yet to be evidenced.

A proposed middle ground is to maintain fidelity of the central components but allow adaptation to the details of the intervention (Durlak and DuPre, 2008). Central components can be defined as structures and processes that causally lead to observed desired outcomes, while customisable details could be changes to branding, language and imagery to fit the local target population or additional resources, for example (Kilbourne et al., 2007; Scheirer and Dearing, 2011). Another middle option proposed is to maintain fidelity to the central theory of change – its ‘fidelity of function’ – and allow changes to intervention form and dose (Hawe et al., 2004). For example, ‘workshops for general practitioners’ may be trigger mechanisms to engage general practitioners in organisational change or training for particular skills; different forms of activities could be pursued locally however while achieving the same objectives (Hawe et al, 2004). Sustainability might be encouraged by enabling local adaptation of the form of components during intervention development and implementation, if adaptations would logically trigger the same mechanisms to achieve the intended outcomes (Hawe et al., 2004; Hawe et al., 2009). However, there are risks in moving toward functional definitions of fidelity; where there is empirical uncertainty or a lack of consensus on intervention functions for example, alterations made in the name of adaptive local tailoring may inadvertently undermine functionality (Segrott et al., 2014).

The start and end of sustainability

Sustainability has often been conceptualised as the end stage of intervention development, marked by the end of external or temporarily earmarked funding for a new initiative or the end of active and planned implementation activities (Fleischer et al., 2015; Scheirer, 2005; Stirman et al., 2012). According to this 'stage model', interventions progress in a linear sequence through initial development, adoption, implementation, to sustainability, and sometimes dissemination to other sites or beneficiaries via transfer and scale-up (Pluye et al., 2004; Scheirer, 2005). For example, maintenance/sustainability is the final phase of the 'RE-AIM' framework – Reach, Efficacy, Adoption, Implementation and Maintenance (Glasgow et al., 1999) – and the 'EPIS' framework – Exploration, Preparation, Implementation and Sustainability (Aarons et al., 2011). In theory, beneficial interventions would progress from implementation to sustainability, while ineffective or harmful intervention would be discontinued.

The stage model of programme development can be considered a descriptive theoretical framework rather than a realistic depiction; stages in real life can overlap and move backwards as well as forwards (Craig et al., 2008; Scheirer, 2005). Implementation may be incomplete or at a limited state of programme delivery before initial funding terminates. However, the fact that new initiatives are often awarded funding for three years or less suggests funders believe it is possible to achieve full implementation and sustainability within this time frame (Scheirer, 2005). Planning for sustainability can begin at an early stage of implementation: for example, putting in place appropriate and feasible data systems for tracking intervention delivery and outcomes in the long-term (Feldstein & Glasgow, 2008, Bradley et al, 2004). Sustainability may be influenced by decisions made at the stage of adoption or early implementation as well as by funding arrangements (Scheirer, 2005, Pluye et al, 2004). For example, school districts and school leaders may provide a greater amount of support and resources to implement and sustain an initiative they adopted because they perceived it to be central to their mission and priorities (Han and Weiss, 2005). Consequently, although it is important to define the period for assessing sustainability, studies must also consider the impact of processes and events that have occurred at earlier stages.

The appropriate 'end-point' to sustainability has been less often considered in the literature than the start. The appropriate time frame depends on the nature of the intervention (for example, complexity or scale) and what is relevant for the health issue studied (Shelton et al., 2018). The observable effects of different interventions will vary, depending on the nature of the intervention and the health condition. Therefore, appropriate observation periods will also vary (Proctor et al, 2015). The context of a particular intervention, whether a more effective, suitable or cost-effective solution to an issue is available or whether the target problem of an intervention changes or disappears will also affect sustainability

(Shediac-Rizkallah and Bone,1998). For example, sustained use of film imaging for breast cancer detection was viewed as important until digital mammography was developed (Proctor et al., 2015). In terms of an end-point to the study of sustainability, most research has looked at sustainability outcomes, that is, the proportion of sites of providers sustaining, or the proportion of eligible patients receiving an intervention, up to around two years after an initial implementation effort or funding had ended, though some studies have looked at longer-term outcomes (Stirman et al., 2012).

Defining sustainability in the thesis

The primary empirical focus of this thesis is the continuation (or discontinuation) of evidence-based health interventions in schools and the resources and processes involved in sustaining them. This characteristic of sustainability informs the inclusion/exclusion criteria for studies in the systematic review and the research questions and method for the empirical case study of the sustainability of Learning Together.

I define the start of the sustainability period in both the systematic review and the case study as the point at which external funding and/or other resources come to an end. Resources may cease because schools are involved in an effectiveness evaluation, or because they receive short-term funding to implement an evidence-based initiative. This thesis does not attempt to consider an appropriate end point for the sustainability of the interventions studied. However, for the case study, I define the end point for studying sustainability empirically as two years after the end of the three-year effectiveness trial (in line with other studies, Stirman et al., 2012). This provides enough time to track changes in schools' capacity and capability to implement the intervention following the trial. It is also a pragmatic time frame for studying sustainability over the course of a PhD. Although adaptation is not part of the definition of sustainability, it is examined as part of sustainability processes in the thesis.

In summary, sustainability in this thesis is defined as *the continuation or discontinuation of school-based health interventions after external funding and/or other resources to initially implement the intervention end.*

Reflections on the definition of sustainability

Although there is a growing consensus within the research community about the characteristics of sustainability, its conceptualisation has primarily been developed from researchers' views and experiences and not co-developed with participants or other stakeholders. The assumption underpinning definitions is that sustainability is inherently a good thing for any feasible and acceptable intervention that has achieved successful outcomes in an effectiveness trial. However, intervention trials can never be exactly equivalent to real life conditions. For example: schools may sign up because they are

experiencing particularly high levels of the target problem; being observed and monitored inevitably has some impact on people's behaviour; the novelty of new practices arouses participants' interest and engagement; and being involved in a trial may carry prestige for schools, and a trial brings additional resources. After the trial, such factors may not operate in the same way. The priority for schools to address the target problem may have changed. They may no longer be able to sustain the intervention, for example, because they have to direct existing resources to other priorities, or may not wish to, for example because a new senior leader prefers another form of intervention. The intervention rarely takes place in a vacuum; on the contrary, it may be competing with many other existing (and more established) practices within a school to tackle the target problem. When defining and measuring sustainability, understanding the reasons for the discontinuation of components is as important as understanding what is sustained.

It could have been an option to co-develop a definition of sustainability with schools for the case study and consider together the different characteristics that have been proposed in the literature and their relevance to the intervention and context at hand. Co-production might have deepened my understanding of the school context, sustainability issues and/or solutions, and given teachers and students a greater stake in the research. For example, teachers might have rooted sustainability in the skills they had gained as individuals from taking part in the trial that they could continue to apply in their future work, or focused on the ongoing attention schools gave to restorative approaches. However, the focus of my study was to examine, and critique, the notion that a multicomponent health intervention could be continued with fidelity and inform the development of future school initiatives, and I was not open to exploring less tangible, capacity-building aspects of sustainability (an openness necessary for effective and genuine co-production). Co-producing a definition would have been very difficult practically to achieve as it would have necessitated more involvement from over-worked teaching staff. High levels of facilitation skills may have been needed to manage conflict and sensitivities that often arise during group co-production sessions (Oliver et al, 2019), which in this case could have been related to staff's willingness to change practice, competence, and/or problems with senior leaders. Although I selected the definition of sustainability without participants' engagement, my research questions privilege the views and experiences of staff and students.

2.3 The evidence base for the sustainability of health care interventions

A systematic review by Stirman et al (2012) identified 125 empirical studies on the sustainability of health care interventions. An update to Stirman et al's review is in progress (Braithwaite et al., 2017). The overall quality of the included studies was weak. Under half (45%) of the 125 empirical studies in the review reported on the proportion of sites or providers sustaining an intervention or the proportion of participants receiving an intervention. Just over a third (36%) defined sustainability and 23 studies (19%) included an

assessment of the fidelity/integrity of the intervention. The majority of the studies were retrospective. Solely quantitative approaches were used in 68 studies (54%); qualitative approaches alone were used in 27 studies (22%) and 28 studies (23%) used a mixture of methods. Nearly all studies were observational rather than experimental.

The review found that rates of continuation of some, but not all, intervention components – ‘partial sustainability’ – were relatively high across medical, mental health and public health/health promotion fields and units of analysis (Stirman et al, 2012). Seventy-five studies (60%) reported on change in implementation rates or health benefits between the implementation and sustainability phases. Of the 56 studies that reported on changes in implementation after initial implementation and/or funding had ended, 19 (34%) reported lower levels of implementation, 17 (30%) reported an increase, 17 (30%) reported varying changes in rates across different intervention components, and 3 (5%) reported no change or a similar level of implementation. Of the 21 studies that reported on changes in service users’ health benefits, 10 (48%) reported an increase, 5 (24%) reported a decrease, 5 (24%) reported multiple outcomes or indicators that varied in the extent to which they sustained, and 1 (5%) reported no change (Stirman et al., 2012).

Of the sixteen studies that assessed fidelity using independent observation or validation (i.e. not solely self-report), few studies reported high rates of continuation. The studies that reported on sustainability or fidelity at the provider level indicated that fewer than half of the observed providers sustained the practices at a high level of skill, intensity, or fidelity. Most sustainability studies did not describe adaptations or examine their impact on outcomes (Stirman et al. 2012). The differences in studies’ methods and the gaps in reporting made it difficult to assess the likelihood of sustainability; the existing findings suggest that changes in implementation beyond initial implementation periods or beyond the end of funding is the norm.

Stirman et al. identified four broad areas of potential influences on sustainability related to the intervention, organisational context, capacity (e.g. funding, resources) and processes (e.g. fidelity monitoring, evaluation) (see table 2). Thirty quantitative studies identified factors associated with sustainability; only 8 (27%) quantitative studies examined elements in all four areas. Thirty-six studies employing qualitative or mixed methods examined influences on sustainability; twelve (33%) found all four categories were associated with sustainability. Studies with quantitative designs were less likely to identify processes and interactions (8 quantitative studies identified this area of influence compared to 27 qualitative studies).

Table 2: Influences on sustainability from Stirman et al.'s (2012) systematic review

Areas of influence	Influences	No. of studies identifying influence (n=66)
Innovation characteristics	Fit	10
	Ability to be modified/modifications made	11
	Effectiveness or benefit	9
	Ability to maintain fidelity/integrity	2
Organisational context	Climate	2
	Culture	3
	Leadership	17
	Setting characteristics (structure; policies)	13
	System/policy change	7
Capacity	Champions (internal or external)	11
	Funding	13
	Workforce (staffing, attributes)	22
	Resources	9
	Community/stakeholder support/involvement	16
Processes and interactions	Engagement/relationship building	9
	Shared decision making among stakeholders	5
	Adaptation/alignment	7
	Integration of rules/policies	13
	Evaluation and feedback	8
	Training and education	12
	Collaboration/partnership	12
	Navigating competing demands	4
	Ongoing support	15
Planning	1	

Elements within each overarching area varied considerably between studies. Stirman et al. commented that influences related to workforce stability and attributes (e.g. skills and attitudes) were relatively common among studies. The authors highlighted that intervention effectiveness and other characteristics emerged less often than expected, given their emphasis in the implementation and sustainability literature. They suggested several possible reasons: its lack of influence, researchers' lack of attention to this construct, or a focus on single interventions or organisations with insufficient variability for exploring the relative impact of different intervention characteristics. Stirman et al. also expected to find more studies which explored the influence of leadership, organisational climate and culture on sustainability. They concluded that given the variability in methods, outcomes and

potential influences studied, it was difficult to generalise about the likelihood of or influences on sustainability.

2.4 The conceptual base for the sustainability of interventions

Multiple elements have been identified in the conceptual literature as enhancing or prohibiting the likelihood of sustainability. This section describes these influences through a comprehensive *narrative* review of 29 sustainability frameworks or implementation frameworks with a sustainability phase in health care or other settings. The review was borne out of a desire to begin to understand *how* factors affected sustainability rather than labelling factors with a short descriptor as other reviews have done (Fleischer et al., 2015; Gruen et al., 2008; Moullin et al., 2015; Stirman et al., 2012). The results of a systematic review of empirical evidence of the sustainability of school-based public health will be presented later in the thesis (see chapter 5).

Development of the review of influences on sustainability

In 2017, I carried out a narrative review of sustainability, or implementation and sustainability, frameworks to explore the influences on sustainability. Frameworks for the review were primarily identified and re-synthesised from a broader systematic review of implementation frameworks for health care innovations by Moullin et al. (2015). A framework was defined by Moullin et al as “a graphical or narrative representation of the key factors, concepts, or variables to explain the phenomenon of implementation” (p.3). Moullin et al summarised the characteristics of each included framework, including the implementation stages on which they focused: *development* – innovation creation, refinement and impact evaluation, *communication* – the process by which people share information about a new innovation, *exploration* – the innovation-decision process whereby the end-user(s) decide on adoption, *installation* – the course of preparation prior to use, *operation* and *sustainability*. Forty-nine papers were included in Moullin et al.’s review, of which 31 focused on sustainability. Moullin et al. did not describe how frameworks were developed; instead they rated papers on a three-point scale based on the comprehensiveness of authors’ justification of included elements in the framework.

Papers were included in the re-synthesis if:

1. Moullin et al. identified the framework as one which included the stage of sustainability.
2. It explicitly linked factors to sustainability rather than to implementation in general.
3. It described the way in which a factor(s) influenced sustainability – factors listed or a factor stated without an explanation of how and why it was influential were excluded.
4. It described an intervention defined as any formal activity(ies) and/or tool(s) introduced into organisational or community setting by researchers to achieve a goal.

Of the 31 papers describing frameworks, 21 were included in the re-synthesis describing 20 frameworks. Only three of the frameworks in Moullin et al.'s review were developed (partially) in school settings. I included three other papers in the synthesis: Chambers et al.'s (2013) framework was mentioned in Moullin et al.'s discussion, published too late to be included in the review, and two papers were identified in Fleischer et al.'s (2015) concept analysis of sustainability, Buchanan et al (2005) and Gruen et al (2008). Buchanan et al.'s (2005) focused on sustaining organisational change in business and public sector organisations, not health care, but was included for its theoretical contribution to organisational factors. Appendix 2 describes how I extracted and synthesised data for the narrative review.

In 2019, I updated the review to search for additional frameworks that focused on schools. Lennox et al. (2018) had published a systematic review of sustainability approaches in health care (i.e. models, checklists, tools, processes, strategies, conceptualisations and frameworks), identifying 40 constructs in 62 approaches. Unlike Moullin et al.'s review, Lennox et al. focused on sustainability only; approaches used within a larger system process or stage process were excluded (for example, implementation models that included sustainability were excluded). Included approaches in Lennox et al.'s review were developed through literature reviews or systematic reviews (61%), professional expertise such as an advisory panel (26%), and interviews (24%) (or a mixture of methods). I screened the title/abstracts of the papers describing approaches in community health care, non-specified health care setting, and public health to look for approaches developed partially or fully in school settings (in high-income countries). Four approaches were found. After applying inclusion criteria #2-4 above, I found one additional paper to include in the narrative review. Finally, I included five papers I found during screening for the systematic review I conducted of empirical studies of the sustainability of school health interventions which were conceptually rich but did not meet the criteria for the systematic review (chapter 5).

Influences on the sustainability of public health intervention in health care and school settings

The narrative review which is presented in this section contains nine sustainability/implementation and sustainability frameworks which were developed partly/fully in school settings. All were by US-based authors; frameworks were developed through a literature review (n=3), a literature review combined with authors' experiences of implementing school health interventions (n=3), a systematic review (n=1), intervention developers/implementers/researchers' experiences (n=1), and an empirical study (n=1). The remaining 20 frameworks were mostly developed in health care settings and were from authors based in the US (n=13), England (n=2), Canada (n=2), Wales (n=1), Scotland/England (n=1) and Australia (n=1). Frameworks were largely based on literature

reviews or the authors' experiences in implementing interventions. Appendix 3 presents an overview of the frameworks, whether they are based on opinion/conceptual work or empirical evidence, and the phase(s) on which they focused. Appendix 4 details the frameworks from which influences were constructed.

Six primary domains emerged: intervention-level factors; practitioners' capability and commitment to sustaining an intervention; senior leaders' leadership skills and buy-in; organisational factors; capacity-building support for the organisation; and wider contextual factors. Table 3 presents a summary of the overarching domains and influences on sustainability. To keep focus on the school context, all quotes used to illustrate sub-domains are from descriptions of frameworks developed partly/fully in school settings.

Table 3: Summary of sustainability influences from a review of conceptual frameworks

Domain	Influential factor	No. of frameworks developed from health//health care or other settings (n=20)	No. of frameworks developed partially/fully from school settings (n=9)
Intervention-level factors	Effectiveness	8	3
	Adaptation	5	3
	Co-ordination with other programmes	0	2
	Cost	8	0
Practitioners' capability and commitment to sustaining an intervention	Acceptability and feasibility of long-term implementation	9	2
	Practitioners' competence and motivation	5	6
	Practitioners' collective action	6	1
Senior leaders' capability and support to sustain an intervention	Senior leaders' buy-in and support	6	3
	Senior leaders' skills	3	1
	Intervention champions	2	3
Organisational factors affecting sustainability	Monitoring and evaluation of the intervention	9	5
	Organisational climate and culture	8	1
	Staff turnover	4	5
	Ongoing funding and resources for the intervention	6	2
	Ongoing communication about the intervention	0	3
	Planning and creating an infrastructure for sustainability	7	3
Capacity-building support for sustainability	Partnerships and collaboration between developers and local stakeholders	11	2
	Provision of ongoing training, coaching and/or technical assistance	11	5
Wider contextual factors	External political support and financial climate	5	3
	Legitimacy of the intervention in professional fields	2	1

Domain 1: Intervention-level factors

Four intervention-level factors were thought to affect intervention sustainability: effectiveness, adaptation, co-ordination with other programmes and the cost of the intervention.

Effectiveness

Investment in intervention sustainability may be influenced by evidence of effectiveness in bringing benefits and generating no adverse effects (Buchanan et al., 2005; Gruen et al., 2008; Hader et al., 2007; Han and Weiss, 2005; Johnson et al., 2004; Scheirer and Dearing, 2011; Vega, 2009). Although ideally only interventions evaluated as effective would be sustained, in reality the outcomes of efficacy and effectiveness studies may be: a) mixed – for example, effective in some populations/settings and not others, or achieve some but not all of their intended outcomes; and b) unknown at the time when local programme managers need to decide on sustaining funding and/or implementation (Scheirer and Dearing, 2011). Many interventions have been sustained despite evidence of no effects or equivocal effects (for example, the Teens and Toddlers programme, Bonell et al., 2013) or even in the face of harmful effects (for example, Scared Straight youth crime prevention programmes, Petrosino et al., 2013) indicating evidence of effectiveness may not be a primary influencer for continuation (Racine, 2006). Investment in sustainability may be influenced by interim results, practitioners' perception of effectiveness based on the intervention's 'visible impact' – for example, teachers perceiving their students are learning and behaving better as a result of their new classroom practices – and/or the plausibility of how the intervention could lead to benefits (Berta et al., 2005; Buchanan et al., 2005; Feldstein and Glasgow, 2008; Han and Weiss, 2005).

Adaptation

Over time, the context in which an intervention is originally implemented will alter; there will be changes, for example, in the needs and characteristics of service users, organisational staffing, information systems, legislative and regulatory environment. Adaptation may enable interventions to continue to operate through these dynamic contexts (Buchanan et al., 2005; Chambers et al., 2013; Elias, 2010; Gruen et al., 2008; Han and Weiss, 2005; Kilbourne et al., 2007). Elias (2010) described adaption in schools that sustained a social-emotional learning (SEL) programme:

“... sustained sites often, over time, had staff members involved in creating supplementary materials or related programs and generally tailoring the original SEL program to the needs of the particular school.” (Elias, 2010, p.28)

Supporting intervention adaptation and flexibility rather than strict adherence to intervention manuals could reduce the likelihood of practitioners abandoning interventions when they were under pressure or when organisational systems were under strain (Buchanan et al., 2005; Chambers et al., 2013). Adapting interventions may also contribute to practitioners or organisations' identification with and feelings of ownership over the intervention, boosting motivation to sustain it (Elias, 2010; Racine, 2006; Scheirer and Dearing, 2011).

Co-ordination with other programmes

This sub-domain arose from two frameworks developed in school settings only. Schools may have multiple committees, curriculums or programmes working to similar goals, for example, safety, bullying, civic engagement, and personal development. Coordinated prevention activities could facilitate long-term implementation and interventions' positive effects (Plog et al., 2010). Elias (2010) found schools with sustained SEL programmes often had a formal or informal SEL leader who would foster assessment and coordination of existing interventions when issues were spotlighted, for example, because of a crisis or a new mandate, rather than jump into a new initiative.

The cost of the intervention

This sub-domain came from frameworks developed in non-school settings only. There could be many costs to meet for long-term implementation. These might include sufficient funding for: selection and retention of qualified staff; training provision and resources; monitoring and evaluation systems; office equipment and computer technology; work and meeting spaces; allocated time for service provision, meetings, administration, and training; and ongoing support from consultants, where needed (Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Hader et al., 2007; Johnson et al., 2004; Pronovost et al., 2008). Racine (2006) and Kilbourne et al (2007) emphasised the importance of demonstrating cost-effectiveness and making a business case for sustainability, particularly to persuade health care commissioners and planners to invest in the intervention.

Domain 2: Practitioners' capacity and commitment to sustaining an intervention

Practitioners delivering the intervention in schools, clinical or community settings were considered critical to intervention sustainability. Three sub-domains emerged: acceptability and feasibility of long-term implementation, practitioners' competence and motivation in delivering the intervention, and their collective agency.

Acceptability and feasibility of long-term implementation

Practitioners' motivation to continue to deliver the intervention was affected by their personal evaluation of its meaning, value and utility as they worked to carry the practice out (May and Finch, 2009). Some features of acceptable interventions were put forward: serving practitioners' interests; centrality to organisational performance/mission; ease of use; complementing existing ways of working; fitting in with other work routines and cultures of practice; and acceptability to other practitioners (Berta et al., 2005; Buchanan et al., 2005; Elias et al., 2003; Elwyn et al., 2013; Goodman and Steckler, 1989; Han and Weiss, 2005; Johnson et al., 2004; May, 2013a; Racine, 2006; Reavy and Tavernier, 2008). Whether

practitioners perceived the intervention as acceptable to service users and their families was also considered important (Hader et al., 2007).

Practitioners' competence and motivation

Whether an intervention was sustained, and the quality of implementation fidelity, was thought to be highly influenced by practitioners' competence and motivation. Learning and implementing new practices could be associated with unease, uncertainty and extra work, as well as excitement and creativity (Buchanan et al., 2005; Elias et al., 2003). Interventions could change working relationships, the knowledge that different professionals held, and affect practitioners' confidence and accountability (May, 2013). If practitioners' personal or professional aspirations and beliefs conflicted with intervention principles or approaches, then sustained programming was considered unlikely (Goodman and Steckler, 1989; Johnson et al., 2004; Plog et al., 2010). Elias (2010) noted that staff may have low motivation to implement an intervention if they believe that it is disconnected from the organisational mission or just a passing fad. Past experiences with similar initiatives may frame staff and service users' responses to the intervention and its long-term implementation (Buchanan et al., 2005; Elias et al., 2003).

Sustainability was considered more likely if training and delivery were of sufficient intensity during the initial implementation phase for practitioners to learn and apply the intervention principles and techniques, including how to make adaptations in line with an intervention's theoretical principles, and to experience success in achieving desired outcomes (Elias, 2010; Han and Weiss, 2005). Han and Weiss (2005) highlighted that observing success and attributing it to the use of the intervention could be a central component in practitioners' motivation to sustain school-based mental health programmes:

"Prior experience in implementing the program successfully, as well as belief in the ability of the program to improve student behaviour... may 'inoculate' teachers from prematurely giving up on the program when strategies do not show immediate effects with a new cohort of students." (Han and Weiss, 2005, p.676)

A combination of training and on-the-job coaching was thought to be most effective in encouraging staff to apply new skills (Aarons et al., 2011; Fixsen et al., 2009; Greenhalgh et al., 2004). Fixsen et al. (2009) highlighted the importance of carefully selecting staff with appropriate characteristics and experience to deliver the intervention, particularly if there were minimal training and coaching opportunities, and of ongoing evaluation of staff performance to feed into assessment of intervention effectiveness. Aarons et al (2011) noted that there might need to be a 'critical mass' of staff delivering the intervention in order for them to learn new skills and apply them consistently within a network of social/professional support.

Practitioners' collective action

Practitioners' actions and norms as an ensemble may affect sustainability (Buchanan et al., 2005; May, 2013; May and Finch, 2009). May and Finch's (2009) Normalization Process Theory (NPT) explains how the agency of individual and groups of practitioners—what practitioners *do* to enact an intervention—might impact on an intervention's institutionalisation. Agency may be observed in how practitioners: worked together to operationalize the intervention ('interactional workability'); secured accountability and the confidence of others in the intervention ('relational integration'); allocated tasks ('skill-set workability'); and integrated the intervention in their existing work ('contextual integration') (May and Finch, 2009).

Peer enrolment in intervention participation, peer education, and peer feedback were thought to promote knowledge and ownership of an intervention, increasing its acceptability, to prevent feelings of isolation, and in turn, to encourage its longer-term use (Ballard, 2010; Elias, 2010; Johnson et al., 2004; May, 2013a; Reavy and Tavernier, 2008). Practitioners could also play a role in ensuring that the programme continued when there were changes in senior leadership:

"In one district, when frequent changes in administration brought in new administrators who were unfamiliar with the program or seemed unsupportive, teachers approached them directly to gain support for continuity, and were successful." (Elias, 2010, p.29)

Domain 3: Senior leaders' capability and support to sustain an intervention

Three sub-domains emerged from frameworks in school and non-school settings related to senior leaders' capability and support: senior leaders' buy-in and support for the intervention; senior leaders' skills; and the presence of middle or senior leaders who extolled the virtues of the intervention – intervention 'champions'.

Senior leaders' buy-in and support

Active and visible support from senior management was identified in multiple frameworks as crucial to sustainability. If interventions were compatible with organisations' strategic direction, core operation and goals, and leaders' values, leadership buy-in was more likely (Buchanan et al., 2005; Goodman and Steckler, 1989; Greenhalgh et al., 2004; Racine, 2006). Racine (2006) noted that an intervention may be sustained if it met a reputational or symbolic need in presenting the organisation as 'cutting-edge' or simply doing something to tackle a problem when other organisations in the field were not. Leaders could support sustainability through: signalling the value of the intervention; generating enthusiasm for the intervention; encouraging staff to commit to the intervention and its desired outcomes; and

showing they were prepared to tackle barriers to its implementation (Aarons et al., 2011; Axelrod et al., 2007; Buchanan et al., 2005; Fixsen et al., 2009; Racine, 2006). Leaders' support was also vital for assigning resources to the intervention, staff training and development, co-ordinating action across departments, and planning for implementation (Axelrod et al., 2007; Ballard, 2010; Johnson et al., 2004; Racine, 2006).

Senior leaders' skills

High-level leadership skills were needed to sustain an intervention and cultivate an environment that would continue to support the intervention. Skills included: 'selling' the intervention to staff and other stakeholders; inspiring and maintaining the confidence of staff; being open to suggestions for improvement; and facilitating team participation and a trusting environment (Aarons et al., 2011; Buchanan et al., 2005; Johnson et al., 2004). Leaders also needed to be skilled at: acquiring funding; making use of data to inform decision making; and managing, planning and consistently delivering projects and change processes (Aarons et al., 2011; Buchanan et al., 2005; Fixsen et al., 2009; Johnson et al., 2004).

Intervention champions

Several frameworks noted the importance of intervention champions. Champions were influential opinion leaders, preferably in middle- or senior-level management, who could generate good external political support for an intervention with important decision-makers, promote enthusiasm and acceptance among practitioners, and promote the intervention's value (Axelrod et al., 2007; Durlak and DuPre, 2008; Feldstein and Glasgow, 2008; Goodman and Steckler, 1989, 1989; Johnson et al., 2004). Strong communication, interpersonal and negotiating skills to bring people together and engage diverse actors in the intervention, and excellent problem-solving skills to overcome implementation barriers were considered essential skills of champions (Goodman and Steckler, 1989; Johnson et al., 2004). However, Axelrod et al. (2007) also underscored the importance of creating/employing steering committees to oversee implementation alongside a champion so that continuation was not reliant upon one person.

Domain 4: Organisational factors affecting sustainability

Six organisational-level influences on sustainability were identified in frameworks: monitoring and evaluating the intervention; organisational climate and culture; staff turnover; ongoing funding and resources; ongoing communication about the intervention; and planning and creating an infrastructure for sustainability.

Monitoring and evaluation of the intervention

Many frameworks from both school and non-school settings conveyed the importance of having monitoring and evaluation systems in place to review the intervention's ongoing

impact on health outcomes, its implementation, and the views of staff, service users and other stakeholders. Evaluation had a number of important functions: to gather data on local needs; to monitor implementation fidelity; to inform continuous quality improvement; to inform appropriate adaptation and review its effects; and to calculate return on investment (Aarons et al., 2011; Chambers et al., 2013; Elias et al., 2003; Feldstein and Glasgow, 2008; Fixsen et al., 2009; Glisson and Schoenwald, 2005; Gruen et al., 2008; Johnson et al., 2004; Kilbourne et al., 2007; Plog et al., 2010; Pronovost et al., 2008; Racine, 2006).

Evaluation could also provide regular opportunities for staff to reflect on the progress of the programme, provoking awareness of necessary modifications and reinvigorating a sense of ownership and commitment to the programme (Elias, 2010). Monitoring and evaluation could also give interventions credibility by signalling an organisation's investment in the approach, and motivating staff to sustain their efforts by evidencing its effects (Axelrod et al., 2007; Elias, 2010; Plog et al., 2010). Plog et al. (2010) described the impact of the ongoing evaluation of school bullying and prevention programmes:

Use of data and evaluation not only to validate the outcome of the effort but also to acknowledge the effort and celebrate the gains... Regular data collection such as student, staff, and/or parent surveys and review of discipline and attendance records paired with discussion of the results can help to maintain momentum. (Plog et al., 2010, p.566)

Organisational climate and culture

A positive organisational climate – how practitioners experience the conditions of an organisation – was identified as a facilitator of intervention sustainability. A number of organisational policies and mechanisms could support a positive climate, for example: human-resource policies that encouraged teamwork and commitment; transparent and consistent reward systems; and mechanisms for communicating achievements (Buchanan et al., 2005; Feldstein and Glasgow, 2008). High quality of internal and external communications could enable practitioners to feed back to leadership teams and encourage cooperation across departments, and ensure transparency and clarity in decision-making (Ballard, 2010; Greenhalgh et al., 2004; Racine, 2006).

Organisational culture – the system of shared assumptions, values and beliefs governing how people in an organisation behave – could also affect sustainability. Sustainability may be more successful in organisations that value continuous learning and improvement, and evidence-based practice, as significant change was demanding and required full organisational engagement in problem-solving (Aarons et al., 2011; Buchanan et al., 2005; Chambers et al., 2013). Organisational norms and processes could communicate expectations that practitioners continue to implement and develop new skills: for example,

clear policies for performance and non-compliance, and supervision sessions (Aarons et al., 2011; Johnson et al., 2004). Elias (2010) described the spirit of continuous learning in relation to SEL programmes in schools:

“Interviewees discussing programs in sustained sites described atmospheres in which school staff members talked about SEL strategies regularly and could approach coordinators or other colleagues flexibly for support. (Elias, 2010, p.27)

Staff turnover

High staff turnover may compromise intervention sustainability if knowledge and experience in delivering the intervention are lost, alongside relationships among staff that were developed to sustain the intervention (Elias et al., 2003). Tacit knowledge of how the intervention can and cannot be adapted according to its theoretical principles may not be transmitted to new staff (Elias et al., 2003). In sectors where staff turnover is particularly high and/or interventions require a high level of skill, sustaining interventions may be costly as frequent training opportunities were needed (Aarons et al., 2011; Fixsen et al., 2009). Changes in leadership could also be a considerable threat if new managers wished to introduce their own ideas rather than continue those of their predecessors (Buchanan et al., 2005; Elias, 2010).

Frameworks described a number of ways to mitigate the effects of staff turnover. Recruiting new staff with skills and attributes well-suited to the intervention could help sustainability (Fixsen et al., 2009). Formal processes could be put in place for informing and training/coaching new staff, including codifying intervention policies and procedures, and giving them feedback on their implementation (Aarons et al., 2011; Ballard, 2010; Fixsen et al., 2009; Johnson et al., 2004). For schools specifically, the nature of the school calendar meant planning such processes needed to occur in the spring in order for intervention induction and training to take place at the beginning of the autumn term (Plog et al., 2010). A steering committee/leadership team created to oversee the intervention or a train-the-trainer model at a regional level could ensure multiple individuals were responsible for intervention continuation (Axelrod et al., 2007). Good managers could be sensitive to the negative impact of staff turnover on motivation, and could provide encouragement (Gruen et al., 2008).

Ongoing funding and resources for interventions

Several frameworks highlighted the need to mobilise and allocate sufficient financial, human, and material resources to sustain interventions (Aarons et al., 2011; Gruen et al., 2008; Han and Weiss, 2005; Johnson et al., 2004; Mendel et al., 2008). Funding may come from either incorporating the intervention into the organisation’s ongoing budget or from additional external financial support (Scheirer and Dearing, 2011). Acquiring funding from a range of sources, for example through grants, local and national funding sources, might increase the

chance of sustainability by preventing interventions from becoming dependent on a single funding source (Johnson et al., 2004).

The potential contribution of other resources to sustainability, such as dedicated volunteers or networks among individuals or organisations, was highlighted by several frameworks developed in non-school settings (Johnson et al., 2004; Mendel et al., 2008; Racine, 2006; Vega, 2009). Vega (2009) highlighted that sharing information, strategies, guidance and material resources was essential for community-based organisations providing services, funding for which was constantly under threat. Well-connected organisations within the wider community also had access to less tangible assets such as political influence and media connections. Informing potential sources of local influence about the intervention at an early stage might increase the chances of accessing funding later on (Racine, 2006).

Ongoing communication about the intervention

Three frameworks developed in school settings in relation to SEL programmes and one developed in relation to bullying prevention described the need for ongoing communication about an intervention across the school community, for example through posters, schools newsletters and planners, in conversations and meetings (Axelrod et al., 2007; Elias, 2010; Plog et al., 2010). Communication was needed to: develop a common language about the intervention; inform and remind people; share news of success; build interest and enthusiasm; involve parents and community members; and manage expectations about how quickly benefits might be seen (Axelrod et al., 2007; Elias, 2010; Plog et al., 2010).

Planning and creating an infrastructure for sustainability

Organisational planning and infrastructure for sustainability could improve the intervention's chances of survival, according to several frameworks from school and non-school settings. Planning began with having a clear understanding of the nature of the problem targeted by the intervention, the current state of organisational conditions, services and resources, and identification of key roles, persons and organisational interdependencies related to the intervention (Elias et al., 2003; Feldstein and Glasgow, 2008; Gruen et al., 2008; Racine, 2006). Elias et al. (2003) described the nature of planning needed to sustain school SEL programmes:

“Detailed planning is essential; vague or tentative plans never eventuate in success. But detailed plans are almost never implemented as envisioned; rather, they are temporary, flexible, and represent guideposts. Consequently, plans must delineate processes for dialogue, project management, setting benchmarks for progress, gathering and communicating feedback, and making decisions about significant changes.” (Elias et al., 2003, p.312)

A steering committee could be employed (or created) to: oversee monitoring and evaluation and review the programme; oversee changes to organisational structures, functions (for example, job descriptions), policies and procedures; maintain connections with programme developers to help trouble-shoot implementation problems and update materials; and integrate prevention efforts (Axelrod et al., 2007; Buchanan et al., 2005; Elias, 2010; Feldstein and Glasgow, 2008; Johnson et al., 2004). Processes to support ongoing training in the intervention may be needed to mitigate the impact of staff turnover (Ballard, 2010; Kilbourne et al., 2007).

Domain 5: Capacity-building support for sustainability

Two key aspects of capacity-building to support sustainability emerged from frameworks developed in school and non-school settings: partnerships and collaboration between developers and local stakeholders, and ongoing training, coaching and technical assistance.

Partnerships and collaboration with developers and local stakeholders

Involving practitioners, services users, and other local stakeholders in the implementation and ongoing development of the intervention could ensure the intervention met the needs of the organisation/community, and facilitated local ownership and successful implementation: that is, enhance likely precursors to sustainability (Chambers et al., 2013; Durlak and DuPre, 2008; Elias et al., 2003; Mendel et al., 2008; Racine, 2006; Scheirer, 2013). A collaborative approach could potentially strengthen: inter-organisational networks among stakeholders; relationships between intervention developers and the community; and local stakeholders' capacity to continue to deliver and review the progress of the intervention (Feldstein and Glasgow, 2008; Glisson and Schoenwald, 2005; Johnson et al., 2004).

Partnerships could be of practical help in procuring funds and resources for sustainability (Aarons et al., 2011; Johnson et al., 2004; Kilbourne et al., 2007; Mendel et al., 2008; Scheirer, 2013). Stakeholders, such as funders, managers, policy makers, and trade unions, could support sustainability by mobilising resources, political and organisational support for the intervention. But equally, dominant stakeholder groups had the power to obstruct implementation and sustainability (Buchanan et al., 2005; Gruen et al., 2008).

Provision of ongoing training, coaching and/or technical assistance

Committing resources for ongoing training, coaching and technical assistance was considered important to sustaining interventions with fidelity, highlighted by frameworks from school and non-school settings. Training and on-the-job coaching from external providers or delivered in-house by experienced staff could orientate new staff-members in the intervention techniques, philosophy and values (Ballard, 2010; Elias, 2010; Fixsen et al., 2009; Kilbourne et al., 2007; Pronovost et al., 2008; Racine, 2006; Reavy and Tavernier, 2008). Training and technical assistance could support appropriate adaptation and be used

to monitor improvements in quality (Feldstein and Glasgow, 2008; Glisson and Schoenwald, 2005; Han and Weiss, 2005). Practitioners and other stakeholders may also need training in how to collect, interpret and present data, recommend changes and monitor progress (Glisson and Schoenwald, 2005; Johnson et al., 2004; Vega, 2009).

Training also had an important role in motivating staff, enabling them to reflect on the work and share best practice, and maintain enthusiasm for the intervention (Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Elias, 2010; Feldstein and Glasgow, 2008; Plog et al., 2010). Training could be an essential opportunity to learn and use the skills that school staff needed to transmit to students, as Axelrod et al. explain:

“Professional development that promotes the development of these [social and emotional] skills and creates time for reflection, problem-solving, and planning, is essential for the practices to become embedded in staff practices and into the fabric of the school. For SEL instruction to be effective, all the adults in the school must model, practice, and reinforce the qualities and skills they are helping students to learn.”
(Axelrod et al., 2007, p.9-11)

Domain 6: Wider contextual factors

Wider contextual factors could impact on sustainability, emerging from frameworks in school and non-school settings: supportive political and financial context; and legitimacy of the intervention in professional fields.

Supportive political and financial context

The substance, process and timing of interventions could be influenced by dynamic events and developments outside the organisation, for example: economic conditions; changes in legislation; and changes to political leaders who may champion or deprioritise the intervention (Buchanan et al, 2005, Gruen et al, 2008, Johnson et al, 2004). Han and Weiss (2005) comment on the external context for schools:

“Teachers’ program implementation does not occur within a vacuum, but rather reflects and is strongly influenced by school reforms and initiatives that occur within a shifting landscape of socio-political priorities and policies at the country, state and federal levels.” (Han and Weiss, 2005, p.666)

Consequently, interventions that fit with organisations’ strategic commitments and align with current political trends and social policies might be more likely to be sustained through continued funding and promotion (Durlak and DuPre, 2008; Han and Weiss, 2005; Racine, 2006; Scheirer and Dearing, 2011). However, the political climate is likely to be less predictable and controllable than others factors (Racine, 2006). Interventions focused on

capacity-building, for example, leadership training or strategic planning or new information systems, might be deprioritised quickly in turbulent political and financial climates (Scheirer, 2013). Fields where policy preferences were highly ideological and so might change quickly, for example between welfare and punishment in the field of youth justice, may pose particular challenges for sustainability (Racine, 2006).

Legitimacy of the intervention in professional fields

Sustainability could be affected by the perceived legitimacy of different forms of intervention, which were dependent on mainstream trends in professional fields (Buchanan et al., 2005; Racine, 2006). Racine (2006) put forward the example of the increasing legitimacy of 'whole-school reform' in the USA as problems in public education started to be perceived as a crisis from the 1980s, where previously the accepted approach to changing education practice had focused on specific curriculum modification. Elias (2010) noted that since the turn of the century, political focus on students' academic attainment as the core purpose of education may have diminished the legitimacy of sustaining some public health programmes in schools:

"Implementing a SEL curriculum may receive low priority if it is perceived as disconnected from the academic mission of schools or as going part of current fad or unfunded mandate related to students' character or prevention of problem behaviors."
(Elias, 2010, p.28)

2.5 Potential differences between sustainability influences in school and health care settings

Many of the influences on sustainability may be similar in both health care and school settings, as most of the constructs emerged from frameworks developed in both settings. For example, multiple frameworks across settings emphasised the importance of senior leaders' buy-in and support and the difficulties in managing knowledge transfer through staff turnover. However, there may be some constructs that differentially affect schools. Within the domain of legitimacy of the intervention in the professional field, there was a suggestion that health interventions may be seen as less legitimate in schools than practices focused on academic attainment, given current trends in educational policy in high-income countries. Elias (2010) noted that staff may have low motivation to implement an intervention if they believe it is disconnected from the organisational mission, and other studies have indicated teachers vary in their commitment to teaching health promotion (Tancred et al., 2018).

Two constructs appeared solely in frameworks developed in school settings: co-ordination with other programmes and ongoing communication about the intervention. These constructs emphasised the multiple groups of actors in schools operating in different activity

settings – year groups, departments, auxiliary staff, parents, middle managers, senior leaders operating in classrooms, playgrounds, canteens, meeting spaces, assemblies, corridors and the wider community. Although multiple programmes and communication challenges exist in health care settings, there may be particular challenges in coordinating health interventions and communicating their aims, value and activities in schools, for example because: responsibilities for student wellbeing are distributed among multiple actors (for example, Heads of Year, pastoral teams); there are limited formal feedback mechanisms or formal flows of information about school health; or staff perceive interventions as disruptive to learning time (Keshavarz et al., 2010; Tancred et al., 2018).

There may also be difference in relation to staff competence and motivation, and schools' capacity to monitor and evaluate students' health. Teachers may require additional support and training to deliver health promotion which is outside their usual expertise (Tancred et al., 2018). Although schools in some countries do collect student health data at regular intervals (for example, schools that are part of the School Health Research Network in Wales complete a Student Health and Wellbeing Survey every two years) and schools may carry out one-off student surveys on particular public health topics of interest, schools generally do not routinely collect health data on their students. Limited interaction between schools and the health sector might impede the identification of funding, resources and training for sustainability (Keshavarz et al., 2010).

One construct in the review, the cost of the intervention, appeared only in frameworks developed in non-school settings. This could be because the school-based interventions, around which the frameworks were developed, were designed to be carried out as part of existing staff roles, and there was an assumption that the financial cost of continuation would be subsumed into existing budgets. Financial mechanisms to influence implementation outcomes were found by school-based implementation experts to be inappropriate to the school context, suggesting little flexibility in the allocation of school funds (Cook et al., 2019). However, assuming an intervention can be incorporated into a school's budget, there may still be costs to sustainment: for example, ongoing provision of training from external providers or the replacement of equipment. If such costs are not accounted for, continuation could occur but with sub-optimal quality. In short, there are reasons to think that sustainability processes and resources in schools and health care settings may differ in some important ways.

2.6 Gaps and limitations in the evidence and conceptual base on the sustainability of school health interventions

Existing empirical evidence on sustainability and its influences comes primarily from health care and not school settings. Although Stirman et al.'s systematic review was not designed to seek out studies on the sustainability of school-based interventions, for example, no

school health journals or websites were searched, fourteen of the 125 empirical studies (11%) were of school health interventions. The identification of these studies and the pace in which the field is progressing suggested a systematic review focused on school settings could prove fruitful. Consequently, the first empirical chapter in the thesis is a systematic review of empirical evidence of the sustainability of school-based health interventions (c chapter 5).

The empirical studies in Stirman et al.'s review varied in methodological quality and in the breadth and depth with which they explored sustainability outcomes and influences. The review authors made several recommendations for future studies of sustainability; they should:

- Define sustainability and be guided by a conceptual framework of sustainability
- Define the desired impact and benefits of the intervention, and consider stakeholders' goals for sustainability in interpreting findings.
- Choose an appropriate timeframe, that is, a timeframe that is sufficiently beyond an initial implementation effort to provide meaning information, ideally assessing sustainability over several years
- Assess fidelity and describe adaptations to interventions
- Examine influences on sustainability across multiple levels and how they interaction
- Evaluate conceptualisations of sustainability

The thesis will contribute to the body of empirical work and address the evidence gaps identified by Stirman et al by conducting an in-depth longitudinal case study of the sustainability of a complex, whole-school bullying prevention intervention, 'Learning Together.' The case study will explore the processes and resources influencing the sustainability of the intervention in five schools in the two years after an effectiveness trial, the 'INCLUSIVE' trial (chapters 6 – 9). Using an existing conceptual framework, the study will focus on the sustainability of different intervention components, including an assessment of fidelity, describe adaptations to the intervention, and will examine school staff and students' views on its sustainability and the influences on sustainability.

In this chapter, numerous implementation-and-sustainability/sustainability frameworks were reviewed. Together, the frameworks presented a comprehensive array of potential influences on sustainability. The most common influences from frameworks developed partially/fully in school settings were: practitioners' competence and motivation, staff turnover, organisational monitoring and evaluation of the intervention, and the provision of ongoing training, coaching and/or technical assistance. The latter two influences were also frequently referred to in frameworks developed in health/health care/other settings, alongside acceptability and feasibility of long-term implementation, and partnerships/collaborations between developers and local stakeholders. Most frameworks

including those developed in schools encompassed several factors across domains or focused primarily on one or two domains. Four frameworks from health care and other settings were comprehensive, covering most of the influences and domains: Johnson et al.'s (2004) 'sustainability planning model'; Buchanan et al.'s (2005) literature review and model of 'process of sustainability in context'; Racine's (2006) 'model of sustaining interventions in their effectiveness'; and Aarons et al.'s (2011) model of implementation phases and factors affecting implementation in public service sectors.

I had intended to use my narrative review of conceptual frameworks to identify one that I could apply in my systematic review and case study of the processes of sustainability. What became clear from the review was that most conceptual frameworks were rooted in implementation science, focused on identifying lists of facilitators and barriers to sustainability, with the underpinning philosophy that if these facilitators could be bolstered and barriers reduced, sustainability would naturally follow. This too had initially been my perspective. However, I began to realise that this approach of focusing on the cogs and mechanics of interventions and organisations was quite unhelpful in meaningfully examining how staff negotiated the intervention and the school context, exploring implementation processes over time and understanding contextual similarities and differences between health care and school settings. Furthermore, the frameworks tended to either be over simplified (for example, Buchanan et al, 2005) or overly complex (for example, Racine, 2006), making them difficult to operationalise in practice.

Consequently, I began to look for a framework that was more sociological in nature. I sought to understand the relationship between staff closely involved with the intervention and the wider staff body, particularly the role of intervention champions and middle managers, and whether new relationships between staff members were created through participating in the intervention. I was interested in how the intervention components fit with existing school systems and structures for discipline and student voice. The INCLUSIVE trial had drawn on the conceptual framework of NPT to consider the normalisation of Learning Together as part of its process evaluation in the trial's third year. I initially considered using NPT as a framework. Its strengths were that it was rooted in extensive empirical research and provided a comprehensive explanation of implementation processes (May and Finch, 2009). However, in my review of frameworks it contributed only to the practitioner-level domain and lacked explanation of processes occurring at an organisational level and in the wider context, which I considered important.

A paper by May et al. (2016) alerted me the general theory of implementation (GTI). GTI builds on NPT by examining the mobilisation of resources for implementation and mechanisms that lead to variations in implementation processes *over time* – in other words, sustainability – and between settings (May, 2013b; May et al., 2018). GTI offered a way of

thinking about sustainability as a social process with a focus on human agency. It appeared to have good explanatory power, identifying key overarching domains and influences that aligned with the constructs identified in other sustainability-focused frameworks, without making processes linear or deconstructing each area into its constituent parts. It was developed from existing theory and empirical research and it also resonated with my epistemological approach (see section 4.1). For these reasons, I adopted GTI as my conceptual framework for both the systematic review and the case study. However, it is primarily a theory of implementation – its description is not tailored to sustainability, it has not been applied to school settings, and studies of its use have identified areas where refinement may be useful (see chapter 3.2). The thesis will contribute to the conceptual base on sustainability by testing whether the GTI is a suitable theory for exploring sustainability processes and resources.

Conclusion

This chapter has focused on the conceptual and empirical literature on sustainability and how it has informed the empirical work in the thesis. Sustainability in the thesis is defined as the continuation of an intervention after external funds and/or resources to initially implement it end. The existing evidence of the sustainability of health interventions come primarily from health care settings; it suggests that partial sustainability of some components was the most common outcome, with changes in the level of implementation the norm, though methodologically stronger studies were needed (Stirman et al, 2012). Conceptual frameworks, developed largely from literature reviews and authors' experiences of implementing interventions, have proposed multiple factors that could explain differences in sustainability between different sites and interventions. However, the interaction between factors, the timeliness of factors, and the relative weight of different influences is unclear, and evaluations of existing frameworks are needed (Stirman et al. 2012). Furthermore, few frameworks have focused on schools. Research on sustainability processes and resources, informed by theory, could enable funders, developers, implementation agents, practitioners and other stakeholders to develop strategies to promote sustainability and ensure that investment in initiating evidence-based practice is not wasted.

This thesis will contribute to gaps in the sustainability literature through a systematic review of empirical studies of the sustainability of health interventions in schools, and a longitudinal case study of the sustainability of Learning Together, a whole-school bullying prevention intervention in secondary schools after the cessation of an effectiveness trial. The studies will use the general theory of implementation (May, 2013) as a conceptual framework for the work. The next chapter explains the theory's content and how it will be applied.

Chapter 3: Conceptual framework: the general theory of implementation

How can we best understand the dynamics of human agency under conditions of constraint? (May et al., 2016, p.9)

The general theory of implementation (GTI) focuses on the work that practitioners do when they implement new or modified ways of working, how practices become embedded (or not) in their everyday work, and the how the social context in which they work affects implementation processes over time (May, 2013a). The GTI is used as a conceptual framework for the empirical chapters in the thesis: a systematic review of the sustainability of school-based health interventions (chapter 5) and an in-depth case study of the sustainability of 'Learning Together', a complex school-based bullying prevention intervention (chapters 6 – 9). This chapter describes the content of GTI and its propositions, its potential strengths and weaknesses for explaining sustainability processes and resources, and how it is used in the thesis.

3.1 Content of the GTI

GTI is a middle-range sociological theory: it is broader in guiding empirical inquiry than a theory of change concerning the implementation of a particular type of intervention in a specific school, and not so all-encompassing as grand theory concerning broader questions of social transformations (Merton, 2012; Skinner, 2000). GTI is also known as extended normalization process theory (NPT) as it developed from NPT, one of the most commonly used theoretical frameworks for evaluating the sustainability of health care interventions (Lennox et al., 2018).

GTI describes and explains the processes by which implementation, embedding and integration of an intervention take place over time (May et al., 2016). May et al. (2007) define *implementation* as a deliberately initiated attempt to introduce new, or modify existing, patterns of work among agents. Agents are any individuals enrolled in implementing an intervention. May et al. (2007) elaborate: "Deliberate initiation means that an intervention is: institutionally sanctioned; formally or informally defined; consciously planned; and intended to lead to a changed outcome". *Embedding* is defined as the processes through which new or modified patterns of work, i.e. the intervention, become routinely incorporated (or not) in the everyday work of individual or groups of staff or other agents (May et al., 2009). *Integration* is defined as the processes by which the new or modified patterns of work are reproduced and sustained.

GTI characterises and explains implementation processes as the interaction between human agency (people's ability to make things happen through their actions) and dynamic elements

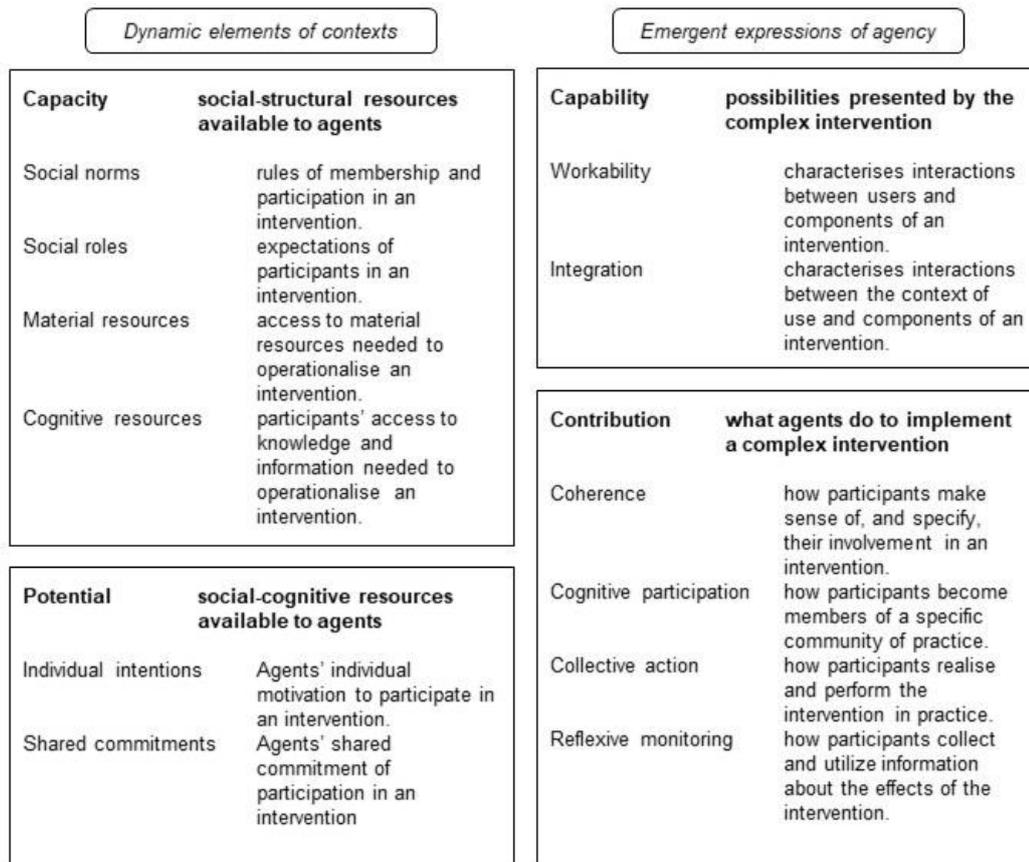
of context (the resources that people can draw on to realise that agency) (May, 2013b). In other words, people's actions to sustain an intervention may be mobilised or hindered by *social structural resources*, such as social roles, social norms and material resources (e.g. funds/equipment/space), or *social cognitive resources* such as staff's commitment to learning and implementing a new behavioural approach. All implementation in social systems requires shifts in resources and in individual and collective ways of working, where social systems are defined as "a set of socially organized, dynamic and contingent relations" that are shaped over time by internal and external factors (May, 2013b, p.3).

The GTI is comprised of four domains:

- *potential* – the social-cognitive resources available to agents, that is, whether individual agents, and/or the organisations in which they act, have the desire and ability to participate in an intervention.
- *capability* – the possibilities presented by a complex intervention – whether and/or how agents can fit the intervention into their everyday work and into organisational routines, policies and systems;
- *contribution* – what agents do to implement a complex intervention, that is, what actions agents take to operationalise an intervention (see figure 1); and
- *capacity* – the social-structural resources available to agents. These are the social structures, norms, roles and resources within a setting which affect whether and/or how agents can operationalise an intervention.

Figure 1 presents an overview of the theory's domains and dimensions. The domains are not linear or sequential but are thought to interact continuously with each other in emergent and complex ways (May, 2013b). Each domain and its dimensions are described in the sections that follow.

Figure 1: The general theory of implementation domains



Potential: staff or other agents' motivation to implement an intervention

Individual intentions and shared commitments are important to the dynamics of implementation. Individual motivation is necessary for action, especially if agents have a high degree of professional autonomy or personal discretion in their role. However, implementation processes most often depend on collective commitment and collaboration. Organisational members collectively need to value the changes targeted by an intervention and feel confident that the group as a whole can make the necessary changes (May, 2013b). There are two key dimensions:

- *Individual intentions*: agents' readiness to transform personal beliefs and attitudes into intervention behaviours, affecting agents' motivation to participate in an intervention.
- *Shared commitments*: agents' readiness to translate shared beliefs and attitudes into intervention behaviours, affecting agents' shared commitment to participate in an intervention.

The implication is that an intervention will be more likely to be implemented if staff or other agents both individually and collectively commit to operationalising it in practice. May (2013a) expresses this as a single proposition:

The translation of capacity into collective action depends on agents' potential to enact the complex intervention. (May, 2013a, p.8)

Capability: the extent an intervention can be made to fit into agents' everyday practice

New or modified ways of working ('ensembles of practice') are often intended to change people's expertise and actions. Studies have also shown that the attributes of intervention components themselves affect their use: for example, their physical properties, the assumptions about use and users embedded within them, and the social relations they require for use (May, 2013b). These elements combine to affect how agents interact with an intervention to make it operationally workable, to allocate labour, and to integrate it into practice and the social system. There are two key dimensions:

- *Workability*: how agents allocate work and interact with one another to operationalise an intervention.
- *Integration*: the work carried out to integrate the intervention into existing practices, policies and systems, including procedures to develop accountability and fidelity/consistency of use and resources allocated to its operation.

The implication is that an intervention will be more likely to be sustained if its elements and its associated ways of working can be made operationally workable by staff or other agents, and work is carried out to integrate the intervention into existing policies and procedures. May (2013a) expresses this proposition as follows:

The capability of agents to operationalize a complex intervention depends on its workability and integration within a social system. (May, 2013a, p.5)

Contribution: the actions carried out by agents to implement an intervention

Contribution is the collective actions of agents to operationalise an intervention. This domain is also known as NPT and was the first of the four domains to be developed (May et al., 2009). When agents operationalise a complex intervention, they are collectively involved in four social processes (May, 2013b):

- *Coherence or sense-making*: how agents attribute meaning to intervention component, how they make sense of their use and worth and differentiate it from other processes in their social field.
- *Cognitive participation*: agents initiate work that establishes the legitimacy of an intervention and enrolls themselves and others (that is, develops 'buy-in') into an implementation process. Cognitive participation frames how participants become members of a specific community of practice.

- *Collective action*: agents operationalise the work and distribute and mobilise skills and resources to enact it. Collective action frames how participants realise and perform the intervention in practice.
- *Reflexive monitoring* – agents appraise, formally and informally, the effects and operation of the intervention (May & Finch, 2009, p. 542-546). This dimension frames how participants collect and utilise information about the effects of the intervention.

The implication is that an intervention will have more potential to be implemented if agents invest work in operationalising it in practice. May (2013a) expresses this as the following proposition:

The implementation of a complex intervention depends on agents' continuous contributions that carry forward in time and space. (May, 2013a, p.9)

Capacity: the influence of the social context on intervention implementation

Social networks form relational pathways through which different kinds of work are done (May, 2013b). The structure of these social networks affects how information flows between agents (and groups of agents) and affects how work relating to an intervention is communicated and operationalised. Implementation may be required across expansive, physically distributed, social fields (for example, large-scale policy implementation across a health-care system) or may be carried out across much smaller, tightly-knit fields (for example, a team within an organisation). Nonetheless, agents act with a shared set of understandings about the purpose of the network, its relationships and who has power, and rules. Collective action takes place within this social field and this domain frames the basic conditions for people's expression of agency to invest in implementation (May, 2013b).

There are four key dimensions of capacity:

- *Social norms*: collective rules or understandings of acceptable behaviour that govern agents' behaviour, rewards and involvement in an implementation process.
- *Social roles*: socially patterned identities within a setting which define expectations of different agents and what they are authorised (or not) to do to operationalise an intervention.
- *Cognitive/informational resources*: whether and how knowledge, information or evidence are disseminated and distributed to agents in an implementation process
- *Material resources*: funding, equipment, physical space, and any other material resources that are mobilised by agents in an implementation process.

The implication is that an intervention will be more likely to be implemented if it aligns with existing norms and roles and there are sufficient material and cognitive resources to support agents to implement an intervention. May (2013a) expresses this as a single proposition:

The incorporation of a complex intervention within a social system depends on agents' capacity to cooperate and coordinate their actions. (May, 2013a, p.6)

NPT has been widely used to examine the implementation of a diverse range of complex health-care interventions (Lennox et al., 2018; May et al., 2018; McEvoy et al., 2014). A systematic review of the use of NPT in feasibility studies and process evaluation of complex health interventions found two main methodological strategies for employing the theory (May et al. 2018). Some studies used NPT constructs as part of an a priori coding framework to code qualitative data or used them for directed content analysis; others used NPT constructs inductively or abductively, as sensitizing devices to form questions about implementation processes and analyse data (May et al. 2018).

Although a wide range of studies have used NPT, few have employed GTI as a conceptual framework. Of those identified, three examined the implementation of health care interventions and one study analysed a family-based intervention (Drew et al., 2015; Grealish et al., 2019; Segrott et al., 2017; Thomas et al., 2015). These studies found GTI to be a useful tool to explore implementation and accounted for most of the experiences and implementation challenges identified by professionals. However, a number of criticisms of the theory have been put forward. Firstly, some studies have found overlap between constructs, meaning that data could be coded as indicative of more than one construct (Drew et al., 2015; McEvoy et al., 2014). For example, McEvoy et al. (2014) found that in the domain of *contribution*, doubts staff had about their role in delivering an intervention could fit within the dimension of cognitive participation (whether participants believed it was legitimate for them to be involved) or collective action (the division of labour and the allocation of tasks). Secondly, there has been criticism that the theory is unable to account for expressions of agency from non-professionals, for example, participants' potential and contribution (Segrott et al., 2017). Third, the theory does not address the relative importance of different domains at different points in the implementation journey; there is no differentiation, for example, between early implementation and sustainability some years after initial implementation. The GTI domain of *contribution* proposes that agents make sense of an intervention's use and worth; this seems plausible early on in implementation but less so several years into implementation.

3.2 Using GTI as a conceptual framework in this thesis

GTI was used as a sensitising lens for the empirical work in the thesis: the GTI directed my attention during data collection and analysis to emerging social processes, the actions and interactions between staff and between staff and students, staff professional skill sets, relationships, beliefs and values, and organisational routines and structures.

A primarily inductive approach was used to allow the analysis to be theory-led without pushing the data into a rigid theoretical framework (May et al. 2018). A more flexible approach was considered important particularly because GTI had not been applied specifically to the study of sustainability process before, nor to the school setting. For the systematic review, GTI informed the overarching structure of higher-order themes and sub-themes that were developed, enabling the analysis to move beyond merely identifying specific facilitators and barriers, and instead developing explanations that look at broader sustainability processes within schools (chapter 5). The GTI had a greater role in the development of case study of the Learning Together intervention. It informed the research questions examining staff's and students' intention to sustain the intervention and how the school context influenced its sustainability, focusing respectively on the domains of *potential* and *capacity*. The theory was used in the development of the data collection tools: the staff interview guide (assessing each intervention component's impact on work, attitudes, skills/knowledge and relationships), the student interview guide (assessing students' views on the integration of the intervention), and the facilitator interview guide (exploring facilitators' views of factors affecting the embedding and integration of the intervention). GTI then informed the analysis of the data, employing a similar approach to the systematic review using the dimensions to inform the higher-order themes but with flexibility (see chapter 4 for more details on data analysis).

To make the analysis process more 'workable' for the research questions in this thesis, while staying close to the language of the theory, the overarching domains were translated: the word "agents" was replaced with "school staff"; "implementation" or "implementation processes" were replaced with "implementation over time" or "implementation processes over time"; and "intervention" was replaced with "Learning Together" (see appendix 5). For example, "Social norms: collective rules or understandings of acceptable behaviour that govern agents' behaviour, rewards and involvement in an implementation process," was replaced with, "Social norms: collective rules or understandings of acceptable behaviour that govern school staff's behaviour, rewards and involvement in an implementation process over time." The overarching domains were described as follows:

- *Potential*: school staff's motivation to implement Learning Together over time
- *Capability*: the extent Learning Together could be made to fit into school staff's everyday practice
- *Contribution*: the actions carried out by school staff to implement Learning Together over time
- *Capacity*: the influence of the social context on Learning Together's implementation over time

The descriptions of the dimensions under 'Potential' were also slightly re-worded for clarity: individual intentions were described as *individual differences between* school staff in their readiness to transform personal beliefs and attitudes *about how to improve students' health, wellbeing and behaviour* into intervention behaviours, and shared commitments were described as school staff's *collective* readiness to translate shared beliefs and attitudes *about how to improve students' health, wellbeing and behaviour* into intervention behaviours (see appendix 5 for full wording).

Conclusion

GTI is a middle-range theory of implementation processes that encompasses the influence of the social context in which processes occur. It covers many of the sustainability influences identified in other theoretical frameworks, including: intervention-level characteristics under the domain of capability, the commitment and capability of practitioners and senior leaders under the domains of potential and contribution, and organisational-level factors under the domain of capacity (see chapter 2). The thesis is the first study to apply GTI to a school-based intervention and assess its potential to contribute to our understanding of sustainability processes and resources. The next chapter sets out the research questions and methods for the empirical work.

Chapter 4: Research questions and methods

The central aims of this thesis are to examine empirical evidence on sustainability of health interventions in school settings and explore the processes and resources involved in sustaining a school health intervention. This chapter begins by setting out my epistemological approach and how it shapes my research questions and methodology. The next sections present the research questions and methodology for the empirical chapters (systematic review and case study).

4.1 A critical realism informed approach

The theory of knowledge that informs the studies in thesis is critical realism, developed through the writings of Roy Bhaskar in the second half of the 20th century (Bhaskar, 2008; Hartwig and Bhaskar, 2008). Critical realism moves beyond the science philosophies of positivism (empiricist view that knowledge rooted only in sensory data and law-like statements) and the philosophy of social constructionism (the social construction of reality through our language, culture, and experiences) to instead focus on the underlying processes and mechanisms that cause phenomena. Bhaskar separates epistemology (what we know) to ontology (what is real); critical realism purports that a single reality exists independently of our many interpretations of it. Our knowledge of that reality is indirect, partial and imperfect; it is socially constructed through our observations of the world which are grounded in our culture and experience but competing truth claims are open to rational, empirical assessment (Sayer, 1992; Wong et al., 2012).

Critical realism proposes that reality consists of three domains – the empirical, the actual and the real. The *empirical* domain is what we know through our experiences and senses interpreted through our culture, experiences and senses (Greenhalgh et al., 2017; Sayer, 1992). The *actual* domain concerns the events and actions that exist independent of any observer who might record it. The *real* domain are structures and processes that have the power or tendency to produce events in the world, that is, generative/causal mechanisms. The role of science is to investigate and explain the relationship between our experiences of specific events or phenomena, the actual events or phenomena that occurred, and their underlying generative mechanisms. The quality of our scientific knowledge about specific events or phenomena can be adjudicated by collecting and analysing evidence of regularities from the empirical domain to assess our theories about the underlying mechanism or structures in the real domain, and ruling out competing explanations (Bhaskar, 2010). Regularities are not to be understood merely in terms of probabilistic statistical associations, but as potentially more complex patterns or interactions.

The world is constituted by open systems where events or phenomena are generated by a multiplicity of causal structures, mechanisms, processes or fields (Bhaskar, 2010). The

natural and the social world are stratified; for example, the material objects of tables and chairs are made up of molecules, which are constituted by atoms, and then electrons and so on; the social objects of organisations are comprised of individuals and larger social structures. Each strata is dependent on a more basic level and is characterised by emergence, it is greater than the sum of its parts as its components interact with one another in complex ways.

Critical realism theory can be applied to both natural science and social science but it describes important differences between them. Unlike the natural world, the social world and human activities are mutually influential and dynamic; society is shaped by human activities but human actions are both enabled and constrained by existing society. Unlike natural laws, theories about society and culture are context-specific and not universal. Critical realism emphasises the relational and emergent characteristics of social phenomena, focusing on the relationship between social structures and agency. Human agents, acting purposefully, consciously and unconsciously interact with, and thereby reproduce or transform, the structures that enable and constrain their actions. Structures are the condition, the reproduction and outcome of human agency (Alvesson and Sköldbberg, 2009). Critical realism's dual focus on structure and agency to understand social phenomena encourages interdisciplinary approaches to research (Price and Martin, 2018). As social events and phenomena occur in open systems, critical realism does not seek to predict outcomes, it seeks to explain them. Nonetheless, counterfactual thinking, social experiments, the study of extreme cases, and the comparative analysis of different cases are considered useful methodologies for eliciting explanations (Danermark, 2002).

The empirical work in the thesis is informed by a critical realist philosophy. It uses the general theory of implementation (GTI) to explore sustainability processes relating to structures and agency; the theory also encourages a multi-layered approach to analysis, investigating the possibilities of the intervention, the motivation and work of individuals and groups, and the organisational context. GTI accounts for the impact of the social structures on implementation processes by examining social norms, social roles, cognitive/information resources, and material resources under the domain of 'capacity'. It also encompasses investigation of expressions of agency in the work people do to enact an intervention under the domain of 'contribution' and how agents mould an intervention to fit their everyday work under the domain of 'capability'. Finally, it examines people's individual and collective motivations to carry out implementation work. The GTI is applied in both aspects of the empirical work for this thesis, a systematic review and a case study. Both studies involve qualitatively comparing different cases of the phenomena of intervention sustainability to examine underlying processes.

The methods used in this thesis were designed to be complementary. The systematic review synthesises evidence from multiple studies on the facilitators and inhibitors of sustainability, highlighting potentially important differences between different health interventions and aspects of the school context. It will highlight key aspects of sustainability processes and resources relevant to school settings but provide limited analysis of how an intervention and the school setting interact to influence sustainability. The case study is designed to address this limitation by examining in-depth a complex multi-component intervention and how and why it embeds (or not) into several schools over time. This will provide rich data on how the intervention, the agency of school staff and the structures of schools affect sustainability.

4.2 Systematic review on the sustainability of public health interventions in schools

Existing evidence on sustainability and its influences comes primarily from health care settings. The review is the first to search for, appraise and synthesis empirical studies on the sustainability of school-based health intervention.

Research questions

1. What empirical evidence exists about the sustainability of school-based health interventions?
2. Do schools sustain public health interventions once start-up funds end?
3. What are the barriers and facilitators affecting the sustainability of public-health interventions in schools in high-income?

Method

The full method from the systematic review can be found in the published paper in chapter 5. In brief, seven bibliographic databases and 15 websites were searched. References and citations of included studies were searched, and experts and authors were contacted to identify relevant studies. Reports published from 1996 onwards were included. References were screened on title/abstract and those included were screened on full report. Data extraction and appraisal was conducted using an Evidence for Policy and Practice Information and Co-ordinating Centre tool. Extracted data were qualitatively synthesised for common themes, using May's GTI (2013) as a conceptual framework. The original protocol was published on PROSPERO on 6th September 2017 (registration no. CRD42017076320). Minor amendments to the original protocol are detailed in appendix 6. Table 4 details the appendices of the additional files accompanying the systematic review.

Table 4: List of appendices for the systematic review of the sustainability of school health interventions

No.	Contents	Referenced in results paper chapter 5
Appendix 7	Search terms used in electronic databases	Additional file 1
Appendix 8	Website search results	Additional file 2
Appendix 9	List of the experts contacted and a template of the email sent to them	Additional file 3
Appendix 10	Data extraction form including quality assessment	Additional file 4
Appendix 11	Quality appraisal guidance and ratings	Additional file 5
Appendix 12	PRISMA 2009 checklist	Additional file 6
Appendix 13	Additional details on sustainability study design participants	Additional file 7

4.3 Case study of the sustainability of a whole-school bullying prevention intervention

Having examined the broader picture of evidence on the sustainability of different types of school-based health interventions through the systematic review, I used a case study design to examine in-depth the processes and resources involved in sustaining one intervention (the case) in a small number of schools (sites). The ‘case’ was the sustainability of a whole-school intervention to reduce bullying and aggression in English secondary schools that had been introduced into schools through an effectiveness trial. The aims of the case study were to develop an explanation of how and why the intervention was sustained (partly or fully) or discontinued in the two years following the trial, and explore the processes and resources involved in sustaining a school intervention to improve students’ health, wellbeing and behaviour.

Research questions

The following research questions informed the collection and analysis of the qualitative data:

1. How did staff and students describe the sustainability of intervention components one and two years after the effectiveness trial?
2. What did staff report had affected their motivation to sustain intervention components?

3. How did staff describe the influence of the school context on the extent to which they had sustained intervention components?

Single-case, multi-site study design

This study uses a single case of one intervention to explore intervention sustainability in real-time across five schools (sites). Case studies enable a rich, in-depth exploration of naturally occurring social phenomenon, and can answer 'how' and 'why' questions about the processes and meaning of that phenomenon, which can be used to develop or refine theory (Yin, 2014). They are particularly helpful for explaining the process of events that cannot be controlled and examining interactions between features of the phenomenon and the context (Yin, 2014). Case studies involve thick descriptions of the features and context of a phenomenon based on multiple sources of data, for example, documents, interviews and observations. Donmoyer (2000) argued that case study research can be used to expand and enrich the depth of practitioners, researchers and others' understanding about a phenomenon, allowing allow the reader to vicariously experience a situation or another individual's perspective.

Case studies aim to develop analytic/theoretical generalisations as opposed to statistical generalisations – determining the probabilistic likelihood of an outcome in a larger population based on a representative sample. Analytic generalisability enables the findings from one study to be used to develop understanding about the phenomenon in another situation. Multi-site studies can be useful in assessing analytic generalisability by examining how an emerging theme plays out across different contexts, particularly if there is heterogeneity between sites (Schofield, 2000).

While case studies are valuable because they can follow a phenomenon in its context and over time, it also means that there are no prescribed guidelines for conducting a case study: the research questions and conceptual framework frame how the case study is designed (Yin, 2014). For example, the design of a case study to answer the question, "how do newly qualified teachers learn to manage students' behaviour?" could focus on following one or more individual teachers over time at a single school or focus on new teachers starting in different schools with different discipline cultures. Contributing to the ill-defined nature of case studies is the different terminology that has been used to describe case study designs (for example, the contrasting descriptions of case study types by Stake, 1995; Yin, 2014). The definition of the 'case' and study 'sites' varies between different reference texts; some refer to multiple sites (Schofield, 2000) and other refer to multiple cases (Stake, 1995). Other concerns are that case studies generate a large amount of data and variables of interest, and consideration needs to be given to the depth of analysis possible within the study's timeframe (Pettigrew, 1990).

Case study research has also been criticised for lacking rigour and internal validity. However, these concerns can be addressed by being explicit about the reasons for selection of the case study, its sites and participants; being transparent about the methods for data collection and analysis; and reflexivity from researchers to consider how their knowledge and experiences have shaped their study. Defining specific concepts and appropriate methods for studying them, for example, using multiple sources of data is a key part of achieving construct validity (Yin, 2014). Internal validity – demonstrating how one event or process led to another – can be strengthened through analytic techniques, for example, pattern matching and addressing rival explanations.

A single-case, multi-site study design is used in this study because it provides the opportunity to explore the ongoing implementation of a school-based intervention in context over time and to examine the significance and interaction of different processes at intervention-, individual- and school-level. This design should enable the construction of an explanation of the underlying mechanisms affecting intervention sustainability based on the search for regularities across multiple schools using rich, longitudinal data.

Description of the case ‘Learning Together’

Learning Together was a whole-school intervention to reduce multiple risk behaviours including bullying and aggression, and promote psychological functioning, mental wellbeing and health-related quality of life. It was evaluated through a three-year cluster randomised controlled trial – the INCLUSIVE trial, funded by NIHR and EEF (see chapter 1). The EEF also funded an independent evaluation of effects on educational attainment to be conducted by the University of Manchester. The trial began in May 2014 and concluded in July 2017 and 40 secondary schools in south-eastern England participated, 20 in each trial arm (Bonell et al., 2014). The intervention was implemented in schools rated ‘satisfactory’, ‘good’ or ‘outstanding’ by the English non-ministerial governmental department Office for Standards in Education, Children’s Services and Skills (Ofsted). Schools with ‘requires improvement’ status were excluded from the trial as schools would be subject to special measures which were likely to impede intervention delivery (Bonell et al., 2014).

Informed by two evidence-based school environment interventions (Bond, 2004; Flay et al., 2004), and theory of health promoting schools (Markham and Aveyard, 2003), the intervention aimed to help young people choose healthier behaviours by promoting their autonomy, motivation and reasoning ability (Bonell et al., 2018). LT was found to be both feasible and acceptable in the pilot trial in eight schools in 2011-12 (Bonell et al., 2015). Schools were not aware of the results of the INCLUSIVE trial in the first-year post-trial when fieldwork for the thesis took place. The results were published in the autumn of the second-year post-trial and found that the intervention had positive impacts on bullying, mental health

and wellbeing, psychological functioning, quality of life, smoking, alcohol and drug use, drunkenness and police contacts compared to controls at 36 months (Bonell et al, 2018).

The intervention had three main components:

1) *Restorative practices (RP) training and implementing RP approaches*

RP focuses on improving relationships rather than punitive approaches to discipline and it aims to prevent and/or resolve conflicts between students or between staff and students (Bonell et al., 2019). It enables both parties to tell their side of the story and what harms have occurred, provides a chance to apologise, and work out what steps to take going forward to prevent future problems arising. In the first year, all school staff were trained in RP and in-depth training was provided for selected staff, with participants given written summaries of the training material. During the trial, RP could be delivered universally across the school by staff using respectful language to challenge or support behaviour that enhances relationships and implement circle time where classes could come together to discuss their feelings and any problems arising (Bonell et al., 2019). It could also be used in a targeted way to address more serious behaviour in more formalised restorative meetings ('conferences') (Bonell et al., 2019).

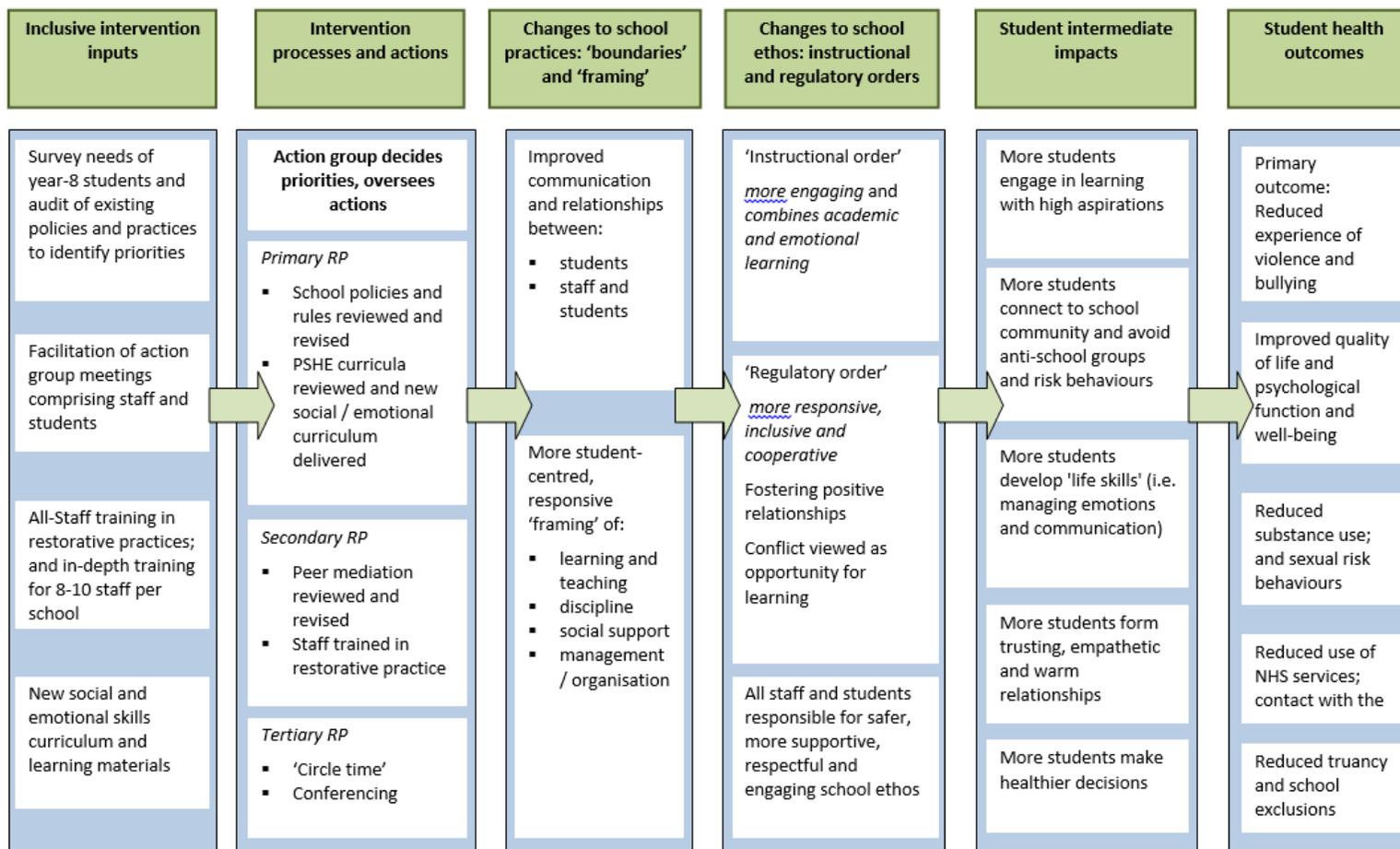
2) *Action groups and locally-decided actions*

Schools were asked to convene a staff-student panel – 'action group' – to meet twice per term to review and revise relevant school policies, coordinate the intervention, and decide on local actions to promote students' learning and connection to the school community, improve students' wellbeing and relationships between students and students and staff, and reduce students' risk behaviours. Schools were provided with a manual to guide the group. The groups comprised of staff representatives from the pastoral, teaching and support staff teams and had to include a member of the senior leadership team (SLT), and student representatives that could include any year group but must include some year group 8 students (age 12 – 13) and students that might be prone to, or at risk of, disengagement from school. For the first two years, action groups were supported by an external facilitator, a person with considerable experience of working in schools as a practitioner, senior leader or consultant. The external facilitator was trained to encourage staff and students to reach their own decisions about local actions, encourage the group to involve the whole school in the intervention, and help them develop the capacity to continue the intervention in the third year of the trial (Bonell et al., 2014). In the autumn term of each year of the trial, schools were provided with a report on their local needs to inform decisions, derived from surveys of students' wellbeing, risk behaviours and attachment to school, data collected for the trial.

3) *Social and emotional skills curriculum with core and optional components*

Schools were also provided with lesson plans and slides to guide teachers' delivery of 5 – 10 hours per year of a social and emotional skills curriculum for students from year groups 8 – 10 (age 12 – 15). The curriculum was designed to complement schools' existing personal social and health education (PSHE) provision. It consisted of six units focused on: 1) respectful relationships and student participation in the classroom, 2) belonging, 3) anxiety, 4), dealing with ups and downs, 5) trust, and 6) expectations. Unit 1 was a core unit mandatory for delivery and the remaining units could be taught in part or as a whole, according to the needs of the school. However, schools were expected to deliver a minimum of 5 hours per year, and should deliver more units than just unit 1; this was the required threshold for fidelity. Figure 2 presents the logic model for the intervention.

Figure 2: Logic model for Learning Together



The design of the intervention was influenced by Hawe et al.'s (2004) proposition that the function of intervention components were standardised, but adaptation of their form should be permitted in evaluation trials to improve local responsiveness and possibly even improve their effectiveness (see Chapter 2.1). Some of LT's components were designed to be maintained with fidelity of form and function, while others were designed to be locally tailored. Fidelity of the form of the intervention was intended for:

- an annual needs assessment survey and report for each school on their students' (aged 11 – 12) attitudes to and experiences of school, and experiences of bullying, aggression and other risk behaviours;
- training in the restorative approach;
- the social and emotional skills curriculum;
- the processes schools went through to make decisions:
 - reviewing the needs assessment report;
 - action group meetings and the development of an action plan based on the needs data;
 - reviewing policies relevant to aggression and bullying; and
 - re-writing of school rules.

The intervention was designed to allow local tailoring of the form of components, informed by the needs assessment, the input of action group members, and other local data sources.

This included:

- ensuring that revisions to school policies and rules tied in with existing work;
- choosing which curriculum units to deliver (with the exception of unit 1 which was mandatory);
- implementing RP approaches; and
- other locally decided actions aiming to improve relationships and student participation, for example, cascading RP training to other staff or student peer mentors (Bonell et al., 2019).

This balance of standardisation and flexibility was designed to enable schools to build on their current good practice and encourage students and staff to develop ownership of the work (Bonell et al., 2014) – factors which might affect its sustainability. In the words of the general theory of implementation, these were design features that might encourage the *shared commitment* of staff and students to the intervention and their *collective action*, and the *workability* and *integration* of the intervention (see chapter 3 for a detailed explanation of the theory).

A process evaluation of Learning Together was carried out during the trial (Bonell et al., 2019). Although there was no written account of the how the intervention was designed to be sustainable, the process evaluation protocol (Learning Together evaluation team, 2015, not

published) describes the importance of sustainability, including a number of questions on normalisation in Year 3 of the trial, questions developed from NPT (May and Finch, 2009). In October 2017, prior to fieldwork, my supervisor and I wrote down our expectations of how elements of the intervention and the school context might have enhanced or discouraged sustainability, based on my supervisor's experience of implementing the intervention and background reading I had conducted (see chapter 2). Table 5 describes the elements that were designed with sustainability in mind. This account could provide a baseline for comparing how sustainable design was imagined to the reality of what occurred in the two years post-trial.

Table 5: Elements of Learning Together's design that could theoretically enhance sustainability

Elements that could enhance sustainability	Mechanism for enhancing sustainability
The intervention comprised of a mix of standardised components (for example, a review of school policies and RP training) and flexible components where schools could decide on local actions (for example, using the curriculum in existing classes or as stand-alone modules, training students in RP).	This could facilitate the embedding and integration of the intervention into each school's social context. This could increase the perceived relevance, authenticity and acceptability of the intervention, in turn increasing its effectiveness and staff and student ownership of and commitment to the intervention.
Schools were required to review their school rules and policies on behaviour.	This could legitimise the intervention and embed it into school procedures, ensure old policies for dealing with behaviour are not retained, and ensure knowledge it transferred to new staff members.
The intervention was promoted as a means of reducing exclusions from school and improving attainment by identifying evidence of such effects and advertising that educational outcomes were also being evaluated.	This could increase the perceived relevance, authenticity and acceptability of the intervention, in turn increasing staff and student ownership of and commitment to the intervention.
The external facilitator was trained to encourage staff and students to reach their own decisions about local actions, encourage the group to involve the whole school in the intervention, and help them plan to continue the intervention.	This could increase the perceived relevance, authenticity and acceptability of the intervention, in turn increasing its effectiveness and staff and student ownership of and commitment to the intervention.
A member of the SLT was required to be part of the action groups.	This could ensure the group had the power to implement actions, increasing its

	effectiveness, and had strategic knowledge of how the group fit with other school structures (such as the school council) and policies.
All staff RP training in Year 1 and in-depth training for selected staff could encourage a large enough core group of staff – a ‘critical mass’ – to build a community of practice around the intervention.	This could ensure staff had the motivation, confidence, knowledge and skill to implement the intervention.
Having multiple components could work synergistically by involving a range of different staff and students in the intervention.	Full sustainability may be enhanced if one part of the intervention reinforces the need for the other. Alternatively, partial sustainability may be encouraged if schools choose their preferred resource/activities to sustain from a range of different components.
The intervention was implemented in schools rated Satisfactory, Good or Outstanding by Ofsted. Schools with ‘Requires improvement’ status were excluded from the trial.	Schools are carrying out their core business sufficiently well and can devote attention to the intervention.

Before describing the reasons for selecting Learning Together as the intervention for the case study for sustainability, some additional description is provided on the political and financial context of English secondary schools during the trial period and this study, as several studies have noted the potential influence of this wider context on sustainability (see chapter 2).

Wider context for secondary schools: 2014/15 – 2018/19

Large scale education reforms combined with workforce pressures were happening in England during the implementation and sustainability of Learning Together. The reforms were proposed in 2010 by the Conservative/Liberal Democrat coalition government based on arguments that: English schools were middling in international tests of reading, maths, and science; there was significant gap in achievement between the wealthiest and poorest students; better educated students were more likely to earn higher incomes, remain employed and live healthier and longer; and shifts in the global economy and in technology meant there were now less job opportunities for low-skilled workers (Department for Education, 2010a). Additional pressures on the system were expected to come from a projected rise in pupil numbers and the number of head teachers retiring (Department for Education, 2010a).

In 2013, the coalition government published reforms of academic qualifications for 16 year olds (general certificates of secondary education, GCSE), changing the content, the assessment system – placing primacy on end-of-year exams, and the grading system (Department for Education, 2015). Published revised content for different subjects was staggered over three years from 2013 – 2015, with schools expected to teach the new GCSE content in the academic year following their publication (2014 – 2016).

The coalition government and the Conservative government elected in 2015 also aimed to implement a “self-improving” school system (Department for Education, 2010b). One of the key reforms was to convert schools to academies, schools that are self-governing and funded directly by central government rather than their local authority, with greater autonomy over funding and the curriculum taught than local authority-maintained schools. They may also be supported (financially or in kind) by businesses, universities, other schools, faith groups or voluntary groups. By 2018, academies represented around two-fifths of secondary schools (Department for Education, 2018). Other proposals for self-improvement included:

- Making it clear that schools – governors, head teachers and teachers – were responsible for their own improvement.
- Increase the number of head teachers who could support other schools and develop Teaching Schools, schools that have been asked to lead a cluster of other schools to train teachers.
- Publish data that details how similar schools in a region perform

The coalition and Conservative governments, like the previous Labour government, relied on a significant accountability framework to ensure consistency and drive improvement, including: the publication of school-level performance, floor targets and other metrics that schools are required to meet, regular inspections, and a framework and system for intervening in schools that were deemed to be underperforming (Brown and Greany, 2018). The government also proposed to target more resources on the most deprived pupils through the ‘Pupil Premium’ (Department for Education, 2010b) and funded the EEF to determine effective methods of raising the attainment of the poorest students. In 2016, the government reported the progress that had been made, focusing on: students’ progress in reading, writing and maths; the number of students taking core academic subjects at GCSE; the number of new teachers who started training; behaviour in schools; and absenteeism (Department for Education, 2016). The government stated that “outcomes matter more than methods” and schools were responsible for *how* they achieved outcomes, and would be held account for “rigorous, fairly-measured outcomes” (Department for Education, 2016). At the time of the trial and data collection for this study, schools in England were under scrutiny to produce students who performed well in core academic subjects.

However, there was also significant workforce challenges and budget constraints. Between 2014 and 2018, pupil to teacher ratios increased in secondary schools from 15.0 to 16.3 and rates of teacher vacancies increased slightly from 0.1 to 0.2 in local authority maintained schools and from 0.3 to 0.4 in academies (Department for Education, 2019). Average per pupil expenditure on teaching staff in secondary schools fell by £75 between 2009/10 and 2016/17 (Andrews, 2020). The National Audit Office estimated that mainstream schools would have to find savings to counteract cumulative cost pressures of around £1.1 billion in 2016-17 (equivalent to 3.1% of the total schools budget) and that figure would continue to rise (National Audit Office, 2016).

In autumn 2018, Ofsted's chief inspector announced changes to the schools inspection framework, reporting that the current inspection model placed too much emphasis on test and exam results, increasing the pressure on staff to deliver "perfect data" and exacerbating teacher workload and retention problems, and paid insufficient attention to the substance of students' learning and teachers' expertise (Spielman, 2018). The new framework introduced a new 'quality of education' judgement to focus on the breadth and ambition of the curriculum, quality of teaching, and impact on learning, and split Ofsted's judgement on students' 'personal, welfare and behaviour' into two distinct categories, 'personal development' and 'behaviour and attitudes', to recognise the difference between behaviour and discipline and pupils' wider personal development to become "active, health and engaged citizens" (Spielman, 2018). Consultation on the new framework took place in 2019, with the new framework introduced in the school year 2019/20.

The case study will explore whether/how these reforms and challenges affected the motivation of staff to sustain Learning Together and whether/how they manifested in the school context in ways that influenced the intervention's sustainability.

Reasons for selecting Learning Together

Learning Together was purposively selected as the case as it was an interesting example of an implementation process designed to support adaptation to enable embedding and integration, which nonetheless resulted in varied fidelity. Learning Together was designed to interweave with schools' practices and systems by creating a new social group (the action group) to take ownership of decisions about locally-appropriate actions and their implementation, and policy reviews, and it allowed flexibility in the implementation of RP approaches. Despite a good level of fidelity in years 1 and 2 (a median fidelity score of 6 out of 8, interquartile range 5 – 7), in the third year of the trial, after the departure of the external facilitator, fidelity dropped (a median fidelity score of 1 out of 4, interquartile range 0 – 3) (Bonell et al., 2018). In year 3, 15 of the 20 schools sustained RP according to interviews with action group members in each school. Interviews with group members and focus groups with staff in trial case study schools suggested that schools commonly incorporated

what they regarded as the most useful action group functions into mainstream school structures and processes (Bonell et al., 2019). Learning Together provided an excellent case to explore the processes and resources involved in sustainability.

Although Learning Together as part of the INCLUSIVE trial was selected for its uniqueness in having a flexible approach to fidelity, it was also unusual in two other respects. It was a UK intervention: only 3 of the 67 trials (4%) of health promoting school interventions in Langford et al.'s (2014) review were from the UK. Learning Together aimed to improve student wellbeing and behaviour; school health intervention trials have been more typically focused on students' physical activity and/or nutrition – 15 of the trials (22%) in Langford et al.'s review aimed to improve students' mental wellbeing or reduce bullying/violence (alongside other risk behaviours). Two other features of Learning Together were more typical of other school health interventions; around half (54%) of the interventions in Langford et al.'s review lasted between 2 and 3 years and around two-fifths (42%) targeted students aged 12 and above (some also covered younger students). The implications of these features for analytic generalisability are considered in the discussion (chapter 10).

Two other pragmatic reasons for selecting Learning Together was that the trial took place at the right moment in the scholarship to permit a study of its long-term use – the last 18 months of the trial took place over the first 18 months of the PhD (including a 6-month period of maternity leave, see Table 6). Fieldwork could then be conducted in the year following the trial (2017/18). The second reason was that C. Bonell is the primary thesis supervisor, was also one of the study's co-directors, facilitating my access to schools because in my initial contact with them I could reference a person who was known to them already.

Table 6: Timeline for case study

	<i>Intervention year</i>	<i>Trial/post-trial</i>	<i>Key events</i>
2014/15	Year 1	Trial year	
2015/16	Year 2	Trial year	Start of PhD
2016/17	Year 3	Trial year	
2017/18	Year 4	Post-trial trial	Ethical agreement Nov 2017 Data collection Jan – March 2018
2018/19	Year 5	Post-trial trial	Data collection June 2019

Selection of schools for the case study

Process evaluation data on intervention fidelity from the trial (dated October 2017 and available to the researcher before trial reports were finalised and published) showed that schools varied in whether and how they had implemented different components during the

trial. Schools were selected to elicit a comparison of the components (unit of analysis 1), shedding light on their workability and integration, as well as a comparison by school (unit of analysis 2), to inform analysis of the impact of the school context on sustainability processes. Five schools were purposively selected to be as diverse as possible in the implementation of components and school context, while enabling in-depth study of the details of sustainability in each school.

Selection criteria based on the implementation of components

Schools were selected for diversity in the degree to which they implemented the intervention with fidelity in year 3; the assumption was that this would lead to variation in sustainability over the next two years. For example, if a school implemented an intervention component with high fidelity during the final year of the trial when it was internally facilitated, but failed to sustain the component after the trial, there might be reason to think there was a change in either the school's motivation and/or capacity to sustain the intervention. Conversely, if a school implemented a component with low fidelity during year 3 and failed to sustain the component after the trial, it might reveal something about the characteristic of the intervention in the school context that was problematic for sustainability.

Year 3 fidelity data from the trial focused on four criteria: 1) whether all six action groups were convened and 2) locally decided actions were implemented based on interviews with action groups members; whether 3) schools delivered at least five hours and/or at least two modules, based on surveys and interviews with curriculum deliverers; whether 4) at least 85% of staff reported that, if there was trouble at the school, staff responded by talking to those involved to help them get on better based on a staff survey assessed (Bonell et al., 2019).

Process evaluation data on fidelity showed:

- Four schools held at least 6 action groups; seven schools held at least 3 action groups. All schools that held action groups also continued to use RP.
- Ten schools implemented locally decided actions as a result of the action groups, though according to the fidelity data, three of these schools held no action groups in year 3 – thus local actions were based on the decisions of action groups held in years 1 and 2.
- Sixteen schools continued to use RP and five of these schools did not continue any other aspect of the intervention.
- Five schools continued lessons on social/emotional skills. These schools also continued with other components of the intervention.

Schools were selected to achieve a diverse sample with respect to the implementation of the action groups and use of RP only. The implementation of the curriculum did not contribute to

selection choice as few schools continued it in year 3 and those that did also implemented other components. Schools in the intervention arm were organised into five categories based on the quality of year 3 implementation, ranked from high implementation through to complete discontinuation; one case study school was selected from each category:

- Category A: Schools that implemented RP and action groups on at least three occasions (n=3).
- Category B: Schools that implemented RP and an adapted form of action groups on at least three occasions (n=5).
- Category C: Schools that implemented RP and action groups on one or two occasions (n=3).
- Category D: Schools that implemented RP and not action groups (n=4).
- Category E: Schools that discontinued the intervention (n=5).

Selection criteria based on the school context

Data were gathered on schools' characteristics and schools were sampled to ensure as much diversity as possible in: whether schools were single or mixed sex, size, percentage of students receiving free school meals (FSM) in the past six years, and a measure of each school's attainment at the start of the trial, the 'best 8 value added' in 2014 (see Appendix 14)³. 'Best 8 value added' compares the progress pupils make between age 11 and 16 using their best 8 exam results, with an additional bonus for performance in English and maths, compared to the result they would be expected to achieve based on their ability at age 11⁴. If pupils achieve exactly their expected progress, the school receives a score of 1000; scores higher than 1000 mean pupils have made more progress academically than expected, and scores less than 1000 mean pupils have made less progress than expected. A chi-square test confirmed that there was a trend for schools with higher implementation to have higher best 8 value added attainment scores ($p < .07$).

Selection process

An initial selection list of ten schools were drawn up, two schools from categories A to E – one to contact and one replacement school, aiming for variation in the school context using the characteristics described above. Schools that had been case study schools for the INCLUSIVE trial were not included on the list to reduce the research burden on these schools. In November 2017, five schools were invited to participate in the study by email and then by follow-up phone call. Of the initial schools approached, two agreed (from Categories A and D), two did not respond and one refused due to lack of time (of non-participating

³ This measure was included in League Tables in 2011, and replaced with another measure (progress 8) in 2016.

⁴ The prediction is based on the average points achieved by pupils nationally at age 16 who had a similar ability at age 11.

schools, two had valued added scores below 1000). Three replacement schools (from Categories B, C and E) were contacted between December 2017 and January 2018 and all agreed to participate. The five participating schools were varied in the percentage of students receiving FSM; three had larger student populations (>1,250); and four were mixed sex (see Table 7, schools have been given pseudonyms). All schools were high achieving schools, achieving a ‘good’ or ‘outstanding’ rating from Ofsted and all had best 8 value added scores above 1000 indicating students had made better progress than expected at age 16. It was not possible to select replacement schools with lower attainment due to the small number of schools in each implementation category (see Appendix 14).

Table 7: Case study schools’ characteristics

<i>Category: School</i>	<i>Level of implementation during year 3</i>	<i>Urban/suburban</i>	<i>Single/mixed</i>	<i>Size</i>	<i>% FSM (past 6 years)</i>
A: Downton Park	Implemented RP, six AGs, and the curriculum.	Suburban	Single	>1250	10 – 25%
B: Franklyn	Implemented RP, an adapted form of AGs conducted weekly, and the curriculum.	Urban	Mixed	750 – 1000	>50%
C: Fern Grove	Implemented RP and AGs at a lower dose, and discontinued the curriculum.	Urban	Mixed	1000 – 1250	>50%
D: Bletchford	Implemented RP and discontinued the AGs and the curriculum.	Suburban	Mixed	>1250	25 – 50%
E: Greenthorne	Discontinued RP, AGs and the curriculum.	Suburban	Mixed	>1250	<10%

Data collection

Data collection for the case study was both retrospective and prospective, asking participants about their previous involvement in Learning Together during the trial and their current views and experiences of working with the intervention in their particular school context. The study was designed to examine and compare data from multiple staff members from each school and from students (when action groups had continued in year 3).

Trial data (Years 1 to 3, 2014/15, 2015/16, 2016/17)

Process evaluation data from the INCLUSIVE trial were used to build up a picture of how the intervention had been implemented in years 1 to 3 and provide context to sustainability following the trial. Fidelity data from the trial was obtained from final report on the process evaluation (Bonell et al., 2019, Tables 37 and 38, p.114-5) and unpublished data on in-depth

RP training attendance was obtained from the trial's research team. The following qualitative data from the process evaluation were used for descriptive purposes: interviews with staff action group members in year 2, an interview with a SLT member in year 3, and facilitator interviews in year 2. These data were used to inform the interview prompts and to describe implementation during the trial; the accuracy of the details of implementation was checked with participants during interviews (see appendix 15). The data were not formally analysed, with the exception of data relating to the curriculum during the trial which was sought out specifically and analysed descriptively (see section on 'Data analysis'). The curriculum was discontinued in three schools during the trial (see table 7) and more comprehensive recall of reasons for discontinuation could be found in year 2 and 3 interviews, rather than relying solely on retrospective accounts from primary data. The intervention manual was reviewed to discern the aims and intended delivery of each component.

One-year post-trial (Year 4, 2017/18)

Selection of participants

School staff: Current teachers and other staff members who had been or were still delivering the intervention were identified by snowball sampling. The staff member who had led Learning Together in each school was invited to participate in the study; an introductory email was sent with an information sheet and followed by a follow-up telephone call (see appendix 16 for information sheet). During their interview, they were asked to identify other teachers who had been or were currently involved in the AGs, attended RP training, delivered the curriculum and/or were the member of the SLT previously or currently involved with the intervention. Identified teachers still currently working at the school were invited to participate, and during their interviews, they were also asked to identify other relevant staff members. One teacher who had led the intervention in Bletchford in years 1 and 2 declined to participate and a teacher at Fern Grove who had led the intervention in years 1 and 3 was on maternity leave and could not be interviewed.

Students: For the three schools that had continued the action groups in year 3, the lead teacher was asked to identify two students with whom we could speak. Four student interviews were conducted from two schools (Franklyn and Fern Grove, see Table 8). One school (Downton Park) declined to invite students to participate due to exam and revision pressures.

External facilitators: The facilitators who had helped schools to deliver the intervention in years 1 and 2 were also interviewed.

Interviews

Twenty-five semi-structured interviews were conducted between January and March 2018: 18 with school staff, 4 with students, and 3 with external facilitators (two of whom facilitated implementation in two schools). Table 8 presents participants' characteristics; participants have been given pseudonyms. Staff interviews were conducted in person in a classroom or office at the school (n=14) or over the phone (n=4); interviews with students were conducted in person in a school classroom, and interviews with facilitators were conducted in person in their home or office. Interviews with staff and facilitators lasted around 45 mins and interviews with students lasted around 20 mins.

Interviews with staff aimed to explore all three research questions. They aimed to clarify how the intervention was implemented in year 3, elicit whether/how intervention components were delivered in year 4 and their involvement in its delivery, barriers and facilitators to sustaining the components, whether/how the components were integrated within the discipline system or mechanisms for listening to students' views ('student voice') in the school (e.g. school council), whether/how the intervention affected their attitudes, skills/knowledge or relationships with other staff members or students, and the school's involvement with other intervention projects over the last five years in order to assess their motivation to sustain Learning Together. Interviews with students aimed to explore research question 1. They sought to clarify how the action group was implemented in year 3, whether/how the action groups continued in year 4, and whether it was integrated with other student discipline systems or student voice mechanisms. Facilitator interviews aimed to contribute to all three research questions, clarifying how the intervention was implemented during the trial and eliciting facilitators' views on what factors affected staff's readiness and ability to embed and integrate the intervention. Interview guides for staff, students and facilitators can be found in Appendix 14. Table 9 sets out how each data source relates to each research question.

Table 8: participants' characteristics (pseudonyms are used for schools and participants)

School	Participant	Role 1 st yr post-trial	AG member (NB AGs did not run in Bletchford and Greenthorne in Y3)	Participant attended in-depth training in RP	Gender	No. of years at the school at 1 st yr post- trial	Year group (if applicable)	Interview 1 st yr post-trial	Interview 2 nd yr post-trial
Downton Park	Angela	Teacher	Yes	Yes	F	>12	-	✓	
	Callum	Teacher	Yes	Yes	M	<5	-	✓	✓
	Victoria	Teacher	Yes	Yes	F	5 – 8	-	✓	
	Rachel*	Facilitator	Yes	n/a	F	-	-	✓	
Franklyn	Matt	Senior leader	Yes	No	M	5 – 8	-	✓	✓
	Gregory	Teacher	Yes	Yes	M	5 – 8	-	✓	
	Jessica	Pastoral	Yes	Yes	F	5 – 8	-	✓	
	Amelia	Teacher	Yes – Y2 only	Yes	F	>12	-	✓	
	Craig	Student	Yes	n/a	M	-	Year 11	✓	
	Sara	Student	Yes	n/a	F	-	Year 11	✓	
	Miriam ⁺	Facilitator	Yes – Y1 and 2 only	n/a	F	-	-	✓	
Fern Grove	David	Senior leader	Yes	Yes	M	5 – 8	-	✓	
	Harriet	Senior leader	Yes – Y1 and 3 only	No	F	5 – 8	-		✓
	June	Pastoral	Yes	No	F	9 – 12	-	✓	✓
	Katie	Teacher	Yes	Yes	F	<5	-	✓	
	Harry	Student	Yes – Y2 and 3 only	n/a	M	-	Year 10	✓	
	Kristen	Student	Yes – Y2 only	n/a	F	-	Year 9	✓	
Bletchford	Joe	Senior leader	No	No	M	>12	-	✓	✓
	Brett	Teacher	Yes – Y2 only	No	M	9 – 12	-	✓	
	Jenny	Teacher	Yes	Yes	F	9 – 12	-	✓	
	Penny	Pastoral	Yes – Y2 only	Yes	F	>12	-	✓	
	Richard	Facilitator	Yes – Y1 and 2 only	n/a	M	-	-	✓	
Greenthorne	Colin	Senior leader	Yes – Y2 only	No	M	>12	-	✓	✓
	Amy	Teacher	Yes	Yes	F	9 – 12	-	✓	
	Toby	Teacher	Yes	Yes	M	>12	-	✓	
	Paul	Teacher	Yes – Y1 only	Yes	M	>12	-	✓	

*Also facilitator for Greenthorne ⁺Also facilitator for Fern Grove

All adult interviewees were given an information sheet which was also explained to them in person or by phone and a written consent form to sign (see appendix 17). Schools were asked to send an opt-out information sheet to students' parents before students were invited to participate; and participating students were given their own information sheet, explained also in person, and consent form to sign (see appendix 17). At the beginning of interviews with staff, students, and facilitators, the aim of the study was described and confidentiality explained. Participants were reminded that they did not have to answer any questions and could stop the interview at any time without having to give a reason.

Documents

School behaviour and anti-bullying policies for year 4 (2017/18) were collected from school websites.

Table 9: Data collection framework

Data source	Source purpose	Research question (RQ)
INCLUSIVE process evaluation: interviews with staff involved in action groups	Year 2: to describe the journey of the intervention, what has been delivered, by whom and how.	n/a – provides context for RQ 1.
INCLUSIVE process evaluation: interviews with external facilitators	Years 2: to describe what was delivered and why.	n/a – provides context for RQ 1.
INCLUSIVE process evaluation: Telephone interviews with staff	Year 3: to describe what was delivered over the course of the three years.	n/a – provides context for RQ 1.
Primary data: interviews with staff involved in AGs, RP or curriculum	Year 4 and 5: to explain what was delivered in years 3 – 5, barriers and facilitators to sustaining the components, whether/how the components were integrated within school systems; explore how the intervention impacted on attitudes, skills/knowledge, relationships with other staff and students, school's involvement with other interventions.	RQs 1 – 3
Primary data: interviews with students who were members of the AG	Year 4: to describe how the intervention was delivered in years 3 and 4 and views and experiences of being involved.	RQ 1
Primary data: interviews with external facilitators	Year 4: to examine factors affecting staff motivation to implement and embed the intervention.	RQ 1 – 3
Secondary data: schools' behaviour and anti-bullying policies	Year 4 and 5: to examine whether restorative practice featured in the schools' policies.	RQ 1

Deviations from the initial study protocol

The initial study protocol proposed interviews with my supervisor and other researchers involved in the INCLUSIVE trial on the intervention's successes and failures in embedding and integrating in the schools and describing the theory of change for intervention sustainability. This element was removed because the study's primary focus became the views of staff and students in the school, and external perspectives on sustainability were gathered from facilitators who had much greater contact with the schools than the researchers. Instead, in October 2017, prior to fieldwork, my supervisor and I wrote down our expectations of how elements of the intervention and the school context might have enhanced or discouraged sustainability (see above section "Reasons for selecting Learning Together").

The second deviation is that the external facilitator interview guides were also designed to examine facilitators' role in embedding the intervention during the trial and facilitators were asked questions on this matter during the interview. However, after the interviews took place, the research questions evolved to become more focused on staff and students' work to sustain the intervention. Consequently, these data were not analysed.

Two-years post-trial (Year 5, 2018/19)

Selection of participants

The most senior staff member interviewed in year 4 was invited to interview. In Fern Grove, the identified staff member had left the school and instead a group interview was conducted with the pastoral member of staff who had been previously interviewed and was closely involved with the intervention and another senior leader who led the action groups and was not be interviewed in year 4 due to maternity leave. No students were interviewed in the second-year post-trial.

Interviews

Interviews aimed to explore all three research questions. Five semi-structured interviews were conducted, one in each school, with the exception of Fern Grove school where a group interview was conducted (see above). Three interviews were conducted face-to-face in a school office, and two interviews were conducted over the telephone (Bletchford and Greenthorne) in June 2019 (see appendix 18 for interview guide). Interviewees were given another information sheet and a written consent form to sign (see appendix 19). All interviews were audio recorded and transcribed.

Documents

School behaviour and anti-bullying policies for year 5 (2018/19) were collected from school websites.

Data analysis

The case study aims to develop an explanation of the sustainability of Learning Together using the GTI as a sensitising lens for analysis. A thematic approach was adopted to build an in-depth understanding of sustainability from participants' views, experiences and beliefs (Green and Thorogood, 2014). Thematic analysis is a method of identifying, analysing and reporting patterns (themes) within data (Braun and Clarke, 2006). It aims to classify qualitative data through a transparent, coherent and consistent coding strategy to capture the richness of the study phenomenon and produce a set of themes that summarises and interprets the data set to answer the research questions. A benefit of thematic analysis is its flexibility; it can be applied across a range of theoretical and epistemological approaches (Braun and Clarke, 2006). For this thesis, its flexibility was a useful attribute for applying the GTI to examine sustainability processes and resources and assessing whether the theory captured the key themes from the qualitative data.

Both deductive and inductive approaches were used to answer the first research question, "How did staff and students describe the sustainability of the intervention one- and two-years after the effectiveness trial?". Interviews with school staff and students were coded deductively, searching for data which described: a) each components (dis)continuation, b) the relationship between (or integration of) components and existing discipline systems and student voice groups within the school (e.g. school council), and c) any deliberately initiated activities that began after the start of the trial which related to RP or staff-student groups focused on the trial outcomes, for example, bullying, behaviour or mental health and wellbeing. Schools' anti-bullying and behaviour policies for Year 4 (2017/18) and Year 5 (2018/19) were also reviewed. A summary score of sustainability was created for Years 4 and 5 (out of a maximum of 6):

- A score was given for:
 - the continuation of the action groups;
 - the continuation of local actions derived from the action groups; and
 - the continued use of the curriculum.

A priori categories were based on the fidelity criteria from the trial with no requirements for dose, that is, a set number of action groups to take place or curriculum units.

- For the sustainability of RP, three categories were created:
 - whether most staff practiced RP (based on interviews; trial data was based on a staff survey);

- whether the participant continued to use RP him/herself (self-reported by participants in interviews, backed with descriptive examples of incidents where RP has been used); and
- whether the schools' behaviour policy refers to RP or used other terminology equivalent to RP (for example, restoring relationships or repairing harms) when describing its discipline procedures.

In year 4, each category was scored a '0' for 'No' and a 1 for 'Yes' based on the interviews of all participants from each school. If participants gave conflicting answers, then a score of 0.5 was given. If the behaviour policy referred to RP principles but did not describe RP within its discipline system procedures, a score of 0.5 was given. If new action groups were created after original action groups were discontinued, a score of 0 was given, as the definition of sustainability used in this thesis is the continuation of the original intervention. The Year 5 summary score of sustainability was based on an interview with one staff member only (with the exception of Fern Grove where two staff participated in an interview) and consequently has low reliability. In this case, each category was scored a '0' for 'No' and a 1 for 'Yes', and if participants were uncertain, then a score of 0.5 was given. A standardised fidelity score of between 0 and 1 was created for the intervention and for each component separately by dividing each year's score for the intervention out of the total possible points. A score was also created separately for each component.

An inductive approach was then used to code the implementation and sustainability of the intervention, using each component as an organising theme. The delivery of each of the three intervention components over the five year from the start of the trial was described qualitatively. If a new set of resources and activities started in schools that resembled the intervention components, for example, new staff-student action groups, an inductive assessment was made of whether the new initiative was aligned with Learning Together's theory of change (see figure 2, p.62). An assessment was also made from the data on whether staff believed the new initiative was generated (fully or partly) because of the intervention or whether it was completely unrelated, that is, it would have happened regardless of the intervention. The results are presented in chapter 6.

For research questions 2 and 3, an initial inductive thematic analysis was carried out on year 4 and 5 data. Interview transcripts were read and re-read to become familiar with the data, getting a feel for the range of participants' accounts, recurring experiences, views and problems, and unique experiences. Inductive, line-by-line coding was conducted using NVivo 12 software, labelling segments of the data to capture their essence. A code book was created which described the meaning of each code. Each code's data were checked for consistency of interpretation and re-coded as necessary. Lower-order themes (sub-themes) were developed from clusters of codes to summarise patterned response or meaning within

the data, for example, recurring topics, similarities and differences. A process of constant comparison was carried out looking at how each theme manifested in each school and checking whether the explanation of each theme matched the data, actively checking for examples which did not fit (Pope, 2000). The relationship between lower-order themes was considered. In addition to inductive coding, deductive coding was carried out on data on the curriculum from year 2 and 3 process evaluation interviews from the trial, coding the delivery of the curriculum and its perceived effectiveness, and its relationship to existing PSHE provision in the schools.

The general theory of implementation (GTI) was used as a sensitizing lens to deductively organise lower-order themes (and their sub-themes) into higher-order, organising themes (see Attride-Stirling, 2001 for explanation of basic and organising themes). To explore the utility of the GTI for explaining sustainability processes and resources, initially all the dimensions of the GTI were used as higher-order themes; lower-order themes were placed under each of the dimensions of the four GTI domains (potential, capability, contribution, capacity). However, as research questions 2 and 3 centred respectively on the GTI domains of 'potential' and 'capacity', if lower-order themes under the dimensions of 'capability' or 'contribution' overlapped with the dimensions of 'potential' or 'capacity', they were re-organised under the dimensions of the latter two domains. If lower-order themes under the dimensions of 'capability' or 'contribution' fit the overall domain of 'potential' or 'capacity' but did not fit a specific dimension, the theme was retained as a standalone theme. There were no lower-order themes under dimensions of 'capability' or 'contribution' that did not contribute to either research question 2 or 3. After the data was organised into high-order themes, I checked each theme against each intervention component to build a final explanation of the primary sustainability processes and resources that affected each component. I discuss the analysis process and the utility and explanatory power of the theory in chapter 10.

Ethical considerations

The study was approved by the London School of Hygiene & Tropical Medicine Research Ethics Committee, reference number 14223, on 13th November 2017. Written, informed consent was obtained from all participating individuals for data collection. Parents of students invited to participate were given written information about the study and the chance to opt-out their children from the study. All data were anonymised, and pseudonyms were used for participants and schools. Data collected were stored on password-protected drive with access limited to the researcher.

Reflexivity statement

I identified strongly with the teachers that I interviewed and also with my supervisor, who was the co-director of the INCLUSIVE trial. I am a White British, politically left/green-leaning

female in my late thirties. We were all middle-class folk, aged 30 – 50ish, living in London or home counties, with an interest in providing high quality education to young people that went beyond academic attainment. I am also a parent of a toddler and from time to time, have to justify my decisions in managing our child's behaviour to my partner; I was sympathetic to the difficulty and emotional work involved for teachers in managing students' behaviour. Most school staff and facilitators appeared to be reflective and articulate, and very open about their experiences; only two participants I interviewed by telephone from Downton Park appeared to be more reluctant to share views or experiences that they perceived might disparage their school/colleagues. As mentioned in the introduction to this thesis, I viewed sustainability as a subject at the heart of the utility of research in everyday practice. I felt on the side of school staff – I assumed that an intervention component was at fault when it was not sustained. I did not move away from this viewpoint during the course of the study.

The teachers I spoke to had self-selected to participate in-depth RP training or be heavily involved with RP – I did not speak to teachers that were little involved with the intervention. My supervisor believed in the values of RP, having been involved in the design of the intervention and its pilot evaluation. I had already been involved in RP in the criminal justice setting – as a youth offending worker in 2006-7 I had assisted with a number of restorative justice panels at a local police station or community hall. I knew that the panels took a long time to arrange – the Victim Support Officer met one or more times with both parties to prepare them for the meeting. I had seen it work very effectively and also when it had broken down, usually because the young person was not genuinely remorseful or the victim or their accompanying family member attended to express their anger and were not interested in restoration. Staff experiences in conducting RP met my expectations about its value and work that was involved in carrying it out successfully. The participants, my supervisor and I all had an interest in sustaining RP in the schools; the experiences of teachers opposed to RP principles or the efforts involved in its implementation were not captured in this study and that is a limitation. The themes that were constructed around the social norm of integrating reparation and punishment with consistency in behaviour management also resonated strongly with my experience in youth justice. The same sorts of tensions are palpable: what is an appropriate punishment that accounts for the impact on the victim, the context of the crime, and the personal circumstances of the offender?

I felt more neutral about the likely sustainability of the other components – the curriculum and the action groups. My supervisor, in contrast, said he had been enthusiastic about the action groups' potential to encourage schools to be more inclusive and communitarian, rather than schools perceiving students as recipients of an educational service with the central purpose of academic attainment. It felt satisfying to discover that a number of staff reported that the groups helped them to realise the importance of student voice in a meaningful way, even though the original form of the groups was not sustained. It

broadened my perspective on sustainability; I could see that the intervention would have a lasting impact for some staff that may not be easily measurable.

It has been hard to qualify the impact of examining an intervention in which my supervisor played a key role in designing and implementing. I have not felt any pressure to regard the intervention or its implementation in a positive or negative light; we have both been open in our criticism of the features of intervention and its implementation that could have been designed/carried out more sustainably, and I have been more inclined to see the merits of the intervention. I think the main impact has been that there has been less opportunities to spend time explaining, deconstructing, and critiquing intervention processes because I assume that my supervisor would have done this already and it might bore him to repeat it. Equally, he might assume that I know things about the intervention which I do not because he has been working closely with it for so long, and has also supervised other students who have investigated other aspects of the same intervention. On the positive side, my supervisor's close knowledge of the intervention has helped to refine theory on the particular elements of the intervention and the school context that might affect sustainability.

I call myself an applied social scientist, and not a psychologist or a sociologist. My undergraduate degree was in psychology, my Masters degree was in research for public policy and practice, and my research career has been in topics related to social exclusion (for example, crime, homelessness), mental health and more recently public health. While I think critical realism is the best representation of how I view the world, I think my psychology background has given me a slight leaning towards positivism; I had to remind myself on several occasions (as did my supervisor) that peoples' accounts were their interpretation of events, the empirical rather than the actual or real domain. The general theory of implementation appealed to me in part because it was a theory derived from both sociological and psychological theories; but ultimately its language and concepts were sociological. I had to re-read the theory continually throughout the analysis process to make sure I understood the dimensions as they had been described. I found it difficult to 'break' the structure of the domains by re-organising them; I wanted to be sure this decision was the 'best' way to answer the research questions and fit the data rather than a result of me misinterpreting the essence of the theory. The analysis process became easier after I finally translated the theory into wording related to the case study, and once I became more comfortable with the decision to move dimensions or add to them, that is, more comfortable with my own social construction of the data. I think a strong advantage of using the theory was that it gave me some initial avenues to investigate when putting together the broader picture of sustainability processes, allowed me to retain complexity, and forced me to re-explore my lower-order themes to check out alternative ways of interpreting them.

Conclusion

The studies in this thesis are comprised of a systematic review of the sustainability of school health interventions and a case study of the sustainability of Learning Together, an English bullying prevention intervention in secondary schools. The former study involves a comprehensive search for empirical evidence on sustainability in school settings in high-income countries and assesses its quality; it examines whether interventions are sustained and the facilitators and barriers to sustainability. The case study looks in-depth at how Learning Together, a multiple-component intervention, is sustained in five schools, examining staff motivation to sustain the intervention and the influence of the school context on sustainability. Both studies are informed by the theoretical lens of the general theory of implementation, which I have argued is compatible with a critical realist philosophy. The next chapter presents the results of the systematic review.

Chapter 5: Systematic review

This chapter presents the findings from the systematic review of empirical studies of the sustainability of school health interventions in a published paper. It is the first review to examine sustainability in school settings in particular; existing evidence on sustainability and its influence comes primarily from health care. It looks at what evidence exists on the sustainability of school-based interventions, whether interventions were sustained, and qualitatively synthesises facilitators and barriers to sustainability, and highlights similarities and potential differences between health care and school contexts. The next results chapters focus in-depth on the interactions between an intervention, practitioners and the school setting and their impact on sustainability, in a case study that follows the course of 'Learning Together', a multi-component bullying-prevention intervention.

RESEARCH PAPER COVER SHEET

Please note that a cover sheet must be completed for each research paper included within a thesis.

SECTION A – Student Details

Student ID Number	1602397	Title	Ms
First Name(s)	Lauren		
Surname/Family Name	Herlitz		
Thesis Title	Understanding the sustainability of school interventions to improve students' health, wellbeing and behaviour		
Primary Supervisor	Chris Bonell		

If the Research Paper has previously been published please complete Section B, if not please move to Section C.

SECTION B – Paper already published

Where was the work published?	Implementation Science		
When was the work published?	6.01.20		
If the work was published prior to registration for your research degree, give a brief rationale for its inclusion			
Have you retained the copyright for the work?*	Yes	Was the work subject to academic peer review?	Yes

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SECTION D – Multi-authored work

<p>For multi-authored work, give full details of your role in the research included in the paper and in the preparation of the paper. (Attach a further sheet if necessary)</p>	<p>Lauren Herlitz (LH) directed the review; conducted the screening, data extraction and quality appraisal; and carried out the thematic analysis. Helen MacIntyre (HM) conducted the screening, data extraction and quality appraisal. Tom Osborne (TO) conducted the data extraction and quality appraisal. HM and TO commented on the manuscript. Chris Bonell contributed to planning the review, advised throughout the review process and contributed to and commented on the manuscript. The manuscript was drafted by LH. All authors read and approved the final manuscript.</p>
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SECTION E

Student Signature	Lauren Herlitz
Date	20.4.20

Supervisor Signature	Chris Bonell
Date	20.4.20

SYSTEMATIC REVIEW

Open Access

The sustainability of public health interventions in schools: a systematic review



Lauren Herlitz^{1,2*} , Helen MacIntyre³, Tom Osborn¹ and Chris Bonell¹

Abstract

Background: The sustainability of school-based health interventions after external funds and/or other resources end has been relatively unexplored in comparison to health care. If effective interventions discontinue, new practices cannot reach wider student populations and investment in implementation is wasted. This review asked: What evidence exists about the sustainability of school-based public health interventions? Do schools sustain public health interventions once start-up funds end? What are the barriers and facilitators affecting the sustainability of public health interventions in schools in high-income countries?

Methods: Seven bibliographic databases and 15 websites were searched. References and citations of included studies were searched, and experts and authors were contacted to identify relevant studies. We included reports published from 1996 onwards. References were screened on title/abstract, and those included were screened on full report. We conducted data extraction and appraisal using an existing tool. Extracted data were qualitatively synthesised for common themes, using May's General Theory of Implementation (2013) as a conceptual framework.

Results: Of the 9677 unique references identified through database searching and other search strategies, 24 studies of 18 interventions were included in the review. No interventions were sustained in their entirety; all had some components that were sustained by some schools or staff, bar one that was completely discontinued. No discernible relationship was found between evidence of effectiveness and sustainability. Key facilitators included commitment/support from senior leaders, staff observing a positive impact on students' engagement and wellbeing, and staff confidence in delivering health promotion and belief in its value. Important contextual barriers emerged: the norm of prioritising educational outcomes under time and resource constraints, insufficient funding/resources, staff turnover and a lack of ongoing training. Adaptation of the intervention to existing routines and changing contexts appeared to be part of the sustainability process.

Conclusions: Existing evidence suggests that sustainability depends upon schools developing and retaining senior leaders and staff that are knowledgeable, skilled and motivated to continue delivering health promotion through ever-changing circumstances. Evidence of effectiveness did not appear to be an influential factor. However, methodologically stronger primary research, informed by theory, is needed.

Trial registration: The review was registered on PROSPERO: [CRD42017076320](https://doi.org/10.1186/1745-6215-1745-6215), Sep. 2017.

Keywords: Sustainability, Institutionalisation, Organisational change, School health, Systematic review

* Correspondence: lauren.herlitz@shtm.ac.uk

¹Department of Public Health, Environments and Society, London School of Hygiene and Tropical Medicine, 15-17 Tavistock Place, London WC1H 9SH, UK

²Institute for Health and Human Development, University of East London, Water Lane, London E15 4LZ, UK

Full list of author information is available at the end of the article



Contributions to the literature

- Studies in health care settings have shown that multiple facilitators and barriers affect the sustainability of health interventions beyond effectiveness evaluations and the cessation of funding and/or other resources. This review is the first to apply this evidence-based intervention sustainability in school settings.
- Although we found many commonalities in sustainability factors between education and health care—for example, funding, the work of organisational leaders and staff turnover—we found staff lacked confidence in delivering health promotion without ongoing support and prioritised academic education over health. Perceived effectiveness through witnessing students' engagement and wellbeing was influential; scientific evidence of effectiveness did not appear to affect sustainability.
- These findings contribute to our understanding of whether, how and why health interventions are sustained, adapted, or discontinued in schools and their ability to have a lasting impact on health outcomes.

Background

Since the late 1980s, the World Health Organization (WHO) has emphasised schools' role in promoting health [1, 2]. Increasingly, randomised controlled trials (RCTs) are used to determine the effectiveness of school-based interventions addressing various health outcomes [3–8]. While there has been progress in assessing the effectiveness of such interventions [9–11], and factors affecting implementation [12–14], there is less evidence about sustaining health interventions in schools beyond initial pilots. If effective interventions discontinue, new practices cannot reach wider populations and investments in time, people and resources to initiate and implement them may be wasted [15–18].

Sustainability is a relatively new area of study [19], and most studies come from health care [19, 20]. Conceptual frameworks for sustainability emphasise complexity, whereby practitioners and other actors individually and collectively engage with intervention components and organisational systems to embed, adapt or discard interventions [21–23]. Factors suggested as promoting sustainability include intervention effectiveness, attributes and cost [15, 17, 24]; practitioners' attributes and activities [21, 24]; the work of intervention champions and organisational leaders [25, 26]; organisational climate and culture; monitoring and evaluation; staff turnover [25, 27]; and the external political and financial climate [26].

While health and education settings may share barriers and facilitators to sustaining new interventions, some

factors may differentially affect schools. There may be less political incentive to sustain health interventions; academic education is likely to be prioritised [28–30]. Teachers may need more support and preparation time to deliver curriculums that include health [31] and vary in their commitment to teaching health promotion [13, 31]. Limited interaction between schools and the health sector might impede the identification of funding, resources and training for sustainability [30]. Monitoring ongoing effectiveness might be difficult without routine collection of health data [30].

There has been no systematic review of the sustainability of school-based health interventions. Stirman et al.'s systematic review of research on the sustainability of health interventions found 125 empirical studies published 1980 to 2012 but did not focus on particular settings; only 14 studies assessed school-based interventions [20]. Believing a review of school interventions could prove fruitful, we aimed to examine empirical research on the sustainability of health interventions in schools after start-up funding and/or other resources ceased. As the resources available to schools will likely impact on sustainability, we focus on high-income countries only. The review asks: what evidence exists about the sustainability of school-based health interventions? Do schools sustain public health interventions once start-up funds end? What are the barriers and facilitators affecting the sustainability of public-health interventions in schools in high-income countries?

Method

Inclusion/exclusion criteria

A study was included if it:

- Focused on the (dis)continuation of a school-based public-health intervention within the set of schools originally involved in delivering it, and fieldwork was carried out after external funding and/or other resources to implement the intervention had ended
- Used qualitative or quantitative empirical methods
- Was published since 1996 (as these were judged most relevant to current policy contexts) and conducted in an Organisation for Economic Co-operation and Development (OECD) country
- The intervention:
 - i. Had defined components to be delivered
 - ii. Targeted children aged 5–18 years
 - iii. Included health outcomes among its primary outcomes
 - iv. Focused on obesity/overweight/body size; physical activity/sedentary behaviours; nutrition; tobacco,

alcohol/drug use; sexual health; mental health/emotional well-being; violence; bullying; infectious diseases; safety/accident prevention; body-image/eating disorders; skin/sun safety; and oral health [10]

- v. Was implemented partly/wholly within school during school hours by teachers, pastoral, managerial or administrative staff, health or wellbeing professionals employed *by the school* or students
- vi. Encompassed one or more elements of the Health Promoting Schools (HPS) model [10]: *a formal curriculum*—health education with allocated class time to help students develop the knowledge, attitudes and skills needed for healthy choices; *school ethos or environment*—policies or activities outside the curriculum that promote healthy values and attitudes within school; and/or *family and/or community engagement*—activities engaging families, outside agencies and/or the community

Interventions were excluded if they provided health-information materials only, created new schools or were primarily family/community-based interventions with a minor school component. Interventions which co-located a health service within schools, with services delivered exclusively by clinical providers, were also excluded. The sustainability of such interventions is likely to differ from those delivered partly/wholly by educators or school employees, for example, greater reliance on schools continuing to commission services or the option of service provision at no cost to the school (i.e. through other funding mechanisms), and differences in clinicians and educators' commitment to sustainability due to differing professional knowledge/roles, peer support and priorities.

Search strategy

We searched electronic databases for English-language publications between January 1996 and September 2017 (PsycINFO, Social Sciences Citation Index – Social Science & Humanities [Web of Science], British Education Index, PubMed, CINAHL, EMBASE and ERIC). A mixture of free-text and controlled terms was searched in titles/abstracts, and MESH headings where relevant. Synonyms for four concepts were combined: sustainability, school, intervention and public health (see Additional file 1 for full terms used). A comprehensive website search was also carried out (see Additional file 2). School-based studies in Stirman et al.'s review were also screened [20]. The references of included studies were checked, and a citation search was conducted on Google Scholar. Subject-matter experts were contacted to identify unpublished/current research, including authors of included studies (see Additional file 3).

Screening

All identified studies were imported into the data-management software EPPI-Reviewer 4 [32]. Fifty articles were initially double-screened by two reviewers (LH, HM) on title/abstract: 94% agreement was achieved and discrepancies were discussed to reach a consensus. Reviewers then worked independently, single-screening on title/abstract. Studies were retained if they met the inclusion criteria or if there was insufficient information in the title/abstract to judge. Full-text copies of potentially relevant papers were retrieved and screened independently by the two reviewers to decide on inclusion. If there was uncertainty, studies were discussed by both reviewers (LH, HM) until a consensus was reached, involving a third reviewer (CB) when necessary.

Data extraction and quality appraisal

We extracted data from each included report on study sample/population; description of the intervention (adapted criteria [33]); key dates, study design/methodology and results for the evaluation of effectiveness (or implementation period for non-evaluated initiatives) and sustainability phase; and information needed for quality appraisal (see Additional file 4). Two reviewers (LH, HM) extracted data from two study reports, comparing their results. Pairs of reviewers (LH, HM or LH, TO) independently completed data extraction for each included report. Differences between reviewers were discussed, including a third reviewer (CB) where necessary.

Two reviewers assessed study reliability using an existing checklist [34]: justification for study focus and methods used; clear aims/objectives; clear description of context, sample and methodology; demonstrated attempts to establishing data reliability and validity; and inclusion of original data. Studies were assigned two 'weight-of-evidence' ratings [35], one for reliability and one for relevance to answer the review question, rated 'low', 'medium' or 'high'. To achieve 'high' reliability, at least five criteria had to be met, for 'medium' at least four criteria had to be fully or partially met, and all other studies were rated 'low'. We also downgraded the reliability of retrospective, cross-sectional studies using self-report data for interventions implemented more than 2 years ago. For a judgement of 'high' relevance, studies had to describe, with breadth and depth, factors influencing sustainability and privilege participants' perspectives (Additional file 5 describes quality criteria and ratings). Studies were not excluded from the synthesis based on their reliability, but greater qualitative weight was given to those assessed as 'medium' or 'high'. The quality-assessment tool was piloted on two studies by each pair of reviewers (LH, HM and LH, TO) with results discussed to ensure consistency. Each included study was then independently quality-assessed by each reviewer

with discrepancies discussed, where necessary resolved with a third reviewer (CB).

Synthesis of results

We originally intended to use a meta-ethnographic approach as submitted in the protocol [36]. We anticipated finding qualitative studies that were rich in concepts, metaphors and description. However, only one study went beyond description to interpret participants’ views and experiences, and it was not possible to ‘translate’ and synthesise concepts from one study into another. Instead, we conducted thematic synthesis [37] to develop concepts from the mixture of qualitative, quantitative and mixed studies identified. One reviewer (LH) read and re-read studies and carried out line-by-line coding using NVivo 11 software. Inductive codes were developed from the qualitative data (participants’ verbatim quotes and authors’ interpretations) and from authors’ textual reports of quantitative findings. Each code’s data were checked for consistency of interpretation and re-coded as necessary. We used the General Theory of Implementation (GTI [38]) as a sensitising lens; it explains how implementation proceeds over time, building on normalization process theory [21, 39] (Fig. 1 summarises the theory’s constructs). Memos were used to explain codes, their relationships and their alignment with the GTI. GTI informed the overarching structure of themes

and sub-themes that was developed. The reliability of each study was checked and referred to as the overall themes were incorporated into a narrative synthesis. The three other reviewers (HM, TO, CB) commented on and discussed a draft of the themes and sub-themes, and a final version was agreed.

This review was registered on PROSPERO (6.9.17, CRD42017076320, [36]) and follows PRISMA reporting standards (Additional File 6).

Results

Of the 9670 unique title/abstracts generated through database-searching (see Fig. 2), we included 20 reports of 19 studies. Other search strategies yielded seven additional reports from five studies. Data extraction was completed for these 24 studies; extraction was not conducted on three doctoral theses [40–42] because each had a corresponding published paper of the same study included in the review [43–45]. In total, the review included 24 studies of 18 different interventions.

Study characteristics

Study origin

Seventeen of the 24 studies were based in the United States (US), of which seven were studies of the Child and Adolescent Trial for Cardiovascular Health (CATC H) intervention [44–60] and the remainder were from

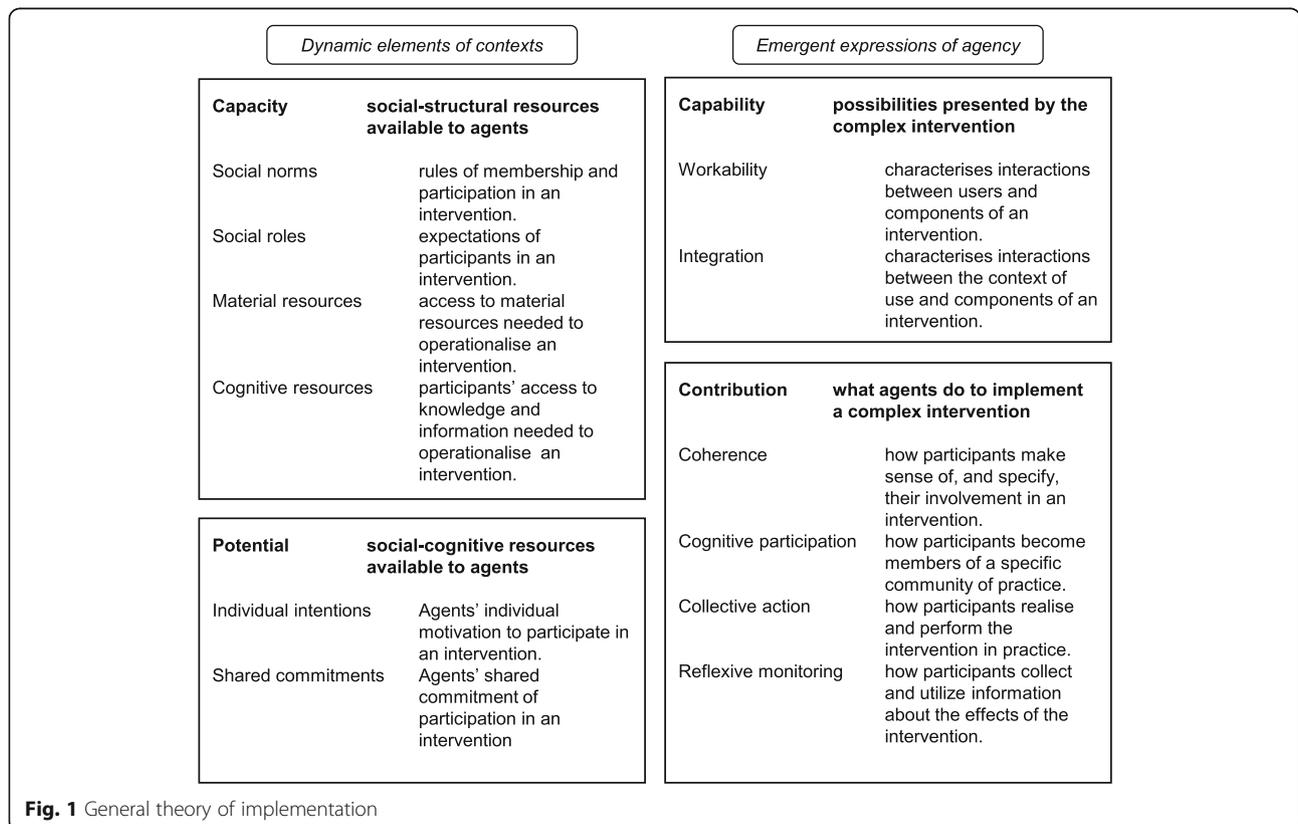
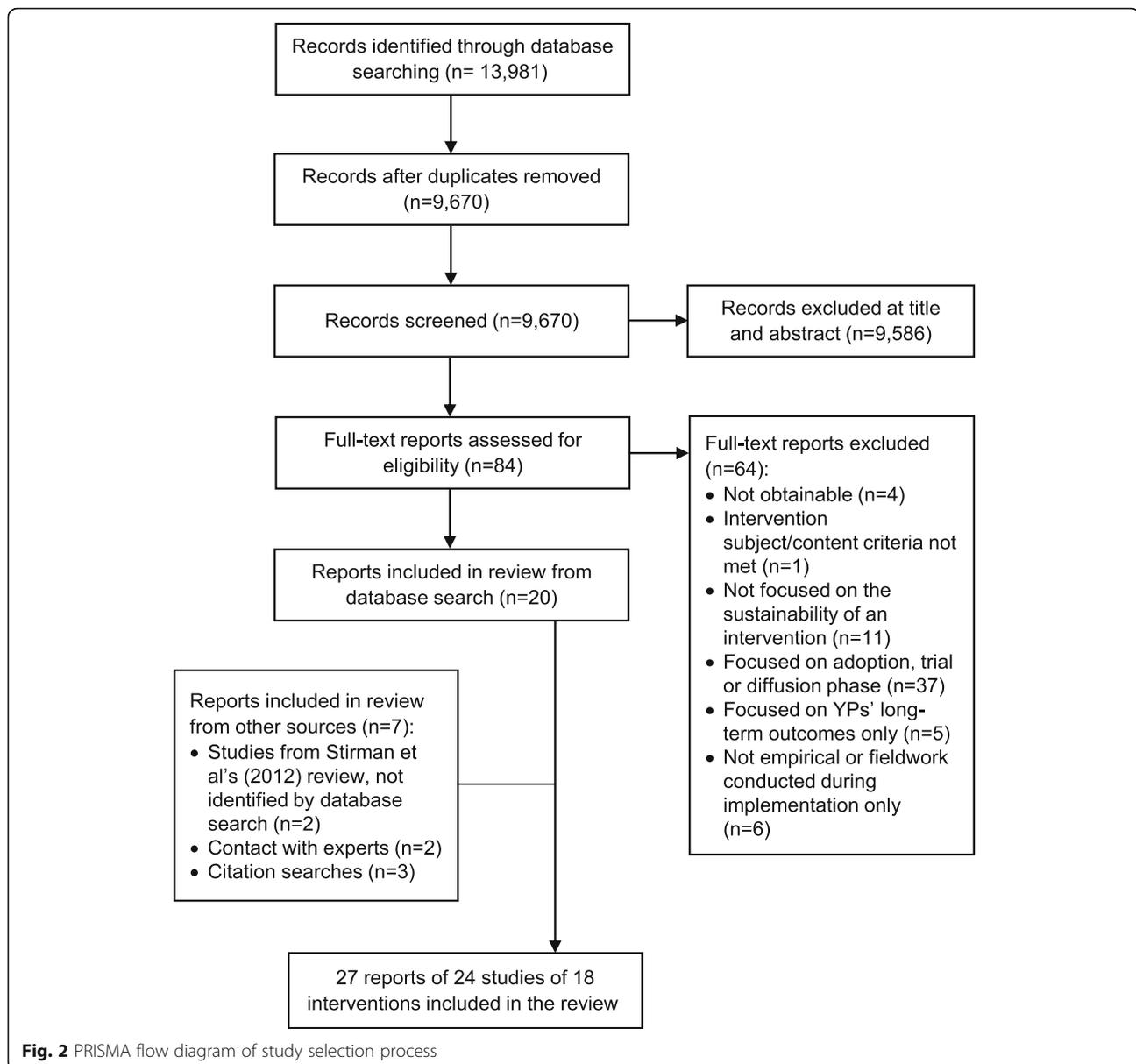


Fig. 1 General theory of implementation



Norway [43, 61], the Netherlands [62, 63], Canada [64], England [65] and Germany [66].

Intervention characteristics and effectiveness

The largest group of interventions focused on healthy eating and/or physical activity ($n = 10$); the remainder targeted anti-social behaviour ($n = 2$), mental health ($n = 2$), alcohol/drug use ($n = 2$), peer and dating violence ($n = 1$) and workplace health-and-safety ($n = 1$) (see Table 1). Nine were based in elementary/primary schools, eight in middle/high/secondary schools and one in both settings. Intervention length, as initially funded/implemented, ranged from 8 weeks to 3 years (mode = 1 year); three interventions were of unspecified length.

During initial implementation in schools prior to assessing sustainability, effectiveness evaluations were conducted of 15 interventions; three were not evaluated [53, 62, 63], though one [63] had been assessed by RCT in other schools [75] (see Table 1). Of the effectiveness evaluations, six interventions (relating to 12 studies) were assessed by RCTs [47–49, 51, 52, 55, 56, 58, 60, 61, 64, 66], two by using non-randomised controlled studies [59, 65] and seven by uncontrolled evaluations [43–46, 50, 54, 57]; evaluation reports were inaccessible for three interventions). Of the 12 interventions for which evaluation reports were available, five interventions were effective for all primary outcomes, six interventions were effective for some but not all primary outcomes and one

Table 1 Description of the interventions in the review

Study #	Intervention name; country, author(s) and year	Health outcome(s) targeted; length of intervention	Country-specific education phase; grade (age); universal or targeted approach	HPS elements			Description of components	Evaluation of effectiveness which preceded assessment of sustainability		Time between effectiveness evaluation and evaluation of sustainability ^a
				Curriculum	Ethos/ environment	Family/ community		Study design	Evidence of effects on outcomes	
1	<i>Project Saïor</i> ; United States; Elder et al., 1998 [57]	Nutrition; 3 years (for school-based components)	Primary; not stated; universal	X	X	X	<ul style="list-style-type: none"> Nutrition education for parents, food service staff, teachers (e.g. health fairs) Classroom curriculum/ learning activities Links with community institutions Student advisory committees Changes to school menus 	Non-experimental pilot evaluation. 6 intervention schools. Evaluation report was not available.	Not known.	2–5 years
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; US; Kalafat and Ryerson 1999 [53]	Suicidal feelings; flexible, minimum delivery 3 months	Secondary; grade 10 (15–16 years old); universal	X	X	X	<ul style="list-style-type: none"> Classroom curriculum/ learning activities Links with community gatekeepers Organisational consultation and policies Educator training Parent training 	N/A—non-evaluated pilot initiative.	Not known.	5–10 years
3–9	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH)</i> ; US; Johnson et al. 2003 [52] Kelder et al. 2003 [49] Lytle et al. 2003 [48] McKenzie et al. 2003 [51] Osganian et al. 2003 [55] Parcel et al. 2003 [60] Hoelscher et al. 2004 [56]	Cardiovascular health; 3 years	Primary; Grades 3–5 (8–11 years old); universal	X	X	X	<ul style="list-style-type: none"> Classroom curriculum/ learning activities—changes to PE classes Classroom curriculum/ learning activities—health education—lessons Nutrition programme—changes to school menus, food purchasing and preparation Family activities and event No-smoking policy 	gRCT [67] Schools unit of allocation 56 intervention schools and 40 control	Effective for primary outcomes <ul style="list-style-type: none"> % of energy intake from total fat in school meals sig. Reduced in intervention schools compared with controls. Intensity of physical activity (PA) in PE classes increased sig. More in intervention compared with controls. Dietary knowledge and intentions, and self-reported food choice changes were sig. Greater for intervention schools. 24-h food recall showed increased total daily energy intake among children in both intervention and control schools with ageing, but increase was greater in control schools. Fat intake was sig. Reduced among children in intervention schools. 	5 years
10	<i>Project ALERT</i> ; US; St Pierre and Kalfreider 2004 [58]	Substance abuse; 2 years	Secondary; grades 7 and 8 (12–14 years old); universal	X			<ul style="list-style-type: none"> Classroom curriculum/ learning activities 	RCT [68] 8 schools, 6 classes per school randomly assigned to 1 of 3 conditions: 1 experimental groups x 2 and 1 control group.	No effect on primary outcome, harmful effect for one treatment condition <ul style="list-style-type: none"> No evidence of beneficial effects on substance use. Harmful effects were found for the teen-assisted intervention condition on marijuana use in the past year, and future expected marijuana use. 	< 1 year
11	<i>School Fruit Programme and the Fruit and Vegetables: Make the Marks (FVMM)</i> ; Norway; Bere 2006 [61]	Fruit and vegetable consumption; 1 year	Primary; grade 6 (11 years old); universal	X	X	X	<ul style="list-style-type: none"> Subscription to the national fruit and vegetable programme (free in trial phase) Classroom curriculum/ learning activities Parent newsletters 	RCT [61] 9 intervention schools, 10 control schools.	Effective for primary outcome <ul style="list-style-type: none"> Strong intervention effects were observed for fruit and vegetables (F&V) eaten at school and all day. Average F&V intake was 0.6 portions higher in the intervention group than controls at school & all day. 	1 year

Table 1 Description of the interventions in the review (Continued)

Study #	Intervention name; country, author(s) and year	Health outcome(s) targeted; length of intervention	Country-specific education phase; grade (age); universal or targeted approach	HPS elements		Description of components	Evaluation of effectiveness which preceded assessment of sustainability		Time between effectiveness evaluation and evaluation of sustainability ^a
				Curriculum	Ethos/environment		Study design	Evidence of effects on outcomes	
12	<i>United - intervention focused on water consumption</i> ; Germany; Muckelbauer et al. 2009 [66]	Overweight; 2 years	Primary; grades 2 and 3 (7–9 years old); universal	X	X	<ul style="list-style-type: none"> Installation of school water fountain Classroom curriculum/learning activities 	<p><i>gRCT [69]</i> City unit of allocation 17 intervention schools, 16 control schools.</p> <p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> The risk of being overweight was sig. Reduced in the intervention group compared with controls. No sig. Differences for BMI. There was no general weight-reducing effect. Changes in water consumption higher in the intervention group compared with controls. No effects on juice or soft drink consumption. 	< 1 year	
13	<i>European Network of Health-Promoting Schools</i> ; Norway; Tjomsland et al. 2009 [43]	<i>Healthy lifestyles</i> ; 3 years	Primary and secondary; grades 5–10 (10–16 years old); universal	X	X	<ul style="list-style-type: none"> Health integrated into school policies Needs assessment A variety of activities e.g. curriculum, meals, school environment, parent-involvement (differed by school) National, regional, and international conferences 	<p><i>Non-experimental pilot evaluation</i> 10 intervention schools. Evaluation report on outcomes not available.</p> <p><i>Not known.</i></p>	9 years	
14	<i>Winning with Wellness</i> ; US; Schetzina et al. 2009 [50]	<i>Nutrition, physical activity, obesity</i> ; 1 year	Primary; grades 3 and 4 (8–10 years old) universal	X	X	<ul style="list-style-type: none"> 5 min desk-side exercises 2 x classroom curriculum—nutrition and health education Changes to school menus and vending machines. Snack preparation demonstrations Walking trails School health services Health promotion for staff 	<p><i>Non-experimental pilot evaluation [50]</i> 1 school</p> <p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> No sig. Changes in BMI. Students were sig. More active at school after intervention implementation than before, with an increase of approx. 886 steps per day. Sig. fewer unhealthy foods were being offered & purchased/served to students after implementation than before. 	< 1 year	
15	<i>First Step to Success</i> ; US; Loman et al. 2010 [59]	<i>Anti-social behaviour</i> ; 18 months	Primary; grades K to 2 (5–8 years old); targeted	X	X	<ul style="list-style-type: none"> Universal screening Consultant-based behavioural intervention with teacher, child and peers Parent training 	<p><i>Non-randomised controlled trial [70]</i> No. of schools not stated.</p> <p><i>Effective for primary outcome</i></p> <ul style="list-style-type: none"> Sig. pre-post behavioural changes—adaptive, aggression, maladaptive, academic engaged time—for the intervention group. No sig. Difference in teachers' perception of how positively or negatively other children in the class viewed the target child. 	4–10 years	
16	<i>GreatFun2Run</i> ; England; Gorely et al. 2011 [65]	<i>Physical activity and fruit and vegetable consumption</i> ; 10 months	Primary; grade not stated (7–11 years old); universal	X	X	<ul style="list-style-type: none"> Classroom curriculum/learning activities Participation in two running events An interactive website A local media campaign 	<p><i>Non-randomised controlled trial [71]</i> 4 intervention schools, 4 control schools</p> <p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> Sig. increase in students' daily steps & total time in MVPA in intervention compared to control schools. Older participants in intervention schools showed a sig. Slowing in the rate of increase in estimated % body fat, BMI, & waistline. No difference between groups in F&V consumption, aerobic fitness, knowledge of healthy lifestyles, perceived competence, enjoyment of PA, or intrinsic motivation. 	1 year 9 months	

Table 1 Description of the interventions in the review (Continued)

Study #	Intervention name; country, author(s) and year	Health outcome(s) targeted; length of intervention	Country-specific education phase; grade (age); universal or targeted approach	HPS elements		Description of components	Evaluation of effectiveness which preceded assessment of sustainability		Time between effectiveness evaluation and evaluation of sustainability ^a
				Curriculum	Ethos/environment		Study design	Evidence of effects on outcomes	
17	<i>Fourth R program</i> ; Canada; Crooks et al. 2013 [64]	Peer and dating violence; 1 year	Secondary; grade 9 (14–15 years old); universal	X		<ul style="list-style-type: none"> Classroom curriculum/ learning activities Parent newsletters 	<p><i>rRCT</i> [72]</p> <p>Schools unit of allocation 10 intervention schools, 10 control schools</p>	<p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> Physical dating violence (PDV) was sig. Higher for students in control schools than for those in intervention schools. Boys in intervention schools were less likely than boys in control schools to engage in dating violence. However, girls had similar rates of PDV in both groups. Differences between control & intervention groups were not sig. For physical peer violence, substance use, or condom use. 	2 or more years, range not stated.
18	<i>New Moves</i> ; US; Friend et al. 2014 [47]	Obesity, physical activity, eating behaviours, body image; 1 year	Secondary; grade not stated (14–16 years old); targeted	X	X	<ul style="list-style-type: none"> 3 x classroom curriculum/ learning activities—all-girls physical education class, nutrition, and social support Individual counselling sessions Lunch get-togethers Parent postcards and event 	<p><i>rRCT</i> [73]</p> <p>Schools unit of allocation 6 intervention schools, 6 control schools</p>	<p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> Sig. differences between intervention & control students in changes in: stage of change for PA, goal setting for PA and self-efficacy to overcome barriers to PA; total non-sedentary activity; stage of change for F&V; & goal setting for healthy eating; portion control; unhealthy weight control behaviours; body satisfaction; athletic competence & self-worth. Changes were non-significant in: body fat & BMI, total PA and MPPA, TV time, & stage of change TV, F&V intake & sugar-sweetened beverages, and breakfast, binge eating, appearance 	1–2 years
19	<i>Youth@work: Talking Safety</i> ; US; Rauscher et al. 2015 [54]	Workplace safety and health; not specified—6 sessions.	Secondary; grade not stated (age not stated); universal	X		<ul style="list-style-type: none"> Classroom curriculum/ learning activities 	<p>Non-experimental pilot evaluation. Evaluation report was not available.</p>	Not known	1–9 years
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS)</i> ; US; Nadeem and Ringle 2016 [46]	Post-traumatic stress disorder; anxiety and depression; 1 year	Secondary; grade 6 (11 years old); targeted		X	<ul style="list-style-type: none"> 10 group sessions 1–3 individual sessions Parent and teacher education 	<p>Non-experimental pilot evaluation [74]</p> <p>30 intervention schools.</p>	<p><i>Effective for primary outcome</i></p> <ul style="list-style-type: none"> There was a sig. Pre- to post-intervention decline in PTSD symptoms. 	2 years
21	<i>Good Behavior Game (GBG)</i> ; The Netherlands; Dijkman et al. 2017 [63]	Anti-social behaviour; 1 year	Primary; grade 2 (6–7 years old); universal		X	<ul style="list-style-type: none"> Behavioural approach in classroom 	<p>N/A—non-evaluated pilot initiative</p>	Not known	1 year 9 months
22	<i>TAKE 10!</i> ; US; Goh et al. 2017 [44]	Primary activity and on-task behaviour; 8 weeks	Primary; grades 3–5 (8–11 years old); universal		X	<ul style="list-style-type: none"> Classroom activity 	<p>Non-experimental pilot evaluation [42, 85]</p> <p>1 intervention school.</p>	<p><i>Effective for some but not all primary outcomes</i></p> <ul style="list-style-type: none"> No sig. Effect on mean daily in-school steps. No sig. Effect on average daily in-school moderate intensity PA levels of students. Sig. effect on MPPA levels and vigorous intensity PA. There was a mean % decrease of on-task behaviour by 7.7% during the baseline period & a mean percentage increase of on-task behaviour by 7.2% during the intervention period. 	< 1 year

Table 1 Description of the interventions in the review (Continued)

Study #	Intervention name; country, author(s) and year	Health outcome(s) targeted; length of intervention	Country-specific education phase; grade (age); universal or targeted approach	HPS elements			Description of components	Evaluation of effectiveness which preceded assessment of sustainability		Time between effectiveness evaluation and evaluation of sustainability ^a
				Curriculum	Ethos/ environment	Family/ community		Study design	Evidence of effects on outcomes	
23	School outdoor smoking ban; The Netherlands; Rozema et al. 2018 [62]	Tobacco use; unspecified/ continuous	Secondary; grades n/a (12–18 years old); universal		X		<ul style="list-style-type: none"> Smoking ban everywhere on school grounds for everyone 	<p>N/A—non-evaluated pilot initiative</p> <p>Not known</p>	<p>1–40 years</p> <p>However, 64% of schools had implemented the ban in the last 3 years.</p> <p>< 1 year</p>	
24	Health Optimizing PE (HOPE); US; Egan et al. 2019 [45]	Physical activity; 2 years	Secondary (middle); grades 6–7 (11–13 years old); universal	X	X	X	<ul style="list-style-type: none"> Provision of technology resources Before and after school activities Classroom curriculum/ learning activities Family event Parent education event 	<p>Non-experimental pilot evaluation [66]</p> <p>1 intervention school.</p> <p>Effective for primary outcome</p> <ul style="list-style-type: none"> Sig. difference between baseline & end of year 2 for various fitness activities & amount of PA time in class. There was a sig. improvement on test of knowledge of PA and healthy eating between baseline & year 1, & baseline & year 2. The mean number of MVPA minutes (daily) declined steadily over the course of the study. 		

^aEstimated as the time between the last year of the effectiveness evaluation (or the end of the implementation period for non-evaluated initiatives) and the last year of the sustainability phase evaluation

intervention had no effect and a negative effect for one treatment condition (see Table 1).

Study design/methods

Ten studies of sustainability used quantitative cross-sectional designs (42%) [50–54, 56, 59, 60, 64, 66], and one study employed a quantitative longitudinal design [61] (see Table 2). All except one of these used questionnaires to examine sustainability. Six studies employed qualitative designs [43–46, 48, 58]. Seven studies used mixed-methods [47, 49, 55, 57, 62, 63, 65]. Ten studies (42%) used a comparison group of schools [47–49, 51–53, 55, 56, 61, 65].

Timeframe examined

Timeframes between the effectiveness evaluation (or implementation period in non-evaluated initiatives) and the study of sustainability varied (Table 1). Five studies examined sustainability less than a year after the effectiveness evaluation [44, 45, 50, 58, 66]. Four were conducted 1 to 2 years later [47, 61, 63, 65]; ten took place 2 to 5 years after the evaluation [47, 49, 50, 52, 53, 56–58, 61, 65] and five examined sustainability more than 5 years later [43, 53, 54, 59, 62].

Study participants

Six studies sampled several classroom teachers per school [44, 45, 50, 52, 64, 65], and six of the CATCH studies sampled multiple staff members and/or school-district level personnel per school [48, 49, 51, 55, 56, 60] (see Additional file 7). Three studies sampled school principals only [43, 62, 66], four sampled one teacher or staff-member per school [47, 54, 59, 63] and one sampled clinicians delivering the intervention plus school-district level personnel [46]. Three collected data from students [45, 61, 65], and one interviewed the research team implementing the intervention [45]. Three studies provided no details on staff-level participants [53, 57, 58].

Study quality

Study reliability and relevance varied. On reliability, seven studies were rated high, nine medium and eight low. On relevance for answering the review question, four studies were rated high, ten medium and ten low. Only one study was rated high on relevance and reliability [46] (see Table 2).

Explicit use of conceptual framework

Most studies did not use a conceptual theory/framework. Of those that did ($n = 9$), a variety of sustainability [17, 76–79] and implementation frameworks [80–82] were used. Only one study [43] drew on conceptual frameworks specific to educational settings [83].

Reporting of sustainability

Eleven studies reported on intervention sustainability at school-level [43, 45, 47, 53, 57, 58, 60–63, 66], ten at staff-level [44, 46, 48–52, 54, 64, 65], two at the school- and staff-level [55, 56] and one at school-district and school-level [59] (Table 2). Seventy-six percent of studies with a curriculum component [45, 47–53, 56–58, 64, 65], 67% of studies with a school-environment component [43–47, 53, 55, 57, 61, 66] and one third of studies containing a family/community component reported on its sustainability [45, 46, 48, 53] (see Table 3). Around half of studies (46%) of multi-component interventions reported sustainability of some but not all components.

Sustainability of the interventions

No interventions were entirely sustained; Table 3 summarises the percentage of staff or schools sustaining each component. Studies were heterogeneous: all interventions had some components that were continued by some schools or staff, except for one intervention that was completely discontinued two years after the effectiveness evaluation [46]. There were no noticeable patterns between evidence of effectiveness during implementation and sustainability, unaided by inconsistency and gaps in the reporting of sustainability and evidence of effectiveness (see Table 4).

Thematic synthesis of barriers and facilitators of sustainability

Four overarching themes emerged: three themes broadly aligned with three of the four main constructs of the GTI framework (see Fig. 1) and the fourth described the wider policy context (see Table 5). Themes were schools' capacity to sustain health interventions (GTI construct 'capacity'), staff's motivation and commitment (GTI construct 'potential'), intervention adaptation and integration (GTI construct 'capability') and wider policy context for health promotion. We found that the fourth GTI construct of 'contribution' was implicated within the other themes (we highlight where this occurs) and comment on this further in the discussion. Themes and sub-themes are described below.

Theme 1: Schools' capacity to sustain health interventions

Schools' social norms, staff roles, resources and systems were reported to influence sustainability. Five sub-themes developed from 20 studies of 14 interventions [43–49, 51–59, 63–66].

1. Educational outcomes took precedence over health promotion

Teachers, principals and administrators prioritised teaching the academic curriculum, meeting educational

Table 2 Sustainability study design and weight of evidence ratings of the intervention

Study #	Intervention; author(s) and year	Study design	Methods	No. of former intervention (FI) and comparison group (CG) schools; response rates	Reporting on sustainability	W1—reliability	W2—relevance
1	<i>Project Salsa</i> ; Elder et al. 1998 [57]	<ul style="list-style-type: none"> • <i>Mixed-methods</i>. • Unknown whether data collected at single or multiple time points. • No comparison group. 	Focus groups, questionnaires, oral feedback.	6 FI schools; 100% (implied)	School-level	Low	Low
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; Kalafat and Ryerson 1999 [53]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at single time point. • Comparison group for survey—another suicide prevention intervention, no comparison group for interviews. 	Survey of all public high schools in one county, plus structured interviews with a sub-sample of schools.	24 FI schools; 73% 7 CG schools; 54%	School-level	Low	Med
3	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH) – health education curriculum</i> ; Johnson et al. 2003 [52]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at single time point. • Two comparison groups—former control schools who received a low dose of the intervention at the end of the trial phase and an unexposed comparison group who received no intervention. 	Questionnaires.	56 FI schools; 100% 20 CG1 ^a schools; 12 CG2 ^b schools; 100%.	Staff-level	High	Low
4	<i>CATCH – PE component</i> ; Kelder et al. 2003 [49]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional</i>. • Data collected at single time point. • Two comparison groups—former control schools who received a low dose of the intervention at the end of the trial phase and an unexposed comparison group who received no intervention. 	Questionnaires, observation of PE lessons, in-depth interviews.	56 FI schools; 100% 20 CG1 schools; 12 CG2 schools; 100%	Staff-level	Med	Med
5	<i>CATCH – all components</i> ; Lytle et al. 2003 [48]	<ul style="list-style-type: none"> • <i>Qualitative, cross-sectional</i>. • Data collected at a single time point. • One comparison group—former control schools. 	Interviews.	56 FI schools; 100% 20 CG1 schools; 100%	Staff-level	Med	High
6	<i>CATCH – PE component</i> ; McKenzie et al. 2003 [51]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at a single time point. • One comparison group—former control schools. 	Observation of PE lessons, questionnaires.	56 FI schools; 100% 20 CG1 schools; 100%	Staff-level	Low	Low
7	<i>CATCH – food service component</i> ; Osganian et al. 2003 [55]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional</i>. • Data collected at a single time point. • One comparison group—former control schools. 	Monitoring data, interviews and questionnaires.	56 FI schools; 100% 20 CG1 schools; 100%	School-level and staff-level	High	Med
8	<i>CATCH – school climate</i> ; Parcel et al. 2003 [60]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at single time point. • No comparison group. 	Questionnaires, observation of PE lessons, monitoring data.	56 FI schools; 100%	School-level	High	Low
9	<i>CATCH – all components</i> ; Hoelscher et al. 2004 [56]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at single time point. • Two comparison groups—former control schools who received a low dose of the intervention at the end of the trial 	Questionnaires, observation of PE lessons, monitoring data.	56 FI schools; 100% 20 CG1 schools; 12 CG2 schools; 100%	School-level and staff-level	High	Low

Table 2 Sustainability study design and weight of evidence ratings of the intervention (Continued)

Study #	Intervention; author(s) and year	Study design	Methods	No. of former intervention (FI) and comparison group (CG) schools; response rates	Reporting on sustainability	W1—reliability	W2—relevance
10	<i>Project ALERT</i> ; St Pierre and Kaltreider 2004 [58]	phase and an unexposed comparison group who received no intervention. <ul style="list-style-type: none"> • <i>Qualitative</i>. • Data collected at single time point. • No comparison group. 	Interviews.	8 FI schools; 100%	School-level	Low	Low
11	<i>School Fruit Programme and the Fruit and Vegetables Make the Marks (FVMM)</i> ; Bere 2006 [61]	<ul style="list-style-type: none"> • <i>Quantitative, longitudinal</i>. • Data collected over multiple time points, following the students' outcomes over time (same individuals). • Comparison group. 	Questionnaires.	9 FI schools; 100% 10 CG schools; 100%	School-level	High	Low
12	<i>Untitled - intervention focused on water consumption</i> ; Muckelbauer et al. [66]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at multiple time points (not necessarily the same individuals). • No comparison group. 	Questionnaire, (structured) telephone interview, measure water flow of fountains.	17 FI schools; 100%	School-level	Med	Low
13	<i>European Network of Health-Promoting Schools</i> ; Tjomsland et al. 2009 [43]	<ul style="list-style-type: none"> • <i>Qualitative</i>. • Data collected at single time point. • No comparison group. 	Telephone interviews and document analysis.	7 FI schools; 70%	School-level	Med	High
14	<i>Winning with Wellness</i> ; Schetzina et al. 2009 [50]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at multiple time points (not necessarily the same individuals). • No comparison group. 	Survey.	1 FI school; 100%	Staff-level	Med	Low
15	<i>First Step to Success (FSS)</i> ; Loman et al. 2010 [59]	<ul style="list-style-type: none"> • <i>Quantitative, cross-sectional</i>. • Data collected at a single time point. • No comparison group. 	Structured interview by telephone or in-person and website process evaluation tool.	29 FI schools; 13/29 school districts (45%) had continued to use the intervention. District administrators nominated schools.	School-district level and school-level	Low	Low
16	<i>GreatFun2Run</i> ; Gorely et al. 2011 [65]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional and longitudinal</i>. • Data on students' outcomes collected over multiple time points (same individuals). • Data on teachers and students' views of the intervention collected at a single time point. • Comparison group used for student outcomes 	Observation, anthropometric measures, focus groups, interviews.	4 FI schools; 100%	Staff-level	High	Med
17	<i>Fourth R program</i> ; Crooks et al. 2013 [64]	<ul style="list-style-type: none"> • <i>Quantitative cross-sectional</i>. • Study sample were teachers trained in the intervention two or more years ago. • Data collected at single time point. • No comparison group. 	Online survey.	Not known	Staff-level	Low	Med
18	<i>New Moves</i> ; Friend et al. 2014 [47]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional</i>. • Data collected at single time point. 	Questionnaire, interviews and PE lesson observation.	6 FI schools; 100% 6 CG schools; 100%	School-level	Med	Med

Table 2 Sustainability study design and weight of evidence ratings of the intervention (Continued)

Study #	Intervention; author(s) and year	Study design	Methods	No. of former intervention (FI) and comparison group (CG) schools; response rates	Reporting on sustainability	W1—reliability	W2—relevance
19	<i>Youth@work: Talking Safety</i> ; Rauscher et al. 2015 [54]	<ul style="list-style-type: none"> • Comparison group—teachers received a lower dose of New Moves at the end of the trial. • <i>Quantitative, cross-sectional.</i> • Study sample were teachers that were trained in the intervention between 2004 and 2012. • Data collected at single time point. • No comparison group. 	Telephone survey.	Not known	Staff-level (sustainability score)	Low	Low
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS)</i> ; Nadeem and Ringle 2016 [46]	<ul style="list-style-type: none"> • <i>Qualitative.</i> • Study sample were clinicians who had worked in former intervention schools. • Data collected at single time point. • No comparison group. 	Interviews.	Not known	Staff-level	High	High
21	<i>Good Behavior Game (GBG)</i> ; Dijkman et al. 2017 [63]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional.</i> • Data collected at single time point. • No comparison group. 	Questionnaire and interviews.	16 FI schools; 94%	School-level (sustainability score)	Med	High
22	<i>TAKE 10!</i> ; Goh et al. 2017 [44]	<ul style="list-style-type: none"> • <i>Qualitative.</i> • Data collected at single time point. • No comparison group. 	Interviews.	2 FI schools; opportunity sample.	Staff-level	Med	Med
23	<i>School outdoor smoking ban</i> ; Rozema et al. 2018 [62]	<ul style="list-style-type: none"> • <i>Mixed-methods, cross-sectional.</i> • No comparison group. 	Questionnaire for all secondary schools enquiring about use of outdoor smoking ban. Additional questionnaire for those with ban. Qualitative interviews with sub-sample of schools conducted 6 months later.	438 schools; response rate not known—schools currently with the intervention.	School-level (sustainability score)	Low	Med
24	<i>Health Optimizing PE (HOPE)</i> ; Egan et al. 2019 [45]	<ul style="list-style-type: none"> • <i>Qualitative single case study.</i> • Data collected at multiple time points from the research team—interviewed twice during the trial phase, and once 1 year post-trial phase. • Data collected at single time point from teachers and students. • No comparison group. 	Document analysis, interviews, focus group.	1 FI school; 100%	School-level	High	Med

^aCG1—20 schools who received a lower dose of CATCH at the end of the trial. ^bCG2—12 schools who did not receive the intervention

Table 3 Summary of results on the sustainability of the intervention

Study #	Intervention; author(s) and year	Sustainability of the intervention (FI = former intervention, CG = comparison group)	Curriculum	Ethos/environment	Family/community
1	<i>Project Salsa</i> ; Elder et al. 1998 [57]	One school (17%) continued nutrition-related activities for students and parents.		No schools continued student advisory committees and changes to school menus. Nutrition education classes for adults continued, unknown if this occurred in all schools.	The nutrition information provided by a community institution was discontinued and replaced with a different intervention, delivered by parent volunteers.
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; Kalafat and Ryerson 1999 [53]	96% of FI schools continued student training, although at a lesser dosage, compared to 100% of CG schools.		67% of schools had written policies and procedures for responding to at-risk students, compared to 86% of CG schools. 8% of schools continued educator training, compared to 0% of CG schools.	All schools retained links with community agencies. 13% of schools continued parent training compared to 0% of CG schools.
3	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH) – health education curriculum</i> ; Johnson et al. 2003 [52]	19% of teachers in FI schools used CATCH health education activities, compared to 5% in CG1 ^a schools and 0% in CG2 ^b schools. 23% of teachers in FI schools used CATCH health education materials, compared to 11% in CG1 schools and 0% in CG2 schools. 69% of teachers in FI schools taught zero hours of CATCH in the current school year, compared to 84% in CG1 schools, and 99% in CG2 schools.			
4	<i>CATCH – PE component</i> ; Kelder et al. 2003 [49]	35% of teachers in FI schools had CATCH PE materials available, compared to 19% in CG1 ^a schools. 32% of teachers in FI schools had used CATCH PE materials, compared to 22% in CG1 schools. There were no sig. differences between study groups (FI, CG1, or CG2 ^b) in the amount of physical activity.			
5	<i>CATCH – all components</i> ; Lytle et al. 2003 [48]	34% of staff from FI schools said they were partially implementing the health education curriculum, compared to 23% of staff from CG1 ^a schools. 66% said it was <i>not</i> implemented their school, compared to 62% in CG1 schools. 24% of staff from FI schools said they were still implementing CATCH PE. 70% of staff from FI schools said they used elements of it, compared to 93% from CG1 schools. 6% of staff from FI schools said they had discontinued CATCH PE, compared to 7% of staff from CG1 schools. 70% of teachers from FI schools who had had CATCH PE training reported		None of the food service staff from FI schools said they were fully implementing the food service component 'Eat Smart (ES)'. 27% of the respondents from CG1 schools said ES was not being used at their school. Most district-level respondents said that some of the ES guidelines were being followed. Sustainability of the no-smoking policy not reported.	4% of staff from FI schools said they carried out some parts of the family component. All other staff indicated it had been discontinued.
6	<i>CATCH – PE component</i> ; McKenzie et al. 2003 [51]				

Table 3 Summary of results on the sustainability of the intervention (*Continued*)

Study #	Intervention; author(s) and year	Sustainability of the intervention (FI = former intervention, CG = comparison group)	Curriculum	Ethos/environment	Family/community
7	CATCH – food service component; Osganian et al. 2003 [55]	using the CATCH PE curriculum, compared to 57% from CG1 ^a schools. There were no sig. differences between FI and CG1 schools in the amount of physical activity in PE lessons and class energy expenditure.	25% of cooks in FI schools said the ES manual was present in the school kitchen compared to 15% in CG1 ^a schools. 15% of cooks in FI schools said they used it compared to 3% in CG1 schools. 34% of cooks in FI schools said the recipe box was present in the kitchen compared to 20% in CG1 schools 32% of cooks in FI schools said they used it compared to 12% in CG1 schools.	Schools in which principals and teachers were more open were sig. more likely to be teaching more hours of CATCH. ‘Open’ principals were supportive, low on rigid monitoring/control and low on restrictiveness. ‘Open’ teachers were highly collegial, had a network of social support and were engaged with school. Schools in which principals and teacher were more open, and schools higher in organisational health, were sig. more likely to have a greater percentage of calories from saturated fat in school lunches.	The family component was taught infrequently.
8	CATCH – school climate; Parcel et al. 2003 [60]	No differences between study groups (FI, CG1 ^a , CG2 ^b) and % of class time spent in moderate to vigorous physical activity or vigorous physical activity. All study groups exceeded the CATCH goal of 90 min of PE/week. Teachers reported teaching only about two CATCH lessons during the previous school year, a much lower dosage than the original intervention.	30% of FI schools achieved the total fat goal of < 30%, compared to 10% of CG1 schools and 17% CG2 schools. 45% of FI schools achieved the saturated fat goal of < 10%, compared to 30% of CG1 schools and 17% of CG2 schools. Most ES guidelines implemented consistently across all study conditions. No schools met the ES guidelines for sodium.	Sustainability of the no-smoking policy was not reported.	44% of schools continued to participate
9	CATCH – all components; Hoelscher et al. 2004 [56]	Over 88% of PE teachers and 60% of classroom teachers reported using the CATCH PE activity box in the previous school year.	38% of schools continued the curriculum.	Sustainability of the classroom curriculum/	Sustainability of the parent
10	Project ALERT; St Pierre and Kaltreider 2004 [58]				
11	School Fruit Programme and the Fruit and				

Table 3 Summary of results on the sustainability of the intervention (*Continued*)

Study #	Intervention; author(s) and year	Sustainability of the intervention (FI = former intervention, CG = comparison group)	Curriculum	Ethos/environment	Family/community
12	<i>Vegetables Make the Marks (FVMM)</i> ; Bere 2006 [61] <i>United – intervention focused on water consumption</i> ; Muckelbauer et al. [66]	learning activities was not reported.	Sustainability of the classroom curriculum/ learning activities was not reported.	in the School Fruit Programme (SFP) (paying for it), compared to 30% of CG schools (n = 3). 66% of students subscribed to the School Fruit Programme, compared to 21% of students in CG schools. Students from FI schools who continued to participate in the SFP ate 0.4 portions more FV at school than students from FI schools that discontinued participation. 65% of schools retained the water fountain. The mean water flow was highest in the first 3 months of implementation. Afterwards, it decreased by about 35% until the end of the intervention, and remained stable between implementation and sustainability phases.	newsletters was not reported.
13	<i>European Network of Health-Promoting Schools</i> ; Tjomsland et al. 2009 [43]	Sustainability of specific classroom curriculum/learning activities was not reported.	Sustainability of specific classroom curriculum/learning activities was not reported.	86% of schools had sustained and developed health promotion practices—specific activities and policies were not reported. 71% of schools referred to aspects of health promotion in their vision statements/priority areas. Sustainability of the needs assessment and national, regional and international conferences were not reported.	Sustainability of specific family/ community activities was not reported.
14	<i>Winning with Wellness</i> ; Schetzina et al. 2009 [50]	50% of teachers reported teaching students the nutrition curriculum. Sustainability of the health education curriculum was not reported.	50% of teachers reported teaching students the nutrition curriculum. Sustainability of the health education curriculum was not reported.	100% of teachers reported using the 5 min desk-side exercises. Sustainability of the changes to school menus and vending machines, snack preparation demonstrations, use of walking trails, school health services and health promotion activities for staff was not reported.	Sustainability of the parent-training component was not reported.
15	<i>First Step to Success (FSS)</i> ; Loman et al. 2010 [59]			8/13 school districts (62%) reported at least one school was continuing to use the behavioural intervention. 72% of the schools nominated by district administrators reported sustainment (mean duration was 7.1 years). 28% of the schools had discontinued implementation (mean duration was 2.4 years).	Sustainability of the parent-training component was not reported.

Table 3 Summary of results on the sustainability of the intervention (*Continued*)

Study #	Intervention; author(s) and year	Sustainability of the intervention (FI = former intervention, CG = comparison group)	Curriculum	Ethos/environment	Family/community
16	<i>GreatFun2Run</i> ; Gorely et al. 2011 [65]		Sustainability of the intervention (FI = former intervention, CG = comparison group) Curriculum 25% of teachers were currently using any of the intervention resources. There were no sig. differences between students from FI and CG schools in steps per day or moderate to vigorous physical activity at the time of the sustainability study (in contrast to trial phase).	The sustainability of the use of the summer activity wall planner and website was not reported.	The sustainability of the running events was not reported.
17	<i>Fourth R program</i> ; Crooks et al. 2013 [64]		72% of teachers said they had implemented the intervention in the most recent school year. During the most recent year of implementation: 40% said they had implemented 81% or more of the programme; 25% said 61–80% of the programme; 18% said 41–60% of the programme; 13% said 21–40% of the programme; 5% said less than 20% of the programme		The sustainability of the parent newsletters was not reported.
18	<i>New Moves</i> ; Friend et al. 2014 [47]		83% of schools continued the intervention to some degree. One school closed; one discontinued the intervention. Of schools that remained open ($n = 11$): • 91% offered an all-girls PE class 4 times a week. In 9/10 observed classes, most girls met the goal for being active at least 50% of the class. • 45% of schools continued to implement nutrition and social support classes.	27% of schools offered individual coaching sessions, though less frequently than the intervention specified. 0% of schools continued lunch get-togethers.	Sustainability of the parent postcards and event were not reported.
19	<i>Youth@work: Talking Safety</i> ; Rauscher et al. 2015 [54]		81% of teachers had taught the curriculum more than once since being trained in it, with a mean sustainability score of 10.1 (SD = 6.6, maximum score 18). The mean fidelity score was 2.1 (SD 2.2, maximum score 6).		
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS)</i> ; Nadeem and Ringle 2016 [46]			50% of clinicians implemented the counselling intervention 1 year after the trial phase. 0% of clinicians implemented the intervention 2 years after the trial phase. The mean sustainability score was 8.7 (range 2–14, maximum score 20).	Sustainability of parent outreach activities not reported.
21	<i>Good Behavior Game (GBG)</i> ; Dijkman et al. 2017 [63]				

Table 3 Summary of results on the sustainability of the intervention (*Continued*)

Study #	Intervention; author(s) and year	Sustainability of the intervention (FI = former intervention, CG = comparison group)	Curriculum	Ethos/environment	Family/community
22	TAKE 10; Goh et al. 2017 [44]			20% of teachers implemented the activities regularly (2 or more times a week; during the trial phase, teachers implemented the intervention on average once a day). Some teachers (numbers not given) implemented it less regularly (once a week or less). A few teachers (numbers not given) discontinued the intervention. The mean sustainability score was 5.70 (SD 0.9, maximum score 7).	
23	School outdoor smoking ban; Rozema et al. 2018 [62]				
24	Health Optimizing PE (HOPE); Egan et al. 2019 [45]	Teachers (numbers not given) were still using the technology resources. The classroom curriculum was discontinued.		One element of the before and after school activities—'Intramurals' was discontinued and then reinstated 2 months later. Another before and after school activity was discontinued.	The family fun run event continued (the event had existed pre-trial phase). The parent education event was discontinued.

^aCG1—20 schools who received a lower dose of CATCH at the end of the trial. ^bCG2—12 schools who did not receive the intervention

Table 4 Effectiveness and sustainability

Study #	Intervention name; author(s) and year	Effects on outcome(s) summarised	% of schools/staff that sustained the curriculum component	% of schools/staff that sustained the ethos/environment component	% of schools/staff that sustained the family component
3–9	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH)</i> ; Johnson et al. 2003 [52]; Kelder et al. 2003 [49]; Lytle et al. 2003 [48]; McKenzie et al. 2003 [51]; Osganian et al. 2003 [55]; Parcel et al. 2003 [60]; Hoelscher et al. 2004 [56]	Effective for primary outcomes	23% of teachers had used health education materials 32% of teachers had used PE materials 88% of PE specialists had used PE materials	15% of cooks said they used the intervention manual. 32% of cooks said they used the intervention recipe box.	4% of staff
11	<i>School Fruit Programme and the Fruit and Vegetables Make the Marks (FVMM)</i> ; Bere 2006 [61]	Effective for primary outcomes	Not reported	44% of schools	Not reported
15	<i>First Step to Success</i> ; Loman et al. 2010 [59]	Effective for primary outcomes	n/a	Not reported	Not reported
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS)</i> ; Nadeem and Ringle 2016 [46]	Effective for primary outcomes	n/a	0% of clinicians	0% of teachers
24	<i>Health Optimizing PE (HOPE)</i> ; Egan et al. 2019 [45]	Effective for primary outcomes	0% of schools (NB one school in study)	One activity continued, one activity discontinued	0% of teachers
12	<i>Untitled - intervention focused on water consumption</i> ; Muckelbauer et al. 2009 [66]	Effective for some but not all primary outcomes	Not reported	65% of schools	n/a
14	<i>Winning with Wellness</i> ; Schetzina et al. 2009 [50]	Effective for some but not all primary outcomes	50% of teachers (not all classroom activities reported)	Not reported	n/a
16	<i>GreatFun2Run</i> ; Gorely et al. 2011 [65]	Effective for some but not all primary outcomes	25% of teachers	Not reported	Not reported
17	<i>Fourth R program</i> ; Crooks et al. 2013 [64]	Effective for some but not all primary outcomes	72% of teachers	n/a	Not reported
18	<i>New Moves</i> ; Friend et al. 2014 [47]	Effective for some but not all primary outcomes	91% of schools continued PE; 45% continued health education	27% of schools continued individual staff-student coaching sessions; 0% of schools staff-student lunch get-togethers	Not reported
22	<i>TAKE 10!</i> ; Goh et al. 2017 [44]	Effective for some but not all primary outcomes	n/a	20% of teachers	n/a
10	<i>Project ALERT</i> ; St Pierre and Kaltreider 2004 [58]	No effect on primary outcome, harmful effect for one treatment condition	38% of schools	n/a	n/a
1	<i>Project Salsa</i> ; Elder et al. 1998 [57]	n/k	17% of schools	0% of schools	Not reported
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; Kalafat and Ryerson 1999 [53]	n/k	96% of schools	67% of schools	13% of schools
13	<i>European Network of Health-Promoting Schools</i> ; Tjomsland et al. 2009 [43]	n/k	Not reported	71% of schools	Not reported
19	<i>Youth@work: Talking Safety</i> ; Rauscher et al. 2015 [54]	n/k	Not reported	n/a	n/a
21	<i>Good Behavior Game (GBG)</i> ; Dijkman et al. 2017 [63]	n/k	n/a	Not reported	n/a
23	<i>School outdoor smoking ban</i> ; Rozema et al. 2018 [62]	n/k	n/a	Not reported	n/a

Table 5 Themes and sub-themes on the factors affecting the sustainability of health interventions in schools

Theme	Sub-themes	Sub-sub-themes	Reports that identified (sub)theme
Schools' capacity to sustain health intervention—the social norms, roles and resources that affected whether schools could sustain an interventions	Educational outcomes took precedence over health promotion	N/A	[43, 44, 46, 48, 49, 52, 54, 56, 65]
	Staff roles in sustainability—how the professional roles of different staff contributed to sustainability processes.	The importance of the principal and school administration	[43, 45–48, 52–54, 59, 63–65]
	Funding and material resources—the availability of funding, materials and space for sustaining an intervention.	Teachers' autonomy in the classroom	[43, 44, 48, 65]
	Cognitive resources—schools' access to staff with the knowledge and skills to continue to promote, co-ordinate and/or deliver the intervention.	N/A	[45–49, 51, 52, 54–59, 63, 64, 66]
Staff motivation and commitment—factors influencing the intentions of staff to sustain an intervention	Social resources—the resources that came from schools' connections with other schools and organisations	Staff turnover—the need to train new staff and retain experienced and trained staff.	[43, 46–49, 51–53, 55, 56, 58, 59, 63–65]
	Observing and evaluating effectiveness	The importance of training	[43, 46–49, 51–53, 56, 59, 64, 65]
	Staff confidence in delivering health promotion	N/A	[43, 45, 48, 58]
	Parent support for the intervention	N/A	[43–50, 52, 55, 59, 63–66]
	Believing in the importance of the intervention	N/A	[43, 46–50, 63, 64]
	The impact of school climate	N/A	[43, 45, 46, 48, 52, 59, 62, 64, 65]
Intervention adaptation and integration—factors influencing whether it was operationally possible to sustain an intervention	The workability of the intervention—the work carried out to fit the intervention into existing school practices and routines.	Fitting the intervention into the time available	[44–49, 52–56, 58, 63–66]
		Matching the intervention to students' needs	[43, 46, 53, 54, 63–65]
	The integration of the intervention into school policies and plans.	The need for up-to-date materials	[48, 49, 53, 54, 64]
Wider policy context for health promotion—whether policies supported school health promotion	N/A	N/A	[43, 48, 63]
		N/A	[43, 48, 52, 55–57, 62]

standards and regulations. Under time constraints, health promotion was considered dispensable, a theme that arose from nine studies (high and medium reliability) of six interventions focused on physical activity, healthy eating and mental health [43, 44, 46, 48, 49, 52, 56, 65]. A district-level informant from the CATCH study commented:

...if you're going to prioritize, you're going to prioritize on academics. ...You always concentrate on academics but there was more room for PE and health and those kinds of things before the state kicked in the really extremely rigorous academic standards. ([48], p. 515)

There were some exceptions where principals or administrators encouraged staff to focus on health [43, 46, 48], but the prevailing norm was to focus on academic attainment.

2. Staff members' roles in sustainability

Staff members' roles and autonomy were reported to affect whether interventions were sustained at school-level or solely by individual practitioners. Two deeper sub-themes emerged: the importance of the principal and administration, and teachers' autonomy in the classroom.

i) *The importance of the principal and school administration*

Commitment and support from the principal and administration (including the school district in US studies) were considered crucial to 'pave the way' for sustainability [46], a sub-theme identified in 12 studies of 11 interventions [43, 45–48, 52–54, 59, 63–65]. Senior staff had the power to stop or continue an intervention at school-level through authorisation [46, 48], re-distributing school funds to or away from interventions [45, 47], allocating time for delivery [43, 46, 47] and providing training for new staff [43, 47, 63] (see sub-theme 4 (i) 'Staff turnover' in the 'Theme 1: Schools' capacity to sustain health interventions' section).

Beyond resources, principals/administrators could demonstrate their commitment through integrating the intervention into school policies [43], recruiting new staff who were well-disposed to it [63], giving staff positive recognition [43, 53, 64] and managing staff to ensure that they continued [43]. The principal had a key role in continuing to enrol staff in a community of practice and persuading staff that it was right for them to address health [43]. This sub-theme overlaps with the GTI domain 'cognitive participation' under the construct 'contribution'.

ii) *Teachers' autonomy in the classroom*

Four studies of four interventions (high and medium reliability) indicated that teachers had autonomy to decide whether to sustain interventions in their classroom, within the bounds of the curriculum and principals' leadership [43, 44, 48, 65]. Other studies revealed that if teachers sustained interventions, they could adapt them as they deemed appropriate (see sub-theme 1 'The workability of the intervention' in the 'Theme 3: Intervention adaptation and integration' section). One teacher from a US study of CATCH reported [48]:

It is an individual decision. The state has a framework of what we are supposed to teach. We are asked to teach the things that the district recommends, but if you have more time, you can teach other things as well. No one has asked us to use the CATCH curriculum since the program ended in our school so it was up to us. ([48], p. 509)

There were some examples of collective action among teachers (reflecting GTI domain 'collective action' under 'contribution'). Two US studies (medium and high reliability) of physical-activity interventions showed teachers working together to plan and develop ideas [44] and to encourage the principal to raise funds for sustainability [45]. There was an example of staff receiving logistical support [46] and providing internal training to other staff [48]. The piecemeal evidence for collective action may reflect the lack of attention given to this factor in the studies or a norm that teachers' work with an intervention beyond the evaluation of effectiveness is typically independent.

3. Funding and material resources

Insufficient funding, equipment, materials and/or physical space could lead to discontinuation, cause logistical challenges [43, 47, 64] or become a reason for adaptation (see sub-theme 1 'The workability of the intervention' in the 'Theme 3: Intervention adaptation and integration' section), a sub-theme developed from 16 studies of 11 interventions [45–49, 51, 52, 54–59, 63, 64, 66]. A lack of resources could motivate schools to seek out external funds via fundraising, grants or assistance from school-related associations [48, 57, 58, 66], re-distribute school budgets [45] or find alternative means such as volunteers or parental payments [47, 57, 66]. As one study (medium reliability) of an all-girls physical-activity intervention reported:

Lack of finances was mentioned as a reason that teachers did not offer guest instructors or hold weekly

lunch bunches. Whereas some teachers asked for volunteers to teach yoga or dance, others used videos or asked students to pay a \$5 activities fee at the beginning of the class to use for guest instructors' fees. ([47], p. 5)

4. Cognitive resources

Schools needed to retain the knowledge, skills and experience to sustain the intervention. Two deeper sub-themes emerged related to staff turnover and the importance of training.

i) *Staff turnover*

Fifteen studies of ten interventions described the adverse impact of staff turnover. As staff left, organisational knowledge, enthusiasm and the co-ordination of the intervention could dissipate [43, 46–49, 51–53, 55, 56, 58, 59, 63–65]. A change in principal [43, 48, 63] or loss of a champion (a senior staff member who advocated and assumed responsibility for intervention coordination and integrity) could jeopardise sustainability [46, 58, 62]. New decision-makers did not always share enthusiasm for the intervention or had other priorities, as a clinician from one highly reliable US study of a mental-health intervention explained:

We've lost a major senior administrator that is proactive and advocated for the kids' needs, across the board, regular education and special education. Things have changed. Within the last year, they're just looking at all the academics right now. ([46], p. 138)

ii) *The importance of training*

A lack of training for new teachers or booster training was a barrier to sustainability, a sub-theme emerging from 12 studies of nine interventions [43, 46–49, 51–53, 56, 59, 64, 65]. One Dutch study (medium reliability) of an intervention to reduce aggressive behaviour found a designated school co-ordinator to train and coach teachers facilitated sustainability [63]. As well as giving staff the skills and knowledge for delivery, training could generate enthusiasm and communicate the intervention's philosophy [47, 48], as described by a teacher from a US study (medium reliability) of CATCH:

The staff development was interesting and motivated teachers. They learned about nutrition and fitness. They got excited about it and therefore implemented it. And that made it difficult to implement in schools

that had not had the training. They missed a real motivational surge and missed looking at the importance and hearing from experts. ([48], p. 515)

5. Social resources

Schools' networks with other schools, community organisations and funding agencies appeared to influence sustainability, a sub-theme emerging from four studies (high, medium and low reliability) of four interventions [43, 45, 48, 58]. Strong social links could give schools access to funding [58] and training [48], and collaborations with community organisations and other schools could motivate schools to maintain and develop interventions [43].

Theme 2: Staff motivation and commitment

Five sub-themes emerged on staff motivation and commitment to sustain health interventions from 18 studies of 15 interventions [43–50, 52, 53, 55, 59, 60, 62–66].

1. Observing and evaluating effectiveness

Directly observing the benefits for students' engagement, wellbeing and behaviour was a strong motivator to continue [43–50, 52, 63, 65, 66]. No staff referred to the findings of the effectiveness evaluation when discussing the intervention's value, though a clinician in one study commented seeing a change in students based on a 'pre and post test' [46]. Conversely, negative responses from students could be a barrier [48, 55, 64]. For example, a teacher from a Dutch study (medium reliability) of an intervention to reduce aggressive behaviour reported:

It gives the team power. And, especially now, with more children with behavioral problems in the classroom. When you stay on the positive side, almost all children will get along. ([63], p. 85)

Two studies (high reliability) asked students about their experiences of physical activity interventions [45, 65] and found they had little decision-making power over what activities were sustained; they were willing participants, but opportunities were largely dictated by their families or the school. For example, a student commented on a component discontinued due to time constraints (as reported by teachers):

Taylor said, 'We started these warmups, and then they stopped. I don't know why, but I wish we had them. It is hard to run the CV day with no warmup.' ([65], p. 114)

Only four studies (one high, two medium and one low reliability) of four interventions referred to more formal

processes to appraise effectiveness [43, 46, 59, 63], overlapping with the GTI domain of ‘reflexive monitoring’ under ‘contribution’. Two studies found no differences in sustainability between schools with procedures for reviewing the intervention and those without [59, 63]. One study (medium reliability) reported principals who sustained the intervention regularly evaluated health-promotion activities.

2. Staff confidence in delivering health promotion

Staff who had been trained in the intervention felt more confident and better prepared to deliver it [47–49, 52, 64] (see sub-theme 4 (ii) ‘The importance of training’ in the ‘**Theme 1: Schools’ capacity to sustain health interventions**’ section). Teachers delivering an intervention outside of their usual expertise were less likely to sustain it [43, 47–50, 64, 65], for example, PE teachers delivering nutrition education [47] or classroom teachers delivering PE [43, 48–50, 65]:

Among classroom teachers, feeling inadequately prepared to implement PE was frequently reported; and in many cases, teachers had little interest in gaining the skill. ([49], p. 471)

3. Parent support

Five studies noted parent support in a general sense was helpful [43, 45, 52, 59, 64]. Four studies covered parent support in more depth; staff indicated how lack of parent support could reduce their motivation to sustain an intervention [46, 48, 62, 65]. This sub-theme overlaps with the GTI domain ‘coherence’ under ‘contribution’. A teacher from an English study (high reliability) of a physical-activity intervention explained:

I think a lot of it is home life, if the parents don’t push them towards sporting activities then you’re fighting a battle straight away in school. ([65], p. 8)

4. Believing in the importance of the intervention

Belief in the importance of the intervention motivated staff to sustain it, a sub-theme arising from seven studies of six interventions [43, 44, 46–49, 52, 63] and was related to the importance of training (sub-theme 4 (ii) ‘The importance of training’ in the ‘**Theme 1: Schools’ capacity to sustain health interventions**’ section) and observing intervention effectiveness (sub-theme 1 ‘Observing and evaluating effectiveness’ in the ‘**Theme 2: Staff motivation and commitment**’ section). Principals who

reported sustaining a 3-year HPS intervention in Norway, which aimed to create a positive school environment for health, were keen to communicate its importance:

School satisfaction and safety are at the bottom of this school. It is under the teachers’ skin and in our walls. We work with this no matter what is on our agenda. ([43], p. 59)

5. The impact of school climate

There was limited evidence on the impact of staff perception of the school climate. One highly reliable US study of CATCH suggested climate might differentially impact on different interventions: a positive climate was associated with more teaching hours of the CATCH curriculum but higher levels of saturated fat in school meals [60]. Respondents in two other studies (medium and high reliability) reported that a negative climate meant that sustainability processes were superseded by more critical organisational priorities [46, 63]. One US study (low reliability) of a workplace health-and-safety intervention found no relationship between climate and sustainability.

Theme 3: Intervention adaptation and integration

Schools’ ability to sustain an intervention was affected by its ‘workability’—the degree to which it could be shaped into existing school practices and routines, and its integration into school policies and plans. These two sub-themes emerged from 18 studies of 13 interventions [43–49, 52–56, 58, 60, 63–66].

1. The workability of the intervention

Three deeper sub-themes transpired: fitting the intervention into the time available, matching the intervention to students’ needs and the need for up-to-date equipment and materials.

i) *Fitting the intervention into the time available*

Frequently, staff identified that interventions required too much time, time which was primarily devoted to delivering the curriculum (see sub-theme 1 ‘Educational outcomes took precedence over health promotion’ in the ‘**Theme 1: Schools’ capacity to sustain health interventions**’ section) [44–46, 48, 49, 52–56, 63–65]. Staff dealt with time constraints by reducing or dropping components [45, 47, 64, 65], or making time for the intervention by adapting it to classroom routines [44, 50] or incorporating elements of it into the existing curriculum [48, 52, 53, 56, 58, 65].

ii) *Matching the intervention to students' needs*

Adaptation was also important to match the needs of different cohorts of students, to offer the intervention to different grades [53, 63], better fit students' learning abilities or make lessons more contextually relevant [43, 54], devote more time to particular activities to ensure students understood a subject or better engage students [46, 64].

iii) *The need for up-to-date materials*

Over time, new equipment and materials were needed as equipment grew worn or was lost [49], materials became dated [48, 53, 64], new technological advances emerged [50, 64] or adaptations were needed to meet students' needs [53, 54, 64].

2. Integration of the intervention with school policies and plans

One Dutch study of an intervention to reduce aggressive behaviour and one Norwegian study of an HPS intervention (medium reliability) reported that schools with greater sustainability more often made reference to it in school policies or plans [43, 63]. Studies suggested formal documentation signalled principals' and administrators' commitment to the intervention [63], legitimised it [48, 63], made staff accountable [43] or made the intervention resilient to staff turnover [43] (see sub-theme 4 (i) 'Staff turnover' in the 'Theme 1: Schools' capacity to sustain health interventions').

Theme 4: Wider policy context for health promotion

The wider policy context could also affect sustainability, a thematic area positioned outside of the GTI framework, emerging from seven studies of five interventions. Regional or national health policies could support sustainability by legitimising health promotion in schools' policies [43, 48] (see sub-theme 1 'Educational outcomes took precedence over health promotion' in the 'Theme 1: Schools' capacity to sustain health interventions' section). Over time, health policies could shape social norms: for example, increasing tobacco-control regulations could enhance the sustainability of outdoor-smoking bans in schools [62]. Policy could also provide funding and resources [55, 57], though additional resources could also lead to competing interventions, potentially displacing existing ones [55, 56].

Discussion

Summary of key findings

The sustainability of public health interventions after start-up funding and/or other resources end has been

relatively uncharted in schools compared to health care. We identified 24 studies assessing the sustainability of school-based health interventions delivered partly/wholly by educators or school-employed health professionals, but quality was not consistently high. None of the interventions assessed were fully sustained; all had components sustained by some schools or staff, bar one that was completely discontinued. Identifying common facilitators and barriers could help researchers and providers optimise the sustainability of school interventions, and consider whether/how the intervention is likely to have a lasting impact on student and staff health. Two key facilitators emerged. First is the central importance of a committed principal and administration that could authorise continuation, allocate resources, integrate the intervention into school policies and enrol new staff into a community of practice. Second is the importance of supporting staff who are confident in delivering health promotion and believe in its value. These facilitators are consistent with studies of the implementation of school health interventions [13, 31, 67], suggesting factors are crucial to both phases.

Many of the facilitators and barriers to sustainability identified for school settings were similar to those in health care: for example, dedicated leaders, the need for continued resources and training, staff turnover and intervention workability [21, 24–27]. Several factors were more salient for schools. Health encompasses multiple outcomes, some of which may be more obviously relevant to school settings. We identified the sub-theme of educational outcomes taking precedence over physical activity, nutrition and mental health interventions, but not for those focused on anti-social or violent behaviour. This suggests that throughout adoption and implementation, change agents need to convince schools that health interventions can bring education benefits [30, 68–70].

Student engagement was key to implementation and sustainability at teacher-level. A central role of educators is to engage students [29, 71], and staff were unlikely to sustain interventions that did not draw students in [48]. Sometimes sustainability was prompted by students' requests for the intervention [44, 45]. Knowing parents encouraged the healthy activities of the intervention outside of school also motivated staff to continue, further supporting the view that schools are complex adaptive systems, where multiple networks of agents act and react to one another [30]. In contrast, only 16% of the 62 sustainability approaches in Lennox et al.'s review [23] included patient involvement, suggesting that most existing tools and frameworks for health care settings do not consider patient support for the intervention critical for sustainability.

Also of particular significance for schools was the need to adapt intervention materials and activities to accommodate

other curriculum requirements and the diversity of children's backgrounds and development [29, 72]. This dynamic context suggests that intervention developers should anticipate the need for adaptation, even for effective, well-implemented and funded school health interventions [21, 30, 73].

Contrary to other studies of sustainability in health care settings [20], we found little evidence that champions helped sustain interventions: like other staff, champions moved to new institutions leaving interventions at risk. We found no discernible relationship between evidence of effectiveness and sustainability, and no school staff mentioned outcome evaluation as an influential factor in sustainability.

Strengths and limitations

Our review was comprehensive and rigorously conducted. It is the first to apply the GTI to the study of sustainability. We found the framework helpful in creating a balance between listing the common enablers and barriers and representing the complexity and context-dependent nature of sustainability in schools. The data aligned well with the constructs of capacity (theme 1), potential (theme 2) and capability (theme 3), while the construct of contribution was implicated within the other themes. It made sense to consider 'cognitive participation' and 'collective action' under the construct of 'capacity' as the ongoing enrolment of staff, the legitimisation of health activities, and whether staff worked independent or collectively appeared significantly affected by schools' social norms and roles. Under capacity, we included an additional domain of 'social resources' which suggested that contact between schools and other organisations could facilitate sustainability through creating opportunities for resource- and knowledge-sharing, while stimulating ongoing interest in the intervention.

Regarding limitations, we did not double-screen full reports and we may have missed reports due to the array of terms used to describe sustainability, despite our sensitive search strategy. We deviated from our original protocol in using thematic synthesis rather than meta-ethnography due to the nature of studies found. We excluded interventions delivered by clinical services co-located in schools, and consequently, our findings may be less representative of the sustainability of targeted or tiered services which typically require a high level of clinical expertise (only 3 of the 24 interventions in the review were targeted). The sustainability of health interventions provided solely by external clinicians is unknown; for example, they could be more sustainable because they do not require educators to expend time gaining additional knowledge and skills, or they may be less because they require sustained funding. There was substantial heterogeneity in study designs, methods and

reporting of included studies; many studies were methodologically weak and did not report on the sustainability of all components, in particular reporting for family/community components was poor. Most studies were located in the US, and consequently, our review findings may be most relevant to this setting. Around half of interventions focused on healthy eating/physical activity, with a lack of evidence for the sustainability of other public-health interventions.

Implications for research and policy

Informed by our synthesis, we propose three questions to consider when optimising school health interventions. First, is it important that each component is sustained? Some components, such as needs assessment, may be time-limited stepping-stones. Second (if a component is to be sustained), how would you expect the intervention to be sustained: if there were high staff turnover or the loss of the champion, during time-pressured periods such as exams, with different classes of students with varying needs or if there were no opportunities for regular training updates? Third, do staff understand the key theoretical principles that should underpin any adaptations to intervention activities and resources? Creating forums during the period of the evaluation of effectiveness when these 'stress-testing' questions can be discussed with staff could help researchers to understand the likely sustainability of interventions.

Stronger study designs/methodology are needed for future research; there were few longitudinal studies prospectively following intervention sustainability from initial implementation. Increased use of conceptual theory would enhance studies' richness and breadth and improve the analytic generalisability of findings. Student engagement in the intervention should be considered a key factor affecting both implementation and sustainability processes. The inclusion of views from a range of school participants, including students, would strengthen the validity of findings. Improved reporting on sustainability of *all* intervention components is key, with justification provided for excluding specific components. Research on the sustainability of interventions outside health eating/physical activity is needed, for example, there were no studies of sexual-health interventions, as are studies of the sustainability of interventions delivered by external providers co-located in schools.

Sustainability strategies contributed to our analysis where authors commented on them in papers' results and discussions [43–45, 52, 64]. However, several papers referred to specific sustainability strategies in their background sections but did not consider their impact in their analysis of sustainability, including 'train-the-trainer' models to spread the intervention across and between schools [58, 63], external consultants exploring

adaptations with staff [53] and a staged-approach to implementation [50]. Primary research on the impact of implementation and sustainability strategies and planning would be valuable [74, 84].

Our review suggests regional and/or national school policies and educational standards that promote health and wellbeing and its connection to students' learning and school enjoyment could enhance sustainability by legitimising staff spending time, effort and resources on continuation, as well as bringing funding and resources to sustain health goals.

Conclusion

Multiple factors facilitating and prohibiting schools' ability to sustain health interventions emerged from the review, and existing evidence suggests sustainability depends upon schools developing and retaining senior leaders and staff that are knowledgeable, skilled and motivated to continue delivering health promotion through ever-changing circumstances. Evidence of intervention effectiveness did not appear to be an influential factor. However, there is a significant gap in our understanding of how to sustain interventions and methodologically stronger primary research, informed by theory, is needed.

Supplementary information

Supplementary information accompanies this paper at <https://doi.org/10.1186/s13012-019-0961-8>.

Additional file 1: Search terms for each database.
Additional file 2: Website search results.
Additional file 3: Contact with subject experts.
Additional file 4: Data extraction and quality appraisal form.
Additional file 5: Quality appraisal guidance and ratings.
Additional file 6: PRISMA reporting standards.
Additional file 7: Additional details on sustainability study design participants.

Abbreviations

ASAP: Adolescent Suicide Awareness Program; BMI: Body mass index; CATCH: Child and Adolescent Trial for Cardiovascular Health; CBITS: Cognitive Behavioral Intervention for Trauma in Schools; F&V: Fruit and vegetables; GBG: Good Behavior Game; GTI: General Theory of Implementation; HOPE: Health Optimizing PE; HPS: Health Promoting Schools; MVPA: Moderate-to-Vigorous Physical Activity; OECD: Organisation for Economic Co-operation and Development; PA: Physical activity; PDV: Physical dating violence; PE: Physical education; PTSD: Post-traumatic stress disorder; WHO: World Health Organization

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Authors' contributions

LH directed the review; conducted the screening, data extraction and quality appraisal; and carried out the thematic analysis. HM conducted the screening, data extraction and quality appraisal. TO conducted the data extraction and quality appraisal. HM and TO commented on the manuscript. CB contributed to planning the review, advised throughout the review process and contributed to and commented on the manuscript. The

manuscript was drafted by LH. All authors read and approved the final manuscript.

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Availability of data and materials

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Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Author details

¹Department of Public Health, Environments and Society, London School of Hygiene and Tropical Medicine, 15-17 Tavistock Place, London WC1H 9SH, UK. ²Institute for Health and Human Development, University of East London, Water Lane, London E15 4LZ, UK. ³Department of Psychology and Human Development, UCL Institute of Education, University College London, 20 Bedford Way, London WC1H 0AL, UK.

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Chapter 6: Case study: the sustainability of Learning Together

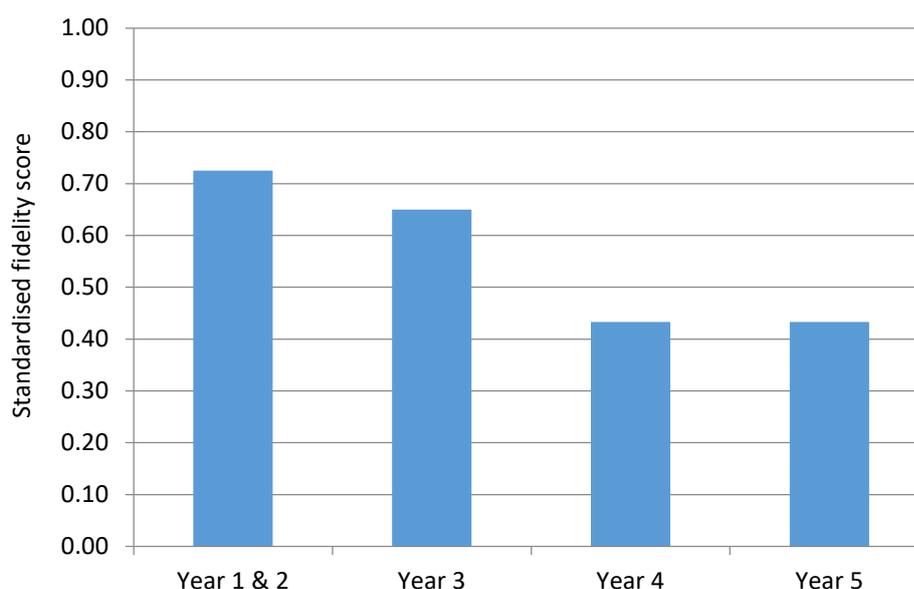
The next four chapters focus on the case study of the sustainability of Learning Together, a school-based bullying prevention intervention, one and two years after the completion of an effectiveness trial that began in May 2014 and finished in July 2017. The case study aims to explain whether and how the intervention was sustained; school staff's motivation to sustain it; and the influence of the school context on sustainability. Learning Together had three key components: restorative practice (RP) training and implementing RP approaches; a staff-student action group to review and revise school policies, coordinate the intervention, and decide on local actions to meet students' needs; and a social and emotional learning curriculum with core and optional units.

This chapter addresses the question, "How did staff and students describe the sustainability of the intervention components one and two years after the effectiveness trial?" The chapter starts by summarising the implementation of Learning Together's components during the trial across five schools and their sustainability over the following two years, using a priori categories. The sections that follow describe the way each component was sustained (or not) according to staff and students. Fidelity data for years 1 – 3 are taken from Bonell et al. (2019); descriptions of the implementation of components are derived from process evaluation data from the INCLUSIVE trial; details of sustainability in years 4 and 5 come primarily from qualitative data collected for the thesis (see chapter 4). The chapter finishes with an overall summary of the sustainability of the intervention in each school.

6.1 Summary of the implementation and sustainability of Learning Together across case study schools

All five schools implemented the intervention moderately to very well during the first two years of the trial when they were guided through implementation by an external facilitator (see figure 3). Schools were selected for the case study to achieve diversity in terms of the fidelity with which they implemented the intervention in the trial's third year, when schools were tasked with implementing the intervention without an external facilitator, that is, when it was internally facilitated (see chapter 4). In this year, two schools implemented Learning Together very well (Downton Park and Franklyn), two schools moderately well (Fern Grove and Bletchford), and one school had a low level of implementation (Greenthorne). Appendix 20 presents the fidelity scores for implementation in each school during the trial.

Figure 3: Average fidelity of Learning Together over five years across case study schools



In year 4, the year following the trial (2017/18), the fidelity of the intervention was much lower across the schools (see figure 3). However, overall scores mask variation in the sustainability of different components and between schools. Staff in four schools reported that the intervention's social and emotional learning curriculum had been discontinued; staff from Downton Park were uncertain over whether the curriculum was still being used. All schools discontinued the original action groups, though two schools (Franklyn and Fern Grove) maintained actions that had derived from the groups. RP met with more success; all staff interviewed, most of whom had received in-depth training, continued to use RP and provided concrete examples of use. Three schools referred to RP in their procedures for dealing with bullying or behavioural incidents and two referred to RP principles but not specific procedures in the policies. In terms of the use of RP across the school, in three schools (Downton Park, Fern Grove, and Bletchford) staff responses were inconclusive as to whether RP had been adopted as a way of working by most staff and staff. In two schools (Franklyn and Greenthorne), staff reported that RP had *not* been adopted by most staff members as a way of working.

The average fidelity score across the schools in year 5 (2018/19) was unchanged from year 4 (see figure 3). Scores had improved in two schools: in Franklyn, RP became integrated into discipline procedures in school policy and the senior leader interviewed at Bletchford reported that most staff were now using RP approaches. Scores stayed the same in Greenthorne and the level of sustainability dropped in two schools – Downton Park and Fern Grove. In year 4, staff at Downton Park reported that they were uncertain if the curriculum was still being used within tutorial time and in year 5 the staff member interviewed was not aware of its use. Similarly, in Fern Grove, it was unclear whether most staff were using RP approaches in year 4, however the staff members interviewed in year 5 were more definitive

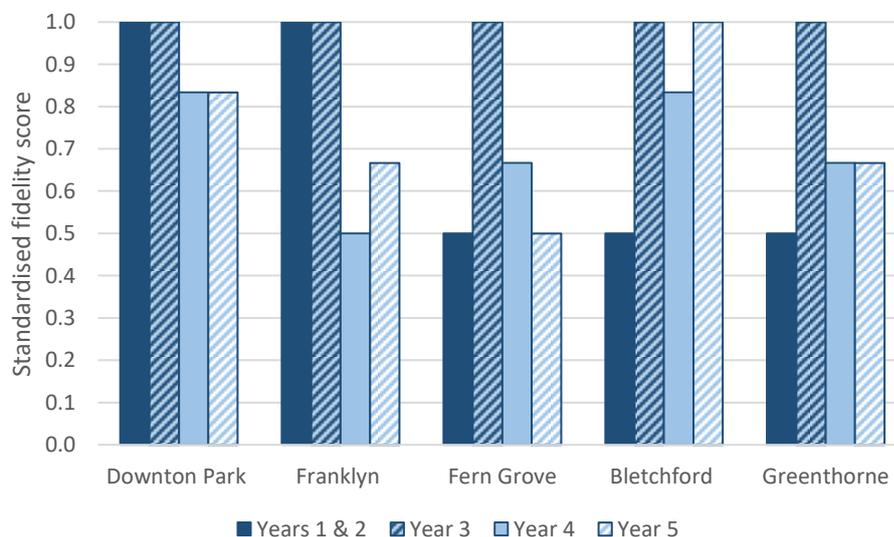
that the approach was not embedded within the school. The fidelity scores for the sustainability of the intervention in years 4 and 5 are presented in appendix 21.

The next sections describe in more detail the intended delivery of each component, how it was implemented in each school during the first two years of the trial when there was an external facilitator for implementation, how it was delivered in the third year of the trial when schools implemented the intervention without external facilitation, and whether schools sustained the component in the two years after the trial.

6.2 The sustainability of restorative practice training and approaches

RP was the most successfully sustained component from Learning Together. RP continued after the trial in some form in all case study schools (see figure 4). All the staff interviewed for the study continued to practice RP after attending the in-depth training in RP or taking part in all-staff introductory training. There was variation among schools in whether RP training was cascaded to other staff members beyond the half-day training that was provided at the start of the trial and in the degree to which RP was integrated into school policies and procedures. In one school (Bletchford), RP was sustained as an integral part of school practices and procedures. The next sections describe trends in RP through the trial and in the following two years in more detail.

Figure 4: the implementation and sustainability of restorative practice



Restorative practice delivery specification for the trial

The Learning Together manual describes the intervention as a 'whole-school restorative practice intervention', indicating the central importance of RP. In the first term of the first year of the trial, *all staff* were required to attend a half-day RP awareness training, delivered by external trainers, which focused on the restorative principles of building relationships,

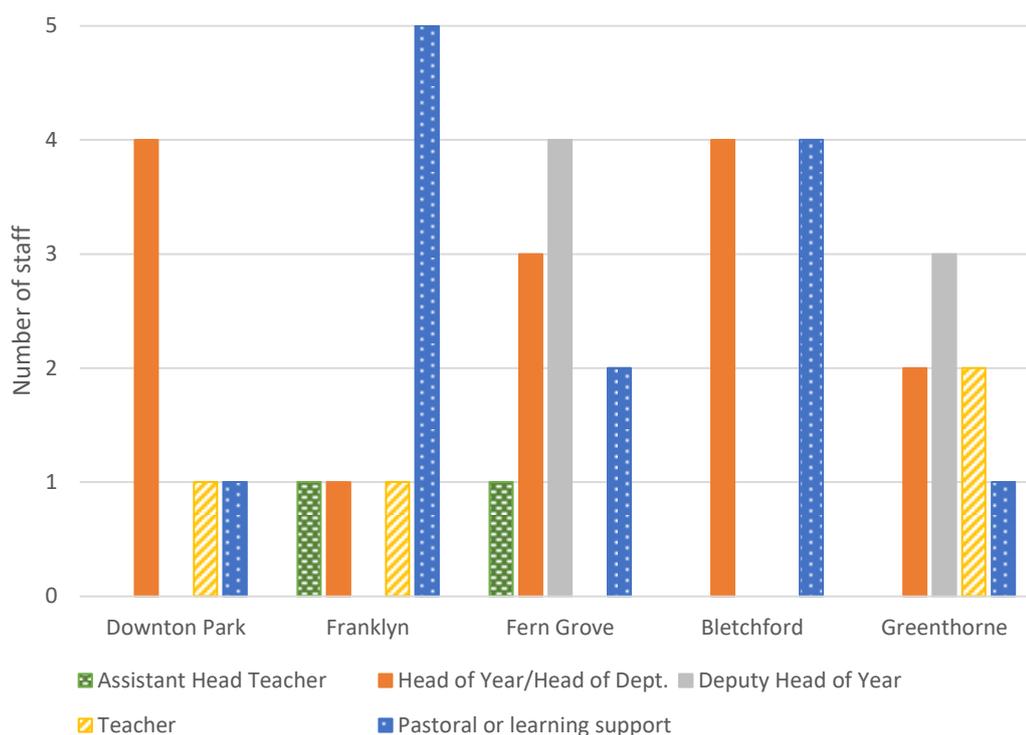
preventing conflict and repairing harm, and the use of restorative language. By the end of year 1, a *select group of staff*, five to ten per school, were expected to attend a 3-day in-depth training course in RP with the same external trainers. The manual did not specify who should attend the training. The in-depth training covered more 'formal' ways of working with RP, such as 'circle time' or 'conferencing' to deal with serious student behaviour incidents. Circle time involves a group of students sitting in a circle and taking it in turns to listen to others and offer their views and/or experiences of an issue. Conferencing is a formal meeting whereby different parties (for example, students, parents, and teachers) have a chance to listen to others, explain their side of a story and its consequences, and work out a positive way forward.

RP was designed to embed and integrate into schools via the action group. The action groups were required to initiate and oversee a collaborative process for the revision of school's rules (for example, classroom code of conduct) and policies in line with RP (see section 6.3 for more information on the action groups).

Training in restorative practice and the implementation of restorative practice approaches in years 1 & 2

All-staff training was delivered to all five schools. At least six members of staff attended in-depth training from each school (ranging up to ten). Although serious student behavioural incidents would typically be dealt with by teaching staff with middle- or higher-level management responsibilities (see chapter 9), each school selected a range of different staff to attend, including a number of teaching staff with lower-level responsibilities, pastoral staff or learning support staff (see figure 5).

Figure 5: Roles of staff that attended the in-depth RP training during the trial



All staff interviewed in year 4 who had attended in-depth training were unequivocally positive about it:

Having a three-day training course...where we got to really act out...the different situations. They really were very, very passionate about restorative justice and the practice in schools. And the session was great. Callum, staff, Downton Park, year 4

You could see what it was doing, you could see what they were trying to do, they were believable, they were inspirational. Katie, staff, Fern Grove, year 4

One staff member from Bletchford and one from Fern Grove said that it was a shame more staff members could not be trained, and another staff member from Greenthorne commented three-days was quite long. David, a senior leader from Fern Grove reflected that one aspect that was not covered by the training was how to train other staff members in the approach:

And the restorative justice part of that, in terms of the training, was...it was very high energy in terms of its delivery; the facilitators were great. I suppose the bit that needed the most unpicking was the...how can we then take this back and pick the bits that are going to be of most use to us...from our staff in our context?.....

It would have been a waste of our time... sending some of our more...stuck in their ways teachers to be able to experience that training. So it was almost like we'd... been trained and now we've got to think about...how do we train the trainers to be able to go back in and... actually build capital in there? David, Senior Leadership Team (SLT), Fern Grove, year 4

The RP approach was cascaded to other staff members in four schools in different ways and with varying degrees of intensity, and not cascaded in one school at all. In Bletchford, Jenny, a staff member who had attended the in-depth training (and was also an action group member) offered several RP training sessions to staff as part of their continuing professional development (CPD) programme in year 2. In Downton Park, a number of RP training sessions were delivered to staff in year 2 and it was used as the basis of student mentor training for staff. RP was also cascaded to students. It was integrated into the curriculum that was delivered in tutorial time, the principles of RP were introduced to year group 9 students in a PSHE day, and it was used as the basis of peer mentor training for sixth form students and disseminated to students through posters and assemblies:

And I actually put a session together for my entire year group, just... cascading what we mean by restorative practice, how we might recognise it, how we might use it, you know, the best bits of it. And I kind of got them talking about it and got them to do a kind of you know series of activities based on it in a kind of student friendly way. ...Actually I also sent Callum... my email, the PowerPoint, and he actually converted that into an assembly for certain year groups as well. So it went out to students in that way. Victoria, staff, Downton Park, year 4

In Fern Grove and in Greenthorne, one training session was held for other staff members (in year 2 at Fern Grove and year 1 at Greenthorne). David, a senior staff member at Fern Grove, explained that he had translated RP principles into an overall concept of warmth which he had launched on a Teaching and Learning (TAL) day:

This idea that a child's parent is stood behind their shoulder and you must talk to that person, the most precious person in that parent's life, as if that parent was there. And we must give the message to students that you must talk to staff as if Mr Smith's mum is stood behind him. David, SLT, Fern Grove, year 4.

After the training day, David continued to disseminate the approach through staff observation and feedback. In Fern Grove, there was high turnover of staff who had attended the in-depth training; a staff member interviewed in year 2 thought several staff, perhaps as much as half, had left the school (see chapter 9 on the challenge in transferring knowledge and expertise).

At Greenthorne, Amy had created a summary document of the RP approach and prompts to use for other staff but she did not think it had been used:

I basically created a sheet just with all the different questions, just so I had a point of contact, and different things to consider, like a couple of things about the order that it should go in, that I use as a base.... And I passed it out to other Heads of Years but I don't think they use it. Amy, staff, Greenthorne, year 4

A staff member also created a restorative worksheet for students to complete in detentions but Amy said the students did not respond well to it, preferring to do homework. At Franklyn, Gregory, a senior leader, said that a “watered down version” of RP was communicated to staff at an INSET day; the other three staff interviewed did not recall training other staff in RP beyond the all-staff training for the trial.

The implementation of restorative practice training and approaches in year 3

In year 3, RP was further embedded at Bletchford. Jenny, who had delivered RP training within the CPD programme, was seconded to the senior leadership team (SLT) to widen the roll-out of training. Jenny created an RP training programme, trained the SLT, and trained up several members of staff to be RP facilitators to help deliver the programme. Eight sessions on RP were delivered through CPD over the course of the year. In addition, training was provided to students during tutorial time, RP principles were presented in assemblies, and training was given to auxiliary staff:

And so I created this training programme. I created the action plan. And the time frame really for rolling out restorative practice in the school is really something from like one to five years to really embed the culture change. So I split my training into four sessions. We trained the whole staff – I mean the whole staff... We invited the dinner ladies, we invited the office staff, we...and that really is the sort of philosophy behind it; if you're going to be a restorative school, everybody has to sign up to it. Jenny, staff, Bletchford, year 4

At the beginning of the summer term, Joe, a member of the SLT employed the services of an external consultancy – Education for All¹ – to help embed RP in its discipline procedures, and Jenny and Joe attended their training programme. Joe reported that he saw Education for All as a framework for embedding RP into the school:

¹ Not real name

So we wanted to make that change [to our discipline system] and RP was the starting point I think for it. And then Education for All dovetailed with it to support the RP. So nothing changed. We continued and supported and enhanced RP... They were working in tandem and they still are. Joe, SLT, Bletchford, year 4

All Bletchford staff reported that the principles of Education for All aligned with RP, for example: staff being calm, consistent adults; praising positive behaviour; and explaining and following through consequences of poor behaviour. However, there were also specific steps² to follow for behaviour management with restorative conferencing used if students continued to misbehave.

I think to me they seem quite similar. I don't know whether that's just because of the way they've implemented it at Bletchford... but like I said, we're following the steps and then moving on to restorative conversations and stuff. There's still a big...element of the new system is restorative practice. Brett, staff, Bletchford, year 4

Further work to integrate the intervention into discipline procedures also took place in Franklyn. If students took part in a serious behavioural incident, they had to participate in a 'RED'³ meeting, a restorative conferencing between the teacher and student to talk about what had happened and how to repair the harm caused:

So you give them the first warning, "now you need to stop running around." If they carry on doing it this is "Right you're still doing it, I'm putting your name on the board." Third time, then you call [RED], so it's like SLT will come, pick that child up, take them somewhere else. At the end of the day, they go into our dining hall, and say it's Matt there, so there'll be them, Matt, and me, and we all sort of sit and we chat about what's happened, the consequences of that, what's gonna happen in the future, is this gonna carry on? Amelia, staff, Franklyn, year 4

In Downton Park, RP continued along the same lines as in the previous years, forming the basis of student mentor training, peer mentor training, and tutorial time, and assemblies on RP principles continued to be held. Newly qualified teachers (NQTs) and support teachers received training in RP as part of their training programme at the school. Angela described her vision to give students the skills to use RP principles:

So really... training students to become peer mentors and to... help with conflict resolution. That's been one of my key aims, and delivering that message and what that means through assemblies. And use of language, restorative language to deal with problems and find solutions. Angela, staff, Downton Park, year 4

² Steps not quoted to preserve anonymity

³ Not real name

Across all five schools, staff interviewed reported continuing to use RP themselves. At Fern Grove, staff reported that they supported teachers that had not been trained in RP when relationship problems arose between teachers and students, and applied RP conferencing when holding post-exclusion meetings with students and parents (to reintroduce them back into school). There were no further developments in the embedding of RP in Greenthorne.

The sustainability of restorative practice training and approaches in years 4 & 5

Across the schools, all teachers interviewed reported that they continued to use RP in their daily work. Many staff members made the distinction between the 'informal' use of RP, using the framework, principles or language of RP, and the 'formal' use of RP, using restorative conferences, scripts or rules for managing RP meetings. All staff reported that they used RP informally. At least one staff member from each school described using both formal and informal methods of RP:

I've definitely sort of adopted that kind of restorative practice and with meetings between different students, where we get two young people together and have me as the person there trying to sort of direct the conversation. Or it might be that it's between a pupil and a teacher, and I'll be there, or another member of staff might be there, just to kind of iron out the student's perception 'oh of that teacher doesn't like me' or that kind of thing. We use it, well I use it in a more formal sense, like that; but also I think it can be used, that sort of style and that approach and that way of talking to young people – I sometimes use in a less formal sense as well. So for example if I'm teaching and I'm having trouble with a student, they're being difficult, I might take somebody outside. And it's not a kind of formal meeting as such, but definitely using those kinds of ways of talking to them and that kind of approach just to... prevent anything from escalating. Victoria, staff, Downton Park, year 4

At Bletchford in year 4, the school continued the roll-out of Education for All's discipline approach, of which RP was a part. In year 4, all members of staff interviewed reported that they were not yet confident in how to implement RP with the Education for All framework. All of the key staff involved in cascading RP remained at the school in years 4 and 5. In year 5, Joe, the SLT staff member, reported that a working group for behaviour had been created to oversee the integration process and the CPD programme continued to focus on RP and Education for All's approach. In the autumn term, trainers from Education for All had delivered coaching to members of staff who needed extra support. Joe reported that restorative conferencing was embedded in the discipline system for more serious incidents and there was an increasing use of RP for lower-level incidents:

When it goes through the policy, you go through [the steps] and then at the end of that, there could be a restorative meeting, a very brief meeting with the teacher just to sort things out which is relatively on a low level. But if it became more serious, where there had been a removal from the class or some other incident where they had to be removed then there would be a restorative meeting with a senior member of staff as well as the teacher and the child. I think there's a lot more of the lower level ones now, and we still use the member of staff, the senior member of staff if necessary. But they seem to be not as common as the ones that are just done at the end of a lesson, with that time which is the way it should be really, to try and deescalate on that as well. So there's more of those than the more formal ones. Joe, SLT, Bletchford, year 5

In year 4 at Downton Park, three staff members who had received in-depth training in RP remained at the school. Angela, a staff member with responsibilities for professional development at the school who led the intervention during the trial, said that RP continued to be used in training for newly qualified staff and support staff. The three staff members interviewed did not know whether RP was still being used in tutorial time; Angela commented:

I'm not a hundred percent sure on that one because it's the heads of year that run the active tutorials. So I couldn't...confirm that. I mean personally I wouldn't see why not, but again it just depends on whether there are other things that are brought in that need to be covered and how that would work. Angela, staff, Downton Park, year 4

Another staff member, Callum, said that he introduced RP principles to students in a PSHE lesson (one hour) delivered to year group 9 and assemblies on RP principles continued to be held. In year 5, when Callum was interviewed again he said he thought that the principles of RP still permeated the school, and he still used RP informally:

The principals of restorative practice I think are now, are much more in the way that I approach students, I think it's something that I've adopted but it's not necessarily something I do formally. So, the way that I would meet with students and talk about them, the way we resolve conflict within our pastoral team, I think we are quite restorative in the way that we go about doing that. But we don't hold restorative conferences. Callum, staff, Downton Park, year 5

Callum was not aware of any new training on RP or formal structures for RP (though they may have existed). A few incidents of fighting had recently occurred among students and RP was not used to deal with these. He thought training in RP was needed for new staff and refresher training for existing staff. He was not aware of RP in school policies and

development plans. RP was included in the school's anti-bullying policy but not in their behaviour policy.

At Franklyn in year 4, RED meetings continued to be held using RP principles by some staff when serious or recurring behaviour incidents occurred. Two staff members trained in RP thought that staff needed training on how to use RP in these sessions, having witnessed staff using the meeting as punishment rather than as a learning opportunity:

We introduced the RED system... and yet again, like most things there were... grey areas, and... some staff members responded really well to it, and you could see the positive conversations that were happening... But I still don't feel that we've nailed it yet because as I've said I've been in alert detentions where I'm managing it and I see some of the conversations the dialogues happening between staff and students. And I'm lead to believe that restorative is both parties having the conversation and the time to sort of like reflect and express how they feel, and then at the end of it you talk about you know ways forward. I've witnessed some occasions where it's literally another opportunity for a teacher to have a go at a student. And that is not restorative. Gregory, SLT, Franklyn, year 4

In year 5, the SLT staff member interviewed thought that more staff were attending RED meetings but that there was still inconsistency in how RP was used in the meeting. Internal training had been given on the school's behaviour policy and systems, no staff training had been run in years 4 or 5 on the principles and practices of RP. However in year 5, Matt, the SLT staff member interviewed reported that after the trial, the school won a bid for four years' worth of external training and resources in developing students' resilience and thought the techniques embodied those of RP:

We've done a lots of work and the resilience work... embodies the restorative approach particularly dealing with behaviour. Matt, SLT, year 5

There were no further developments in the use of RP in years 4 or 5 at Fern Grove or Greenthorne; it continued to be used informally or formally by staff who received in-depth training or staff that were using RP techniques prior to the trial:

Toby who was also head of year, I think he uses a bit of it in his everyday, but not really formally. Like when I when I deal with it... I'd kind of say to the students if they're getting into... an argument, or there's a problem with bullying I'll say, "Look, there's something called restorative practice." And I'll explain to them what it is, and and then we get them in and we have a formal meeting. I don't think that happens with any other Heads of Years." Amy, staff, Greenthorne, year 4

But having the like, "No, Adam; when you said this it made me feel..." And [ask] any kid that I'm not very good at being fake; I'm very blunt. So if I did that whole nanana, they'd [the student would] be like, what the hell? This is not right. So I think for me it's a way of just taking the script but making it individual to yourself..... having the basic, like you need to have these three points, and put the feelings back on the kids, I think is a good. Katie, staff, Fern Grove, year 4

RP principles were mentioned in Fern Grove's behaviour policy but it was not written into procedures for dealing with behaviour. In year 5, the roles of senior staff were revised so that responsibilities for inclusion and behaviour belonged to separate staff. There was a plan for further training on RP but the two staff members interviewed said that RP was not embedded in behaviour systems:

I think the commitment to restorative practice is there I just don't think it's the practice itself is embedded. It's like the commitment is embedded but the practice isn't, I would say. Harriet, SLT, Fern Grove, year 5

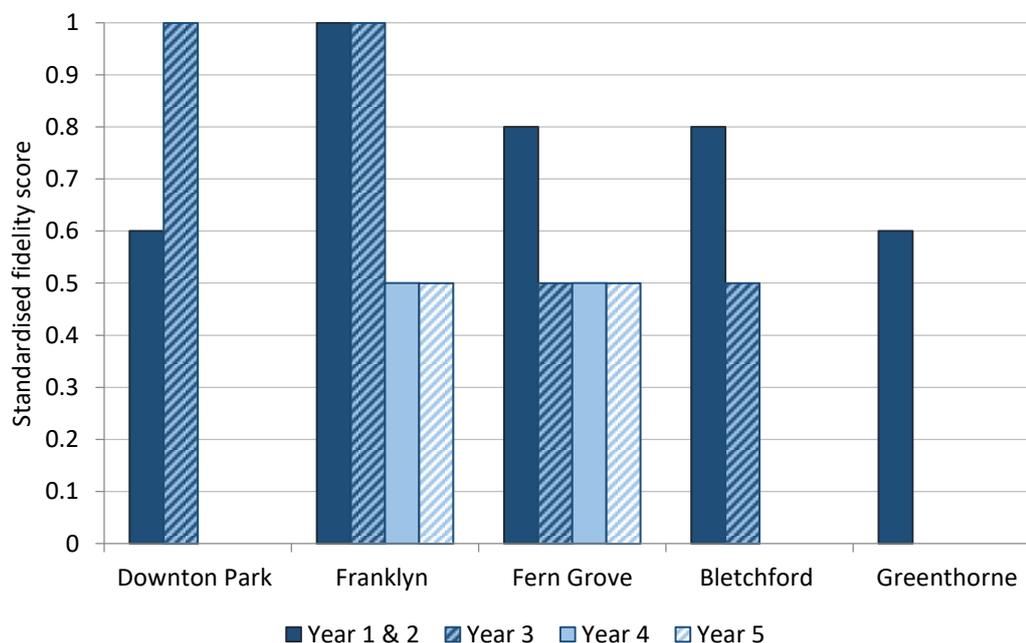
At Greenthorne in year 4, RP was written into discipline procedures and the SLT staff member interviewed in year 5 was keen to embed RP further:

I guess it's on the agenda and we're fully aware of it, but it's never kind of been formalised, or it's never been taken on as a whole school approach, or anything like that, where I know it has in other schools. Colin, SLT, Greenthorne, year 5

6.3 The sustainability of the action groups and locally determined actions

The action groups were implemented mostly with success in years 1 and 2 of the trial according to fidelity criteria (see figure 6). In years 3 to 5, there was variation between schools in whether and how schools continued to implement the action groups and/or any locally determined actions that resulted from them. The next sections describe the progress of the action groups over the trial and beyond.

Figure 6: the implementation and sustainability of the action groups and locally determined actions



Action groups delivery specification during the trial

According to the intervention manual, the action groups were intended to be responsible for overseeing Learning Together, deciding on actions that would promote students' learning and connection to the school community, improve students' wellbeing and relationships with other students and staff, and reduce their risk behaviours. They comprised staff representatives from the pastoral, teaching and support staff teams and had to include a member of the SLT, and student representatives that could include any year group but must include some year group 8 students and students that might be prone to, or at risk of, disengagement from school. The manual provides examples of the types of actions that the group could decide on: setting up a student blog to celebrate weekly successes at the school; student-run assemblies to celebrate achievements; changes to the length of tutorial time; or bigger changes in consultation with staff, parents, and students.

In years 1 and 2, the groups were co-ordinated by an external facilitator. They were required to meet a minimum of six times per year, once every half-term. During the trial, each year the group was required to review a need assessment report supplied by the Learning Together evaluation team to help them identified local priorities for actions based on students' needs. In addition to deciding on priorities and actions for the school, the group had to revise the school rules (for example, classroom codes of conduct) in line with RP principles.

Implementation of the action groups and locally decided actions in years 1 & 2

During trial years 1 and 2, action groups in four of the five schools met the required six times per year; the group at Greenthorne met less often. The groups ran in lunchtimes in Downton Park and Bletchford, and in lesson time in Franklyn, Fern Grove and Greenthorne.

Staff and students in interviews reported that schools had had a range of staff and students in the group. In all schools except Greenthorne, there were students from multiple year groups; in Greenthorne, students from one year group only were invited to attend (year group 8 in trial year 1 who were then in year group 9 in trial year 2). A member of the SLT co-led the group with another staff member in three schools (Downton Park, Franklyn and Fern Grove). In Bletchford, the group was led by a staff member with middle leader responsibilities. In Greenthorne, a staff member was seconded to the SLT for the first year and in the second year, a member of the SLT took over as the new action group leader. The staff member leading the group also changed in two other schools between year 1 and year 2 (Franklyn and Fern Grove).

At Downton Park, staff reported that the same staff regularly attended in years 1 and 2 but there were different students in each meeting rather than a core group of student members:

So there were fewer actions, direct actions out of it. It was more of a discussion... .. The students involved would change quite a bit as well, which didn't help.... What it really needed, it needed a bit more firmer... follow-up from... someone leading it to say, right, OK; the same group of students. Callum, staff, Downton Park, year 4

Similarly, at Bletchford staff Brett and Penny reported that student attendance was inconsistent; Penny suggested students might have been unwilling to attend in their free time at lunch. There was also turnover in staff action group members: four staff that attended in years 1 and 2 left, two left due to budget cuts and two went on leave. No difficulties in staff attendance were reported in Greenthorne. A core group of student members attended meetings at Fern Grove and Franklyn, but there was inconsistent staff attendance (as well as a changeover in members in year 2), as reported by staff, the external facilitator and a student:

I think because the members of staff were so busy, we really couldn't speak to them as often as we liked. Or maybe the people that we really wanted to be at the meeting, like certain members of SLT, they weren't always there. Sara, student, Franklyn, year 4

In years 1 and 2, two schools reviewed their school policies or rules: Franklyn and Fern Grove. In Franklyn, the group changed sanctions for punctuality and created and promoted

the 'Franklyn pyramid'⁴ to staff and students so that they were clear on the escalating stages of sanctions:

It was the behaviour pyramid... where....if you... did something wrong you'd get...your name on the board or whatever. And it would get worse and the sanction should be worse as you...as you behave worse and worse. And that was in fact implemented, there was a poster in every classroom with that pyramid, the teachers were reminded. And...that was one good example of something we did. Craig, student, Franklyn, year 4

Fern Grove created a list of positively phrased behavioural expectations – Fern Grove rules of conduct 'ROC'⁵ – which were disseminated to students in assemblies and placed in every classroom (for example, we conduct ourselves safely, we arrive on time to lessons⁶):

The main action from last year was the creation of what we now call the [ROC], which are ten behavioural expectations. And that was part of Learning Together student input as well as kind of input from all staff in staff training. So it wasn't totally Learning Together, but it was...the Learning Together student group were used to kind of feed in to what the key expectations should be. And then also that was obviously then ratified by the senior leadership of the school in terms of what the expectations needed to be. Action group lead, SLT, Fern Grove, year 2 (trial process evaluation)

The Year 2 action group lead and the external facilitator reported that students went on 'learning walks' to observe teachers' use of the behaviour policy.

Downton Park, Bletchford and Greenthorne did not review their school rules or policies, though Greenthorne did refer to the Learning Together project and restorative practice in its behaviour policy, and senior leaders at Downton Park agreed to include a consultation on behaviour policies in the school development plan in year 3 (though no changes resulted from the consultation). Two staff from Downton Park and two from Bletchford explained that the action groups were primarily used as a forum for deciding actions to disseminate RP principles and techniques rather than changing school rules or policies, or considering other ways of promoting students' learning and connection to the school community and improving wellbeing and relationships:

The meetings were purely about...embedding restorative practice and... finding ways of...communicating better and so forth. But...I don't know if they needed to run...given the impact. Angela, staff, Downton Park, year 4

⁴ Not real name

⁵ Not real name

⁶ Phrasing has been changed to preserve anonymity.

There were supposed to be more [students] I think but they couldn't always be there. And I think it was mostly the discussion of... what was happening around the... school...to do with restorative practice. I think basically....whether that was via the assemblies that were going to happen or the training or the...the policies and things like that. Brett, staff, Bletchford, year 4

Three schools implemented other locally determined actions (that were unrelated to implementing RP): Franklyn, Bletchford and Greenthorne. Franklyn introduced award assemblies for each year group every half term. Bletchford set up a peer mentoring programme though it did not last beyond year 2; Penny talked about the difficulties she had making it work:

I've tried different things. I've tried matching up an older child with a younger child... But I find that doesn't work very well because they don't necessarily want to help each other. And, I tried...having Year 10s coming at lunchtimes to a club we were running at lunchtime here with Year 7s. And I found that either Year 7s didn't come or the Year 10s didn't come. And after a few weeks of it not working very well, they all sort of gave up... ..So I've struggled with peer mentoring. I've used them on transition day when we have younger ones coming to the school for the day, and I've used them to help with that, and that seems to go down fairly well. But I cannot seem to get the peer mentoring system working. Penny, staff, Bletchford, year 4

At Greenthorne, the external facilitator in year 2 reported that the action group had secured a room in school that students who were lonely could come to at lunch time and asked teachers to be more visible at lunch times (trial process evaluation). However, when Colin was interviewed in year 4 he said that the space had already been planned:

I mean they claim that they got a space, a pastoral support base, but that was something that was already in the pipeline. But we said that they'd done it because it gave them a sense of worth. Colin, SLT, Greenthorne, year 4

Implementation of the action groups and locally determined actions in year 3

In year 3, the action groups at Bletchford and Greenthorne were discontinued, though these were for opposite reasons. The action group leader at Bletchford and Jenny the seconded-SLT staff member rolling out RP across the school commented that the school's investment in RP had superseded the action groups:

We wanted to make this [RP] a whole school – not just an action group or a couple of bits and pieces across the school, but we wanted to take this as a major school

development. So once we started to do that, the actual action group meetings became slightly irrelevant. People still turned up to them, but I'm not sure they were completely invested in it because we were doing it...we had started to do it in the whole school anyway. Action group lead, staff, Bletchford, year 3, (trial process evaluation).

Conversely, at Greenthorne, Colin, the senior leader who led the groups in year 2 said that he had lost motivation to continue the groups because RP no longer featured in the intervention. He said had wanted to go on the in-depth RP training but had not been allocated a place. A different staff member had led the action groups in year 1 but did not cascade RP or actions to the wider school. Colin thought that without a process of embedding RP, the group had lost its purpose:

So the restorative practice element kind of disappeared. And the way I read it, that was kind of one of the underlying principles of this whole process. And without that to scaffold the process, it kind of became a bit - wouldn't say redundant - but it was a little bit like... if we're not going to use restorative practice, how are going to embed this whole process in the school? Colin, SLT, Greenthorne, year 4

Downton Park and Fern Grove continued to run the action groups. In Downton Park, they continued in the same way as the previous year. In Fern Grove, the staff member who led the action groups in year 1 returned from leave to manage the group in year 3, and David, the senior leader, said that he was less involved. June said that the involvement of the student cohort who were members in years 1 and 2 was ended to give other students a chance to contribute their views. The original student group was given closure through a discussion of what they had accomplished as a group, what they had learned and how the group could be improved. Staff then invited two students from each of the year groups 7 to 10 to join the action group and the dynamic of the group changed:

Researcher: Did they raise the same issues, or...?

June: Not really. We found the second set of students were...what's the word? I think they came with their different complexities. The second set of students had more... issues with peers... had a long of things to work through, more than the others. The first group was.... most of them were academically very able, a couple of G and T students – still with issues and, you know, the angry one...

Researcher: G and T?

June: Gifted and talented.and the second group we tried to have similar – a G and T student... high academic learners, low academic learners, behaviour problems; a different mixture. But they just seemed to have more problematic things with them. So we were dealing with much more issues than just what they were bringing to the group. June, staff, Fern Grove, year 4

David and June commented that the group in the third year did not have a clear direction:

I would say we didn't really have a clear steer on where we wanted it to be at the very start of the year, so it kind of drifted on in a sort of an action group with new children who joined.... and we knew it needed a bit of a think and where we were going we hadn't really made our decision. David, SLT, Fern Grove, year 4

One action that the group contributed to in year 3, along with feedback from the school council, was a revision of the school's rewards system:

You build up your [reward] points and you're able at some point to exchange it for a [something in the] catalogue; stationery, something for yourself, for the school. They can choose. They [students] love it. That came out of the Learning Together, looking at a reward system that could reward students as well in a different way, apart from just putting...giving them positive and negative...and merits. June, staff, Fern Grove, year 4

In Franklyn, award assemblies for each year group every half term were sustained. The original action group stopped and two new action groups were created. One focused on bullying and attitudes towards lesbian, gay, bisexual and transgender (LGBT) students, and students attended from all year groups, and another was a girls-only group of Year 10 students focused on gender equality. The groups were in keeping with Learning Together's theory of change in that they focused on improving communication and relationships between students, and students and staff, and were centred on drawing on students' views and experiences to make the school environment more supportive, respectful and engaging. The groups were led by a staff member, Jessica, who had been an action group member, and she was given a newly-created role for diversity and inclusion. A number of students from the action group took part in the two new groups. The senior leader who led the action group in the second year saw the groups as an evolution of the previous action group (and indeed they were regarded as action group meetings in the trial's process evaluation fidelity data). However, students and other staff members interviewed in year 4 did not consider the new groups to be a continuation of the original action group:

There is no group which has really....spiralled on from this programme we had. Craig, student, Franklyn, year 4

So I think it was just one afternoon all of us were just in a group and were like...shall we make an equality group? And they were like, yeah, totally. So we came to [the

teacher] and we spoke to her and that's how it came to be. Sara, student, Franklyn, year 4

So as far I was concerned I was like, I was kind of done [with the action groups]...as far as meetings and....putting that forward. And then I would just carry on with working with my students. Sort of more on an individual basis rather than under the umbrella of...the project, if that makes sense. Jessica, staff, Franklyn, year 4

Sustainability of the action groups and locally determined actions in years 4 & 5

In Downton Park and Bletchford, no further action groups were run in years 4 and 5. Callum and Victoria from Downton Park reported that there was not an overt finish to the groups, but rather a sense that they were coming to an end:

It was led very much by Angela. And we kind of worked through it and then she said, you know we've kind of come to the end of our agenda, all the things that we need to work through and the things that we need to cover. And then yes, it was clear that we'd kind of achieved our goal... And that was the end, the last session. Victoria, staff, Downton Park, year 4

In Downton Park in year 5, a new student-staff group began focused on equality and LGBT which raised awareness and discussed issues related to discrimination, suggested actions, contributed to running a 'diversity day' and review school policies. None of the staff members who were in the action group were involved with the new group. The description of the group was similar to Franklyn's new groups and, like theirs, appeared to align with Learning Together's theory of change. However, Callum, the staff member, who described the group, made no connection between the new group and the action group. That is, it appeared likely that this group would have occurred without Learning Together:

Researcher: in the last year have there been any new staff student forums for behaviour, health and wellbeing that have started up?

Callum: ...There are groups which emerge, so I'm thinking, maybe not so much welfare, well I suppose it is...the...I can't remember what it's called now... It's called an Equality Group so that's something which is across year group which is, has sort of become more pronounced this year. So that looks at anti-discrimination particularly LGBTQ was a big focus this year. So that I think was there in the background but I think that's come along this year. Callum, staff, Downton Park, year 5

In year 4 in Fern Grove, the action group from Learning Together ceased. David, a senior leader, said that he created three new student-staff groups: one focused on learning and teaching, one focused on behaviour and wellbeing, and a student voice group with round

tables for each year group. Katie, another staff member, described the student voice group in her interview; interviews with June in years 4 and 5 indicated that she did not perceive the groups as connected to Learning Together. The learning and teaching group focused on lesson quality and testing new educational technology before it was purchased by the school, and sometimes badly-behaved students were invited to observe lessons and feedback on learning and teaching. The behaviour and wellbeing group was consulted for feedback on specific projects. The student voice group was specifically created to involve a mix of students in terms of their engagement and behaviour at school. The groups appeared to align with Learning Together's theory of change, making the school more supportive, respectful and engaging with a wide range of students involved in decision-making. Katie said that the students in the action group could automatically be part of the new student voice group if they wished to and David described the groups as an evolution of the action groups:

That group as itself with that Learning Together sort of identity and project...its time was done. But the lesson that we learnt from that is that actually it's incredibly useful to have children feed in and we just need to make that built into something that we do day-by-day for when we're making these sort of decisions. David, SLT, Fern Grove, year 4

A teacher was funded to perform the role of student voice coordinator, focusing on student engagement and consultation. Staff interviewed in year 5 described her as "very active" and "organised". The new student-staff groups ran for year 4 only and David left the school to take up a new post at the end of year 4. The Fern Grove rules of conduct were sustained in year 4 and 5.

In Franklyn, the LGBT group and equality group were sustained in years 4 and 5. In year 4, the groups met every two weeks and focused on raising awareness of these issues with students and staff, reviewing school policies, developing activities and raising the profile of LGBT history month and rainbow day and women's history month at the school. The groups were primarily made up of year group 11 students. In year 5, the groups continued but they met less frequently; many of the members had finished school at the end of year 4. However, a lot of the issues that were raised in the previous year continued to be addressed by the school, for example, through staff and student training, and the events were sustained. The award assemblies for each year group were sustained.

Greenthorne also started a new student-staff action groups in year 5. Colin, a senior leader, started an 'attitude to learning' group, made up of 12–15 students, many of whom were deliberately selected for being not as engaged in school and were encouraged to shape behaviour policy. The group appeared to reflect Learning Together's theory of change.

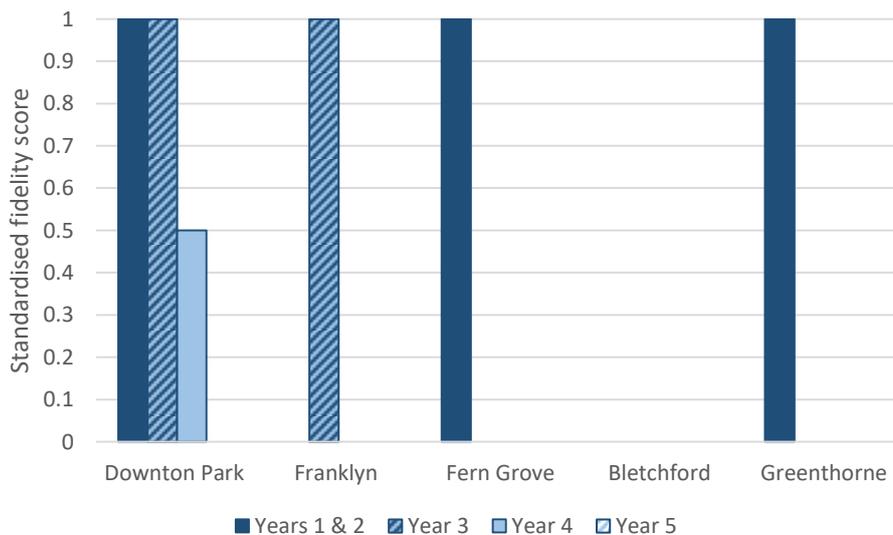
When asked whether the group would have been created regardless of Learning Together, Colin replied:

Maybe in the back of my mind, considering we'd had the meetings with students and seeing the benefit of getting the student voice and the student ideas. Because they did some work, one of the sub committees on the Learning Together group was about bullying and they did an assembly to the kids. One of the groups did about relationships with teachers and the importance of that and they did some top tips for us. So maybe maybe, that's not a yes or no, but a maybe. Colin, SLT, Greenthorne, year 5

6.4 The discontinuation of the social and emotional learning curriculum

The curriculum was the least successful of the components in terms of the fidelity with which it was implemented during the trial and whether it was sustained after the trial (see figure 7).

Figure 7: the implementation and discontinuation of the Learning Together curriculum



Intended curriculum delivery during the trial

The Learning Together manual states that the social and emotional learning curriculum was intended to be delivered to Year 8 students in year 1 of the trial and to the same cohort of students as they moved up through the school into year groups 9 and 10, respectively years 2 and 3 of the trial. It was designed to be delivered through personal, social and health education (PSHE) or another subject area of the school's choice. The curriculum consisted of six units focused on: 1) respectful relationships and student participation in the classroom, 2) belonging, 3) anxiety, 4) dealing with ups and downs, 5) trust and 6) expectations. Unit 1 was a core unit mandatory for delivery and the remaining units could be taught in part or as a whole, according to the needs of the school. However, schools were expected to deliver a

minimum of 5 hours per year, and to deliver more units than just unit 1; this was the required threshold for fidelity. The manual does not specify the lesson time required to deliver each unit. The curriculum was approved by the PSHE association, the national body for PSHE provision in England. The intervention manual states that schools could choose to deliver the curriculum after the trial to subsequent cohorts in year groups 8 to 10.

Implementation of the curriculum in years 1 and 2

During years 1 and 2 of the trial, trial process evaluation showed that the five case study schools had partially or fully implemented the curriculum in either PSHE classes, another subject lesson, or in tutorial time; the latter was not the intended setting for delivery prescribed by the manual. Three schools had implemented the curriculum at the required threshold for fidelity: Downton Park, Fern Grove and Greenthorne (see figure 7). At Downton Park, PSHE was delivered in one-full day per term, so staff decided to implement the curriculum units in tutorial time (35 min sessions), and trained form tutors to deliver them in years 1 and 2:

And we felt that we wanted to embed this over a longer time frame so it sort of permeated a message over a longer period of time. Angela, staff, Downton Park, year 4

In Fern Grove, the curriculum was delivered through drama lessons in year 1 and, when the drama teacher left the school at the end of the year, it was delivered by form tutors in tutorial time (20 min sessions) in year 2 – David in year 4 reported that the resources were given to heads of year with the instruction to tailor them as appropriate. In Greenthorne, the curriculum was delivered over the course of one day in year 1 due to timetabling problems; the external facilitator and another staff member reported that it was poorly delivered and received:

The staff involved thought what's the point of this, the kids just thought it was a bit of a jolly-up, you know and it didn't have any kind of direction or purpose or bigger picture, how this is going to make behaviour better. Colin, SLT, Greenthorne, year 4

In year 2, the curriculum was delivered in PSHE classes. Franklyn partially delivered the curriculum in years 1 and 2 in PSHE classes but not to the required fidelity level. Bletchford also partially delivered the curriculum, initially in PSHE classes in year 1 and then some of the materials were used establish student training in RP principles in tutorial time in year 2 (the required fidelity level was not achieved):

Because I didn't know where the resources were and the head of PSHE had left so I said [to the intervention team] send it to me. I looked at it. I did look through all of

them and used them...I used some of the things to help me establish my [RP] student training programme, which we rolled out through tutor periods. Jenny, staff, Bletchford, year 4

Implementation of the curriculum in year 3

In the third year of the trial, when there was no longer an external facilitator to support implementation, the curriculum was discontinued in three schools: two had previously implemented the curriculum with sufficient fidelity (Fern Grove and Greenthorne) and one had not (Bletchford). Downton Park continued to deliver the curriculum in tutorial time and Franklyn began to deliver the curriculum in tutorial time in year 3 instead of in PSHE classes, with some messages also being communicated in assemblies. It achieved the required threshold for fidelity though its form was adapted:

I suppose I saw them as things to dip into as opposed to it being a kind of a full, coherent...set of resources to delivered in a timely manner. It was kind of like look at these.... And also we were listening to students because there were certain issues that they were having more problems with, like in terms of the...the anxiety that... So there were certain areas that we needed to focus more on. The fact that there was a bank of resources was useful, but we didn't follow it kind of rigidly. Matt, SLT, Franklyn, year 4

Discontinuation of the curriculum in year 4 & 5

Staff at Franklyn, Fern Grove, Bletchford and Greenthorne reported that the school had discontinued the curriculum at the end of the trial and it was not re-instated in the years following the trial. Staff at Downton Park were uncertain whether the curriculum, or elements of it, were being delivered in tutorial time in year 4 (see quotes below) and Callum was unaware of it when interviewed in year 5.

I'm not a hundred percent sure on that one because it's the heads of year that run the active tutorials. So I couldn't...confirm that. I mean personally I wouldn't see why not, but again it just depends on whether there are other things that are brought in that need to be covered and how that would work. Angela, staff, Downton Park, year 4

I can't imagine that we wouldn't have used parts of them because they were useful and there are pockets in there that were relevant to all year groups. So I'm not a hundred percent sure but I would be surprised if nobody else is using those at all. Victoria, staff, Downton Park, year 4

6.5 Summary of the sustainability of Learning Together in each school

None of the schools sustained Learning Together in its entirety (see table 10). Bletchford was the most successful at sustaining RP: training was cascaded across the whole school community, including teaching staff, auxiliary staff, and students; a group of staff were confident in delivering RP and supporting other staff members; and RP was integrated into the school's discipline procedures. In Downton Park, RP was written into the school's anti-bullying policy, staff members who were trained in-depth in RP continued to practice it and the principles of RP had been promoted to students through tutorial time, peer mentoring, and assemblies but RP was not diffused to all staff members or written into discipline procedures. In Franklyn and Greenthorne, RP was written into the school's behaviour policy and staff members who were trained in-depth in RP continued to practice it but RP was not diffused to the whole school community. At Fern Grove, only the staff trained in RP or familiar with its approaches continued to practice it; many of the staff who had received in-depth training had left the school by the end of the second year of the trial and the senior leader who had attended left at the end of year after the trial.

The fate of the action groups was more complex. Although the action groups in their original form were not sustained in any school; four schools created new action groups that aligned with Learning Together's theory of change; at least one staff from three of the four schools thought that the group was in some way formed in response to experiencing the Learning Together action group. New groups in two schools were related to LGBT and equality issues (Franklyn and Downton Park) and in two schools were related to attitude to learning/behaviour (Fern Grove and Greenthorne). Locally decided actions (unrelated to implementing RP) were sustained in two schools: Franklyn retained the 'Franklyn pyramid', which reminded staff and students about the stepped levels of sanctions to manage classroom behaviour, and achievement assemblies for students. Fern Grove sustained its classroom rules of conduct. The peer mentoring programme at Bletchford and the lunchtime drop-in for students at Greenthorne were not sustained.

The curriculum was the least successfully implemented and sustained component. Three schools had discontinued the curriculum by the trial's third year, when the intervention was internally facilitated; one school discontinued it in year 4 and one school confirmed it had been discontinued by year 5.

Table 10: Summary of staff-reported sustainability events from years 3 to 5

School	Year 3 (last year of trial)	Year 4	Year 5*
Downton Park	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP used in staff student mentor training and student peer mentor training, newly qualified and support teachers received RP training. • RP used in tutorial time • RP principles taught in one PSHE lesson for Year 9 students. • RP principles discussed in assemblies. • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action groups continued to be held. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum delivered in tutorial time (integrated with RP). 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Newly qualified and support teachers continued to be trained in RP. • Staff uncertain whether RP used in tutorial time. • RP principles taught in one PSHE lesson for Year 9 students. • RP principles discussed in assemblies. • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action groups discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Staff uncertain whether curriculum continued to be used in tutorial time. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • A new action group was created that aligned with LT's Theory of Change (ToC) but was likely to have occurred without the intervention. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued.
Franklyn	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP used in discipline process in 'RED' meetings. • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action groups discontinued. • Two new action groups created that aligned with LT's ToC and may have occurred in part because of the intervention. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum delivered in tutorial time. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP used in discipline process in 'RED' meetings. • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • New action groups continued, reviewed school policies, organised events and influenced student and staff training. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP continued to be used in discipline process in 'RED' meetings. • Staff trained in-depth continued to use RP. • Staff received external training in student resilience that had embodied the principles of RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • New action groups continued, organised events and influenced student and staff training. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued

*NB, the data in this column is based on one staff members' report

Fern Grove	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group continued. • Fern Grove’s “rules of conduct (ROC)” continued to be used. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group discontinued. • Three new action groups created, two of which aligned with LT’s ToC and were considered an evolution of the intervention. • A new student voice coordinator was appointed. • Fern Grove’s ROC continued to be used. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • New action groups discontinued. • Student voice coordinator remained in post. • Fern Grove’s ROC continued to be used. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued.
Bletchford	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP training rolled-out across the school. • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP integrated into the school as part of a new discipline system called Education for All. Staff trained in using the new system. • Staff trained by external or internal trainers used RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • RP integrated into the school as part of Education for All. Staff trained in using the new system. • Staff trained by external or internal trainers used RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued.
Greenthorne	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action groups discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. • RP was written into discipline procedures. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • Action group discontinued. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued. 	<p><i>RP</i></p> <ul style="list-style-type: none"> • Staff trained in-depth continued to use RP. • RP remained written into discipline procedures. <p><i>Action groups and actions</i></p> <ul style="list-style-type: none"> • New action group created that aligned with LT’s ToC and may have occurred because of the intervention. <p><i>Curriculum</i></p> <ul style="list-style-type: none"> • Curriculum discontinued.

6.6 Conclusion

The overall fidelity of the implementation of Learning Together, as reported by staff, dropped after the completion of the effectiveness trial. None of the schools sustained the intervention in its entirety; instead parts of the intervention were sustained some schools. The most successfully sustained component was RP. In all schools, the individual staff members who were trained in RP, or were already familiar with its approaches, continued to use RP in their everyday work, and some schools had integrated RP into their discipline procedures or policies. Only one school trained the whole school community in RP. The action groups met with some success over the trial period and the subsequent two years after this in changing some schools' approaches to engaging a diversity of students, including those who misbehaved, in consultation and decision-making in the school. The original action groups were, however, discontinued in all schools after the trial. The curriculum was not sustained in any of the schools. The next two chapters examine staff's motivations to sustain the Learning Together.

Chapter 7: Case study: the impact of staff’s experiences of the effectiveness of intervention components on the sustainability of Learning Together

This chapter examines one of the key factors that affected staff motivation to sustain Learning Together: the ‘experienced effectiveness’ of the intervention’s components. At the time of the trial and the first year of the study of sustainability, school staff were unaware of the scientific effectiveness of the intervention. However, during the trial and afterwards, they made judgements about its effectiveness based on their experiences and observations of whether students and/or staff positively engaged with intervention activities, and whether these led to improved student behaviour compared with other existing practices. Staff’s sense of components’ effectiveness appeared to be central to their motivation to sustain or discontinue them at practitioner-level. This theme resonated with two aspects of the GTI domain of ‘contribution,’ the actions carried out by agents to implement an intervention over time: the dimensions of ‘coherence’, making sense of the value of a component in relation to existing practices; and ‘reflexive monitoring’, formally or informally evaluating the effects of a component.

Three sub-themes emerged relating to experienced effectiveness of RP approaches, the action groups and local actions, and the curriculum (see table 11).

Table 11: Sub-themes and sub-sub-themes related to the experienced effectiveness of Learning Together

Theme	Sub—theme
	Sub-sub-theme
The experienced effectiveness of Learning Together	The experienced effectiveness of RP approaches
	The experienced effectiveness of the action groups and local actions
	Whether the groups achieved purposeful actions in its first two years
	The value of the action groups compared to existing student voice groups
	Listening to students as a meaningful experience
	The experienced effectiveness of the curriculum

7.1 The experienced effectiveness of restorative practice approaches

All staff interviewed across the schools had experienced RP as an effective approach for managing students’ behaviour and had continued to use it individually in their everyday

work, alongside other school discipline processes (see chapter 8). Staff described how RP had helped them improve their own relationships with students and support relationships between other staff and students, enabling staff to: understand the impact of their own behaviour on students, have more empathy for students, improve their communication skills, and stay calm and consistent in responding to misbehaviour:

RP was the starting point to getting staff - including everybody, even myself included – to think about how our...our actions and reactions are actually the central cause of whether it's going to be a positive outcome or a worse outcome. Joe, SLT, Bletchford, year 4

Jenny from Bletchford, Amy from Greenthorne, and Katie from Fern Grove also noted that they had found RP so successful in improving communication that they now used it with their partners or other adults. Six staff (across the five schools) described in particular how the RP training had helped them to understand the importance of language in ameliorating or de-escalating conflict:

I'd gone in...to remove the child from the lesson because of whatever incident had happened. The child was initially resistant so I just... said to them, "I just want to have a conversation with you...what's happened?" And I think I always just remember from the training that the way that you approach a conversation like that. Instead of, "What have you done now?"...sort of this, "so what's happened? Tell me what... explain." And then they give their side of what's...their account of what's happened. You listen. Callum, staff, Downton Park, year 4

Two staff said that the structure of the RP conversations that they had been taught gave them confidence when they held meetings with students about their behaviour and another two staff reported that they had used the structure to plan/hold meetings with parents about behaviour:

I've sat in lots and lots of parent meetings where...there are lots of issues and people aren't very happy... Being able to use that approach and being able to plan the meeting in that way has definitely been useful. Victoria, staff, Downton Park, year 4

Nine staff across the schools said that they had also used RP to help students resolve conflict with each other by giving each party the chance to express how they felt and how they had been affected and to work out a positive way forward. Several staff noted that they believed its use had prevented further incidents from arising:

I think it's definitely stopped some major bust ups between kids because they've learnt to listen to each other. Katie, staff, Fern Grove, year 4

Three staff members from Fern Grove, one staff member from Bletchford and one from Greenthorne, reported that there might be some students for whom RP would not work, suggesting several possible reasons: they might have unusually high/complex behavioural issues; their parents did not support the school in using an RP approach to discipline, favouring more punitive approaches; they did not have the skills to reflect on and talk about their behaviour; or they might be unable to move on from problems with a particular teacher:

[This student] has just had a really difficult relationship with this teacher, calling her names, being abusive... we had a parent meeting, which seemed to go well but then the behaviour continued, so we had another restorative practice meeting. I think he's got needs, significant. Beyond the situation, but there's some sort of strange focus he's got on this teacher and that relationship. Harriet, SLT, Fern Grove, year 5

Staff reported that in contrast to detentions, where the cause of the detention was rarely discussed with the staff member who had issued it, RP approaches enabled students to learn from what had happened; it asked them to think about and try to understand their behaviour and its consequences, and to see another student's or staff member's point of view. Three staff reflected that this enabled the student to take more ownership of the consequence of their behaviour:

Encouraging the student to also understand why that's happening. Get them to agree to it, rather than it feeling, you know, like it's imposed. Understand that they do, that something does need to happen. Callum, staff, Downton Park, year 4

Six staff across the five schools also highlighted that there was value in giving detentions or exclusions to communicate the severity and consequences of the misbehaviour to the student involved but also to other students across the school (see also chapter 8). However, they did not perceive RP approaches as incompatible with detentions; rather, it could improve the punishment by ensuring the student understood why they were being disciplined and the severity of the incident:

I mean you wouldn't think that somebody in [pastoral support] would want the children particularly to get into trouble and have... detentions. But you... do have to have some method of them getting into trouble when they are behaving badly. Penny, staff, Bletchford, year 4

To summarise, all staff interviewed had been motivated to sustain RP approaches in their own practice as they had appraised it as an effective way of drawing students into conversations about behaviour, improving their relationships with students and improving student discipline, provided that students were willing to talk and think about what had happened. Staff members were also encouraged to use RP if parents approved of using such techniques to manage behaviour over more punitive approaches. Staff positively differentiated RP from the use of detentions because it gave students the opportunity to develop empathy, learn from incidents and how to negotiate a positive way forward.

7.2 The experienced effectiveness of the action groups and local actions

School's experiences of the effectiveness of the action groups were divided. Staff from Bletchford, Downton Park, and Greenthorne thought the groups had *not* impacted on the school's approach to student involvement in decision-making or how they responded to behaviour. Action groups at the three schools were discontinued by the end of the trial (year 3), though a new staff-student group was started in Greenthorne in year 5. In contrast, staff from Fern Grove and Franklyn valued the groups and senior leaders thought that they had contributed to a shift in the way the schools involved students and responded to behaviour. The groups were sustained, though not in their original form, to the end of year 4 in Fern Grove, and to the end of year 5 in Franklyn, and both schools appointed a new staff position with student voice responsibilities, a role that was sustained into year 5. Table 12 indicates the considerable degree of change in how the action groups were implemented in the five schools over the five years.

Three sub-sub themes emerged concerning experienced effectiveness: 1) whether the groups achieved purposeful actions; 2) the value of the action groups in comparison to existing student voice groups; and 3) differences in staff's experiences of listening to students.

Table 12: Summary of changes to the action groups over five years

	Trial years			Post-trial years	
	Year 1	Year 2	Year 3	Year 4	Year 5
Bletchford	Original group	Continued with staff changes & inconsistent student attendance	Discontinued		
Greenthorne	Original group	Continued with staff & student changes	Discontinued		Started new groups*
Downton Park	Original group	Continued with inconsistent	Continued with inconsistent	Discontinued	

		student attendance	student attendance		
Fern Grove	Original group	Continued with staff changes	Continued with staff & student changes	Started new groups*	Discontinued
Franklyn	Original group	Continued with staff changes	Started new groups*	Continued	Continued with student changes

*At least one staff member believed new groups to be an evolution of the original action group

Whether the groups achieved purposeful actions in its first two years

The action groups were intended to steer Learning Together, deciding on actions to promote students' learning and connection to the school community, develop the school's use of RP approaches, improve students' wellbeing and relationships, and reduce risk behaviours, drawing on survey data on students' needs (at least during the three years of the trial). The groups were also designed to initiate and oversee the revision of school's rules and policies. Staff from Bletchford, Downton Park and Greenthorne reported that the groups had failed to result in specific and purposeful actions:

My honest reflection on it is I don't think much progress was made that year in terms of...by the time we got back to the next meeting I don't think there was a whole lot of that had changed. I think we were still very much in the discussions stages right the way through the year. Callum, staff, Downton Park, year 4

Staff at Bletchford and Downton Park said that they had used the groups mainly to consult with students about how they should implement RP rather than asking students to co-develop actions about how behaviour was managed in the school and how to improve staff-student relationships. At Bletchford, the action group leader for years 1 and 2 said that they thought changing the policies and rules was not necessary (data from the trial's process evaluation) and senior leaders at Downton Park did not want to use the action groups to contribute to a revision of school policies and rules. As the two schools progressed in disseminating RP training to staff and students, the action groups seemed redundant and staff lost motivation to sustain them:

The action groups were...the smallest part for us. So they...I don't really feel like the action groups...had any direct impact on what we did as a school. Jenny, staff, Bletchford, year 4

At Bletchford, the group had implemented one action that was unrelated to disseminating RP; Penny had tried to set up a peer mentoring programme, using some of the student action group members as mentors. However, Penny reported the programme was not

sustained beyond year 2 because students did not want to attend at lunchtime and it was difficult to decide on the appropriate year groups to be mentors and mentees.

At Greenthorne, there was also a lack of purposeful actions in year 1. In the first year, Paul, the action group leader, only invited year group 8 students to attend the meetings, misinterpreting the manual's specification. Paul said that he had found it difficult to action suggestions from students because the action groups were run separately from the school council (see next section). He passed on students' concerns and suggestions to the SLT but it was up to senior leaders if they wanted feed them into the school council's agenda. Paul also said there were limitations to what could be changed but thought that the "*chance to vent their opinions*" was helpful for students. However, the external facilitator said that this 'venting' in place of actions contributed to the stagnation of the group.

Colin, the senior leader who took over leading the action groups in year 2, reported that because students and staff had not been involved in developing actions, their interest in the group had waned and they did not see the purpose of their involvement. When Colin took over the running of the group in year 2, he involved some sixth-form students and focused on three areas: bullying, relationships between staff and students, and self-esteem, creating sub-committees for each issue headed by different staff. However, the group still did not feed into changes to the school rules or policies. Although actions occurred in year 2, Colin and the external facilitator commented that the group's activities felt like "*bolt-on*," one-off projects. When the external facilitator left at the end of year 2, the group was discontinued. Colin had lost motivation to continue them as they lacked a clear purpose and he was no longer accountable to the facilitator:

It got to the point where by, am I going to go through another year of having these meetings to kind of tick these boxes? And I'm going to be honest with you; I don't think my heart was really in it... I just felt I was doing it because we'd got involved in this process, we hadn't done it properly, and just kind of cut my losses in the end... maybe it was an easy option because in the third year, we're not as accountable to people coming in. Maybe I kept it going [in year 2] because I wanted to show Rachel [external facilitator]... so maybe I took the easy option and kind of opted out, but I just thought I'm not sure, I'd lost the reason what the purpose of doing it in the first place was. Colin, SLT, Greenthorne, year 4

In contrast to Bletchford, Downton Park, and Greenthorne, the action group at Fern Grove had resulted in several purposeful activities and actions in its first two years: students reviewed the school's behaviour policy with staff; students contributed to a change to the reward system for students; and students co-developed with a staff classroom 'Rules of Conduct'. Students and staff reported that teachers were using the rules in their everyday

work. At the end of year 2, June said that staff brought the existing student membership to a close and in year 3, they invited a new group of students to participate “*just to give a different...a new voice as well.*” David and June said they were not entirely sure of what they wanted to achieve at the start of the third year. The second set of students complained, as the first cohort had done, of inconsistencies between staff in how they managed behaviour. June thought that the lack of new discussions/actions contributed to the decision to end the action groups at the end of year 3:

We felt that we were starting to go over old ground that we'd already worked through. That's what gave a good indicator that maybe we need to... bring the group to an end. The students...were...not offering anything new that we were... hoping for. And we tried all different ways to see if we could get them to come up with new things, and it just felt it was a natural petering out. June, staff, Fern Grove, year 4

At the beginning of year 4, David, the senior leader at Fern Grove, created a student voice post for a staff member who continued to organise student voice activities in years 4 and 5. He also created new student-staff groups involving a diversity of students to feed into policies about teaching and learning, behaviour and wellbeing, and student voice meetings with deputy heads of year. David described the new groups at Fern Grove as more consultative in nature than the original action groups had been. The new staff-student groups that David had organised came to an end when he left the school at the end of year 4. In year 5, Harriet, who had led the action groups in years 1 and 3, and June commented on the project-focused nature of the group:

Harriet: I think you need a sort of project almost otherwise it loss-

June: Momentum isn't it.

Harriet: Momentum yeah. And then otherwise it's just a school council I isn't it? Which all schools need to have anyway so...

Researcher: Yep okay, so it felt like it reached a natural conclusion.

Harriet: I think you need a project, or a theme or something that you're doing together.

Otherwise it's just talking in a room. You know you're not going anywhere with it.

June and Harriet, staff and SLT, Fern Grove, year 5

In Franklyn, several actions occurred in the first two years of the trial that were sustained into year 5: introducing a more severe sanction for late attendance; an award assembly for students each half term; the RED meeting – a restorative meeting between a teacher and student after a number of chances to improve behaviour had failed; and the Franklyn pyramid, a poster in every classroom clarifying the school's stepped response to behaviour (see chapter 6). Staff and students at Franklyn reported that the actions had helped to clarify and improve behaviour policies. However, similar to reports from Fern Grove,

achieving buy-in and consistency of approach from all staff members remained an ongoing issue (see also chapter 8):

I think it's just....a lack of consistency. And I think the teachers believe in themselves that...the new structure or the new...plans that...the teachers at the top of the school want to implement, they...aren't very effective. Craig, student, Franklyn, year 4

You've got more staff now involved in the RED system, although at the moment there's still probably a lack of commonality in terms of how that's delivered. So I think, because we've had lots of new staff come in and we haven't necessarily trained everybody up in the restorative approach. Matt, SLT, Franklyn, year 5

The ongoing issues raised by Fern Grove and Franklyn suggested that other actions needed to be taken by the schools to influence staff attitudes and behaviour that were outside of the action group's remit, for example, ongoing staff training and monitoring (see chapter 9). The action groups inspired Matt at Franklyn to organise two action research staff groups to survey staff about their attitudes to student wellbeing and behaviour in year 3, and used the results to talk to staff about the mismatch between their beliefs about their effectiveness at behaviour management and their beliefs about student behaviour. Towards the end of year 3, two new staff-student action groups were created at Franklyn focused respectively on LGBT and gender equality issues, and continued to be action-focused, discussing concerns, organised events, reviewing school policies and informing staff training. In year 5 at Franklyn, Matt reported that the LGBT and gender equality student-staff groups had continued but meeting less frequently as some of their original student members had now graduated from the school. However, the work that they started on staff and student training, staff responsibilities and raising awareness of LGBT and gender equality issues was sustained.

In conclusion, staff perceived the action groups to be effective if they led to actions and/or activities that had a clear purpose in their first two years. In Downton Park and Bletchford, staff reported that the action groups were used mainly to ask students for their views on the implementation of RP, and students and staff did not collaborate on a review of school policies and rules. Student attendance at the group was intermittent and students were only superficially involved in decision-making. Consequently, they lacked purpose and were not sustained. In Greenthorne, in year 1, the external facilitator and some staff said that the groups also failed to engage students meaningfully in decision-making to create purposeful actions. This contributed to their discontinuation at the end of year two, alongside other problems (see next sections). In contrast, staff at Fern Grove and Franklyn reported that the action groups had led to changes in each school's rules and behaviour policies in trial years 1 to 3, which contributed to staff's appraisal of the group's value. However, schools' reports

of the trajectory of the groups over the five years indicated that they were not sustainable in their original format beyond two or three years. Although a range of factors contributed to their discontinuation, staff from Fern Grove and Franklyn explained that one key reason was that while the groups were valuable to highlight where changes were needed and initiate a process of change, other actions were needed to sustain changes that were beyond the remit of the group (for example, ongoing training and monitoring).

The value of the action group in comparison to existing student voice groups in school

All schools had existing ways of gathering the thoughts, views and opinions of students on learning, teaching and schooling, that is, 'student voice'. Typically schools had student/school councils (terms used interchangeably by staff) with student representatives from different form/tutor classes and year groups (see table 13). Staff had different opinions on the whether the action groups added value to existing student voice groups; overall, staff at Bletchford, Downton Park and Greenthorne did not feel the action groups were beneficial, while Fern Grove and Franklyn thought the group had something uniquely valuable to contribute to behaviour policy and approaches.

Table 13: Staff's descriptions of existing student voice bodies and how they interacted with the action groups

	Existing student voice groups during the trial	How action groups connected to the school council
Downton Park	<i>School/student council</i> – student representatives from each tutor group, meets every half term in lesson time. The SLT contribute agenda items.	The minutes from the action groups were circulated to Heads of Year and school council representatives from every tutor group across the school to inform the agenda for school council meetings.
Franklyn	<i>School/student council</i> – two student representatives from each year group. Issues get shared with the head teacher.	Some of the students that were in the action group were also in school council.
Fern Grove	<i>School/student council</i> – two student representatives from each year group. <i>Year councils</i> – representatives from each form class meet with their Deputy Head of Year. <i>Student leadership team</i> – group of sixth formers focused on specific projects in the school, e.g. mentoring, bullying, mental health.	Some of the students that were in the action group were also in school council.
Bletchford	<i>School council</i> – two student representatives from each tutor group, focus on non-classroom issues, meets during lesson or registration at the beginning of the day.	Some of the students that were in the action group were also in school council (intermittent attendance).
Greenthorne	<i>School congress</i> – run by head boy/girl and facilitated by a staff member. The minutes go to SLT and then SLT	Action group lead raised issues with SLT and SLT could refer the issue to school congress if they wanted to take

responds. Representatives disseminate SLT responses to form groups.

Three sub-committees: teaching and learning, community (non-classroom related issues, e.g. uniform, canteen), and information and community technology provision. Sub-committees meet every half-term over two terms. Issues raised in the sub-committees go to school congress. Committees are run by sixth form prefects and facilitated by a teacher.

them further. Some of the students that were in the action group were also in school congress.

At Bletchford, staff member Penny, reported that the only cross-over between the groups was that some action group members were currently or had previously been members of the school council. At Downton Park, staff member Victoria indicated that the student council may have been more student-centred than the action group, as she reported it had fewer members and a more student-led agenda than the action groups. Callum also noted that the student council ideas were automatically passed on to the SLT who decided whether or not to action them, unlike the action groups. Angela suggested that the content of the student council meetings may have been “reinforced” or “sharpened up” by the action groups but she could not give any specific examples and ultimately she felt the action groups did not add anything new to existing meetings:

We felt that the themes are being served...in other ways in other meetings that are already running... The action group as a separate entity didn't necessarily need to happen... The tutors were trained on how to deliver to students and so on – that could have just really happened and then the feedback from that could have happened in student council. Angela, staff, Downton Park, year 4

At Greenthorne in year 1, Paul, the action group leader, gave students' feedback to SLT who then decided whether or not students' issues were taken to school congress, a couple of issues had been taken forward but Paul did not think the action groups had been of added benefit, particularly since the action group represented only one year group (year group 8):

The points that we raised, I can't help but feel that they might have been raised through school council and school congress anyway... [which] would then be raised with...SLT if it was appropriate to. And so we couldn't really have another body which was only representing one year group doing exactly the same thing... So we weren't really going to do much... Paul, staff, Greenthorne, year 4

Colin and Amy reported that the action groups had been marred by being cut-off from the existing school congress and its three student sub-committees (see table 15). Amy at Greenthorne thought if the groups had been run alongside a student sub-committee, they

could have led to more actions across the school. Colin also believed that if the committees had been involved in recruiting students for the group it would have had a higher profile across year groups and if the groups could have fed into the existing committees, they would have contributed to school congress which automatically involved SLT. By year 2, Colin felt that it was too late to integrate the group with the other student voice groups because their involvement would have elongated the process for achieving actions (with no guarantee that they would be agreed) and a trial year had passed already with few purposeful actions.

Amy from Greenthorne and Jenny from Bletchford commented that perhaps the wrong sort of students had been involved in the action groups. They considered that the action group students unlikely to drive forward the group compared to engaged, high-attaining students that usually participated in the school council or committees. In contrast, staff and students from Fern Grove and Franklyn reported that the *key value* of the action groups was their diverse student composition compared with the student council, with students representing a broad range of views and experiences of the school discipline system:

They [the action group] had helped us rewrite our behaviour policy, they had had discussions and were really our... student voice group on there. And they were brilliant, because the other existing mechanisms within the school that existed for that were things like the student council, but that was dominated by our best behaved students who were most engaged. So it was our...it was our loveliest children who were "I'd like to be a student councillor". And actually, for getting a realistic view on how the behaviour policy in a school is impacting on a child... the student council views were things like, "I think children should get permanently excluded if they don't do their homework." And it was unrealistic, because they're never going to end up in that situation so they can be as... disciplinarian as they want to be. Whereas children who'd actually gone through the system were much more useful. David, SLT, Fern Grove, year 4

The two students interviewed at Franklyn, Craig and Sara, were both members of the action group and the school council, and perceived the two student voice groups to be complimentary and qualitatively different. Both students thought the action group was noticeably more diverse and had a clear focus on behaviour and attitude to learning. Craig commented that the action group was run more freely than the council and Sara said the action group had referred issues to the school council that were indirectly linked to behaviour, for example, concerns related to facilities/resources, or issues that the head teacher needed to comment on as the head normally attended the council.

To summarise, staff made sense of the action group's purpose and value in comparison to existing student voice bodies at the school, resonating with the GTI dimension of

'coherence'. Staff at Bletchford, Downton Park and Greenthorne did not use the action groups to revise school rules and policies and considered their existing school councils to be effective mechanisms for raising students' concerns with SLT. Consequently, staff found the groups did not have something different to contribute to their existing student voice groups and were not motivated to sustain them. Unlike the other schools, staff and students from Fern Grove and Franklyn valued the action groups because they were different from existing school councils, comprising of a diverse range of students with different views and experiences of behaviour management and engagement in school. This diversity of student experiences had been prized when revising school rules and policies on behaviour.

Listening to students as a meaningful experience

Staff descriptions of student input in the action groups at Franklyn and Fern Grove were very different from Downton Park, Bletchford and Greenthorne. When staff from the latter three schools talked about speaking with students in the action groups, most staff described it as a pleasant experience or that the students enjoyed being listened to; when staff from Franklyn and Fern Grove described their experience of student involvement, most staff said that the group gave them insight into their own and students' views about school and the value of listening to students (see table 14).

Table 14: Contrasting experiences of the action groups as described by staff

A pleasant experience	A meaningful experience
<p><i>It's always nice to be part of something like that; it's always nice to be involved in action planning. And it was also nice to work closely with the students as well. So that was positive as a teacher. Victoria, Downton Park</i></p> <p><i>I think it was just quite a good, they had good discussions with the pupils that were there as well. They were able to give...the students' perspective, which was quite nice... Brett, Bletchford</i></p> <p><i>It was nice that the students get to come along and...yeah, they had lunch with us. And that was, that was quite nice actually. We got to interact with them in a slightly less formal environment...Jenny, Bletchford</i></p> <p><i>My...perception was that students felt that they were being more listened to. Paul, Greenthorne</i></p> <p><i>The students had a very positive attitude towards them [the meetings]. ...and they certainly seemed to...feel as though their voice was heard. So they were productive in that sense. Toby, Greenthorne</i></p>	<p><i>I would say that one thing I think that has been transformative... one thing I do think is that the school will never go back to... implementing things like behaviour policies without student consultation. David, Fern Grove</i></p> <p><i>I gained a lot of insight into the children themselves. I gained a lot of insight into how they feel and their connectedness to the school, which was really important to listen to. June, Fern Grove</i></p> <p><i>Just hearing their different views and similar views was very powerful, and I think for those practitioners that were part of it, just hearing it as well, it really helped. Gregory, Franklyn</i></p> <p><i>We need all the time is [to] listen to what it is that will make a difference to you [students]. Not because I think it's going to make a difference to you, but you're saying to me, these are the things that make a difference to me, these are the things that help me learn or reflect... And we were dictating that. We were kind of shaping the conversations around our...needs, wants... But what we do should be shaped around the needs of the young people, and that's where we are now. Matt, Franklyn</i></p>

One of the most beneficial processes from the group reported by staff at Franklyn and Fern Grove, and by Colin, a senior leader at Greenthorne, was enabling a wide variety of students, especially students with more challenging behaviour, to have some input into the school's rules, policies and/or activities and for trust to develop between students and staff:

We put [in] some of the more really challenging [students], they weren't even challenging in the group. But they eventually, chip, chip, chip, you know they got to a place where they could share, could talk. June, staff, Fern Grove, year 5

At Fern Grove, senior leader David and June commented that prior to Learning Together a lot of work had taken place with staff on strict adherence to the school's behaviour management policies but with the absence of student involvement. David, June and Katie described how discussions between staff and students in the action groups contributed to a sense that they were on the same side:

It was a massive first step forward in breaking down the us and them and starting to talk about we, and, you know, the whole school. This idea of....did they [students] respond to...being communicated with in a slightly different way and taking a little bit more of a stake in their school? I think that, yes, they did. David, SLT, Fern Grove, year 4

Staff member Katie said the groups had helped her to understand and have more empathy for what students were going through. The two students interviewed said that they had enjoyed being able to talk freely about their views in the group. David explained that student involvement had been valuable both in developing ideas around the behaviour policy and also in communicating to the rest of the student body that staff and students were united in deciding on these changes.

Staff, the external facilitator and a student at Fern Grove reported that staff and students had found working together challenging and frustrating at times. Staff members June and Katie at Fern Grove, and the action group leader from year 2, noted that some of the students' expectations about what they could action were unrealistic and a student interviewed and the external facilitator at Fern Grove thought that sometimes staff did not provide enough explanation about the purpose of or necessity for different rules and why some actions could not be taken. Although Katie, June and Harriet at Fern Grove highly valued the input of students with negative experiences of the school's discipline system, they also described its challenges in getting students to focus on positive actions that could be taken:

The voice of...more challenging students is still difficult to hear. Not necessarily because you don't want to hear it but they find it difficult to present their views appropriately or staff find it difficult to hear their views or... you end up with the sort of loud individuals who've got their own like axe to grind kind of thing. Harriet, staff, Fern Grove, year 5

At Franklyn, senior leader Gregory described how the experience of hearing students speaking positively about school and school life was "very powerful" for him. Staff and students reported that open discussion about possible actions, as well as the actions themselves, motivated them to continue being involved:

Members of staff coming in and kind of explaining what was and wasn't possible and maybe even like explaining some of the reasons behind some of the things we have observed as students. Maybe a student would raise a point and a member of staff would be like, actually... it's like this because of this. It was really insightful I think. Sara, student, Franklyn, year 4

Matt, a senior leader, and Jessica, the school's lead for inclusion and equality at Franklyn, described how trust between students and staff members had grown over time. Matt and Jessica explained that the groups had changed the way that they reflected on what students were saying:

Because initially whenever I was listening, I was listening to respond. "But you don't understand... you don't know what's happening. There's a bigger picture." It's like...that's not an answer... A response to a young person or anybody that asks a question, "Look; there are things going on that you don't know about and I can't, you know...it's beyond you." It's like, actually; it's not. Matt, SLT, Franklyn, year 4

Not that I didn't listen to the students beforehand, but it was more just like "ah, well what can I do; I can't do anything about it," before. And now I'm like, no, we listened to them and we made these changes for our behaviour policy and...for our detentions. So it's like, "why shouldn't I be able to do it?" So I think actually it's empowered me a bit.. .to listen to our students more and... action what they've said. Jessica, staff, Franklyn, year 4

Towards the end of year 3, students and staff member Jessica set-up two new action groups specifically focused respectively on LGBT and gender equality issues. The groups met to discuss concerns, organised events, review school policies, and inform staff training and were sustained in years 4 and 5. Matt and Jessica said that the decision to focus on those two issues was driven by students' concerns:

The students were saying to us, those groups were saying...school doesn't seem to be taking this seriously. And in my head I'm saying, "We are taking it seriously," but clearly...they felt we weren't...We focused on... that particular angle and we kind of...ran with it...just because we're trying to tackle the LGBT bullying...by its definition it's actually tackling bullying holistically. So that's...it was very much driven by the feedback coming. Matt, SLT, Franklyn, year 4

Senior leader Colin at Greenthorne and David at Fern Grove also realised that enabling students to decide on actions for the wider student body also gave them the valuable opportunity to learn about the consequences of those decisions:

It [Learning Together] certainly made me realise the power of the student, and the ideas and the importance of getting the students on board. Because I think if you get them involved, not give them ownership but give them a voice and some input, it's very powerful for two ways, one that they are able to have a say in their school but two, from our perspective which sounds like a double-edged sword we can turn

around and say, "Well actually you decided on this." ... "You wanted this, and now you still won't do it, what the hell's going on?" ... If they realise that, the decisions that they're making and some of their ideas if they don't work there's a consequence, or you know we can change things. So I think that's the thing I've taken from it. Colin, SLT, Greenthorne, year 5

Although Colin had discontinued the action group at the end of year 2, in year 5, he created a new staff-student group on attitudes to learning, once the context for the group was more favourable (see chapter 8).

In summary, staff's reports of their experiences of being involved in the action groups contrasted between schools. Staff from Downton Park, Bletchford and Greenthorne tended to describe their experience as nice or good at best, staff from Fern Grove and Franklyn described their experiences as powerful, transformative or challenging, suggesting listening to students was a more meaningful experience for them. Staff at Fern Grove and Franklyn valued the groups for giving them insight into the honest views and experiences of a diverse group of students and creating a forum for building trust between staff and students that were disengaged from school.

In conclusion, staff's reported experiences of the effectiveness of the action groups was based on whether the group achieved purposeful actions in its first two years, whether it was perceived to add something of value to existing student voice groups, and whether staff found it to be a meaningful experience. The groups' ability to meet these criteria was constrained by the SLT's decision to allow the group to revise the school's rules or policies around behaviour and/or attitude to learning. If the SLT did not permit the group to contribute to rule or policy changes, then it was more difficult for staff to find a unique and valuable purpose for the group that was different from existing student voice groups. Even though the original action groups were positively regarded by staff at Fern Grove and Franklyn, they were not sustained beyond three years, as staff reported that embedding the actions raised by the groups required training and monitoring that was beyond the group's remit. However, new staff-student action groups were created to tackle other issues.

7.3 The experienced effectiveness of the curriculum

Staff reported that two key factors affected the experienced effectiveness of the curriculum: the inappropriateness of the curriculum lesson plans and slides for the timetabling that schools were able to designate for its delivery and the quality of the curriculum resources in comparison to schools' existing PSHE provision. Existing PSHE provision was delivered in different formats in different schools (see table 15). None of the five schools delivered the curriculum *for the duration* of the trial in PSHE lessons or another subject lesson as the intervention manual prescribed. Instead, schools delivered the curriculum as a whole-day, in

tutorial periods lasting around 20 – 30 mins, or in lessons for one or two years. Fern Grove, Franklyn, Bletchford and Downton Park chose to deliver the curriculum in tutorial time for at least part of the trial (and Colin at Greenthorne considered it before deciding on integrating it into PSHE lessons).

An external facilitator reported that the schools that they supported (including Fern Grove and Franklyn) had said that they needed the curriculum much earlier than they had received it in order to timetable it into the school year and work out how it fit with the content of their existing provision:

All the schools complain that the curriculum came too late. That they'd already planned the curriculum months ago. So I think that's...and their curriculum again covers quite a lot of the same areas, because they've spoken to me about what they did. Miriam, external facilitator, year 2 (trial process evaluation)

Bletchford, Greenthorne and Franklyn had existing PSHE provision in lessons; Bletchford and Greenthorne delivered PSHE separately to different year groups and Franklyn provided PSHE to mixed year groups. Staff reported that the curriculum fared poorly in comparison to existing lessons plans and resources; staff perceived it as designed for a younger year group, too generic and not engaging enough:

The feedback that I got from the [PSHE] teachers who taught it in year 2 was the lessons were very, very basic,.. and I don't know if they were just supposed to be the bones for a lesson and then we're supposed to put the work in, I think they thought that it would be a fully formed lesson so..... or we already had similar stuff in place that we just continue what we're doing. Colin, SLT, Greenthorne, year 4

At Bletchford, existing PSHE provision was very extensive compared to other schools; two staff members during the trial's process evaluation reported that the school had a very good PSHE department, weekly PSHE lessons, and tutorial time also covered social and emotional issues. The external facilitator in year 4 noted that it was going to be difficult for the Learning Together curriculum to add value to their existing provision:

They have a very strong PSHE programme they had, and they were recognised for that across [the region]. So it was always going to be a bit of a challenge. Richard, external facilitator, year 4

Table 15: Staff reported delivery of PSHE and the Learning Together curriculum in the five case study schools

	Existing PSHE provision for Year 8			Implementation of Learning Together curriculum			
	Regular lessons?	Full days?	Tutorial time?	Regular lessons?	Full days?	Tutorial time?	Sustainability?
Downton Park		One day per term.				Fully implemented in tutorial time (35 min) year 1 – 3 and in assemblies.	Uncertainty over implementation in year 4. Discontinued in year 5.
Franklyn	One lesson per week or fortnight*.			Partially implemented in lessons in years 1 and 2.		Fully implemented in tutorial time ⁺ (unknown length) and in assemblies in year 3.	Discontinued in year 4.
Fern Grove			Once 20 min tutorial a week, with occasional half-days on particular subjects.	Fully implemented in drama lessons in year 1.		Tutorial time (20 mins) in year 2.	Discontinued in year 3.
Bletchford	One lesson per week.			Partially implemented in PSHE lessons in year 1.		Partially implemented in tutorial time (20 mins) in year 2.	Discontinued in year 3.
Greenthorne	One lesson per fortnight.			Fully implemented in PSHE lessons (one in every four) in year 2.	Fully implemented in one full day in year 1.		Discontinued in year 3.

*Not clear from trial process evaluation ⁺Tutor groups made up of mixed year groups.

At Bletchford, Jenny said that the curriculum “*went by the wayside*” after the head of PSHE left in year 2 and there was no one to take it forward. Consequently, Jenny used the resources to develop RP training for students that could be delivered in a tutor period. In Greenthorne in year 1, the curriculum was delivered in one full off-timetable day. Paul, who had led the intervention in year 1, reported that the school had been unable to timetable it into PSHE lessons and it was senior leaders’ suggestion that he could try delivering it in one off-timetable day rather than change the planned lessons. Unfortunately, the feedback from staff and the facilitator was that it was not delivered successfully and might have actually damaged the reputation of Learning Together in the school:

Last year was really poor. It was actually a disaster. Again, another thing that made it [Learning Together] have a bad reputation in the school... they had this whole day and it wasn't delivered very well. Apparently the students were doing a lot of work, just sitting on their own... So it went down like a lead balloon. Teachers' noses were out of joint, but also students found it really boring and not interactive. Rachel, external facilitator, year 2 (trial process evaluation)

The curriculum was discontinued in Greenthorne and Bletchford by the end of year 2. Franklyn partially delivered the curriculum in years 1 and 2 in PSHE classes but not to the required fidelity level. Franklyn had mixed year groups for PSHE classes and during the trial’s process evaluation, staff reported they were unsure of how to deliver the curriculum:

Staff member: We looked at them [the curriculum materials]. The way it works is that all the head of years get together and they plan a topic for the assembly. So some of the things were used, but depending on what way the head of year wanted to take it forward, they had their own resources.

Researcher: Are any...going to be used in PSHE sessions?

Staff member: We've talked about doing it as form PSHE sessions. I think that's a thing we need... to get sorted out. And we've also spoken about maybe doing it in drama. Like we had...we also had a self-esteem workshop for Year 9s. We did that as a result of what we got told [on the needs assessment]

Action group member, staff, Franklyn, year 2 (trial process evaluation)

The curriculum was delivered in assemblies and in tutorial time in year 3. Matt, the senior leader, reported that it was not well-delivered as tutors were non-PSHE specialists who did not understand its purpose and the curriculum was discontinued at the end of year 3.

Downton Park and Fern Grove did not have regular PSHE lessons: Downton Park’s existing PSHE was delivered in one full-school day per term and Fern Grove ordinarily delivered PSHE in tutorial time. Downton Park delivered Learning Together’s curriculum in tutorial

sessions (35 mins) during years 1 to 3. An action group staff member in year 2 (data from the trial's process evaluation) and Angela in year 4 reported that one of the reasons the school decided to deliver the curriculum in tutorial time rather in one full-school day was to disseminate the messages of RP over a longer time frame. Angela said that she had used trained tutors to deliver the curriculum units on respectful relationships (unit 1) and dealing with ups and downs (unit 4) and taught them the RP principles she had learned from the in-depth training to pass on to students. Angela thought that the main impact of Learning Together came from training staff and students in RP principles:

I think the impact came from... the active tutorials and the staff training...and so on, which then permeates through sort of all the conversations they have, whether they're with tutors or with students. That's where the impact has had really. Angela, staff, Downton Park, year 4

Angela and Victoria reported in year 4 that since the resources for Learning Together's curriculum were intended for a 45 – 60 min lesson, teachers had felt rushed to get through them and had had to adapt them to make them work in the available time. However, Victoria thought the overall messaging in them was good. In year 4, staff reported the curriculum might have been used in tutorial time that year, however, as staff were no longer involved directly involved in its delivery, they could not be certain. Callum was unaware of its continued delivery when he was interviewed in year 5.

In Fern Grove, the curriculum was delivered in drama classes in the first year of the trial. The external facilitator said the teacher had successfully adapted the materials for use and it was well received; unfortunately, the teacher left the school at the end of year 1. In the second year, the curriculum was implemented in tutorial time (20 mins). The fidelity data indicates Fern Grove achieved the threshold for fidelity in year 2 but there was little evidence on staff's views of its effectiveness from the trial's process evaluation. When the year 2 action group leader was asked if the PSHE lead or the head of year thought the curriculum was good, she replied, *"I haven't got any sense about that."* In year 3, the new action group leader and a senior leader were also vague on the details of how the curriculum had been used. The curriculum did not leave an impression; none of the staff members interviewed in year 4 were aware of how the curriculum had been used in year 3 and it was discontinued in year 4. Both David at Fern Grove and Victoria at Downton Park said that a disadvantage to delivering the curriculum in tutorial time was that it had to compete with other matters that were ordinarily dealt with during that time:

For morning tutor time when the girls come in and have registration time with their tutor, we have roughly about twenty minutes. And obviously in that time girls come in, they have to get registered if there's anything going on, the teacher's got to be ready

to support them and sort out anything like that. So I think teachers said they were a little bit of a rush to get through. Victoria, staff, Downton Park, year 4

In summary, Learning Together's curriculum was considered ineffective because it poorly fit with the timetabling that schools were able to designate for its delivery and the resources were considered inferior to schools' existing PSHE provision. Staff and the external facilitator reported that Learning Together's curriculum added minimal value to Bletchford's existing high quality and extensive PSHE provision. Staff at Greenthorne, Franklyn and Fern Grove had to work to adapt the curriculum to the time available and it was not highly regarded. Although staff at Downton Park gave positive feedback on the adapted curriculum for disseminating RP approaches to students, it was not sustained beyond year 4 when responsibility for its delivery was transferred to staff that were not involved in Learning Together. As the curriculum was considered ineffective, staff across the schools were not motivated to continued using it beyond the trial.

7.4 Conclusion

By the end of the trial, staff had had a lot of time to implement and observe the effectiveness of Learning Together's components. Staff reported that they made sense of and appraised the effectiveness of components in terms of existing related practices, and how well components engaged students and appeared to improve their wellbeing and behaviour. This experienced effectiveness (as opposed to scientific effectiveness) appeared to be crucial to staff's motivation to sustain components.

Staff interviewed had a very high positive regard for RP approaches; they reported RP was effective in engaging students in conversations about their behaviour, building their relationships, and improving students' behaviour. Staff also thought RP added value to existing detention practices to manage discipline because it gave students the opportunity to learn from their mistakes. In contrast, the Learning Together curriculum was the most negatively received component by staff across all schools. Staff reported that the content was not sufficiently develop for staff to easily delivered nor engaging for students in comparison with existing PSHE provision. In most of the schools, it did not fit in with existing PSHE timetabling and required staff to work to adapt it. RP was sustained by all staff interviewed in their everyday work, while the curriculum was discontinued in four schools by the end of the trial, and in one school the year afterwards.

Staff's experience of the effectiveness of the action groups was divided. Staff from Downton Park, Bletchford, and Greenthorne believed the groups to be ineffective in involving students' in decision-making compared to existing student voice groups and the groups had not been permitted to make changes to the schools' behaviour policies. In contrast, Fern Grove and Franklyn had found the action groups to be a meaningful way of building

relationships with students and revising behaviour policies and other school rules; many of the actions taken by the school's groups were sustained into year 5. However, the action groups in their original form were not sustained beyond three years in any school. Staff from Fern Grove and Franklyn reported that while the groups were valuable in identifying areas for change, for example, the need for consistency in staff responses to behaviour, embedding changes across the school required actions that were beyond the remit of the group (for example, staff training and monitoring). However, new staff-student action groups were created to tackle other issues.

While experienced effectiveness appeared to be central to staff motivation to sustain Learning Together, other factors also impacted on staff's individual intentions and their shared commitment to sustain intervention components. These factors are discussed in the next chapter.

Chapter 8: Case study: staff's individual intentions and shared commitment to sustain restorative practice approaches

This chapter explores staff's beliefs and attitudes that affected their individual and collective intentions to sustain RP approaches. Staff did not describe beliefs and attitudes that affected their intentions to use the action groups or curriculum; unlike RP approaches, student voice groups and social-emotional curriculums were mechanisms for improving behaviour, relationships and wellbeing that were ordinarily used in schools. Two themes emerged based on the GTI dimensions of 'individual intentions' and 'shared commitment' (under the domain of 'potential'): staff's individual receptiveness to RP approaches and shared beliefs and attitudes about how to improve students' behaviour (see table 16).

Table 16: Themes and sub-themes on staff's individual intentions and shared commitment to sustain RP approaches

Theme	Sub—theme
Staff's individual intentions to sustain restorative practice approaches	n/a
Shared commitment to sustaining restorative practice approaches	RP introduced uncertainty into how to respond consistently to students' behaviour Integrating RP required finding a consistent message about the values of reparation and punishment

8.1 Staff individual intentions to sustain restorative practice approaches

Staff member's individual intention to adopt and sustain RP approaches was affected by their beliefs and attitudes about the value of hearing and engaging with students' perspectives on their own and others' behaviour, affecting the uptake and sustainability of RP at school-level. Several staff reflected that those who became involved with Learning Together were generally more inclined towards RP approaches than their colleagues. Trial process evaluation data and primary interviews showed that most staff who received the in-depth training and/or were action group members were staff who had pastoral roles in the school (see chapter 6). Seven staff across the five schools reported in year 4 that the RP techniques that they learnt on the in-depth training gave a name to practices that they already used with students and three staff (one each from Fern Grove, Franklyn and Greenthorne) who had not gone on the training but were action group leaders/members said that restorative approaches were something that they would ordinarily use in their practice.

I'd always tried to kind of be a bit like that...since I started teaching. And I think... restorative practice, learning about it just gave me more of a...name to what I was doing and a bit more...of...an idea of what techniques to use...when I was discussing things with pupils. So I was quite open to it...already. Brett, staff, Bletchford, year 4

And it was also nice to...like I was saying about how there's some things you just sort of innately do, it's really nice to have that sort of labelled a little bit and reinforced and... scaffolded with new techniques and better language to use. Jessica, staff, Franklyn, year 4

While staff members who were involved with Learning Together tended to have a high level of readiness to adopt RP approaches, after the in-depth training staff were uncertain of how to change the behaviour of staff who were resistant to change so that the intervention could be mainstreamed across the school instead of remaining the practices of a select group of enthused staff. The in-depth training was focused on the principles and techniques that staff needed to use in their individual practice but it did not focus on RP as a whole-school system of discipline.

When we spoke about how can we now get this out to the masses, that's when we kind of were left scratching our heads... because we know that... in any school that you'll go to, you'll always have almost like a division... where people that are willing to you know embrace change as opposed to those that are you know stuck in their ways. Gregory, staff, Franklyn, year 4

Six staff members (across Bletchford, Fern Grove and Franklyn) reflected that the teachers who were resistant to changing their behaviour also tended to have worse relationships with students and actually needed to adopt RP approaches the most. Seven staff across three schools (Greenthorne, Fern Grove and Franklyn) said in year 4 that some of their colleagues believed that students' should always obey teachers' and school's rules regardless of whether they believed teachers' behaviour or the rules were fair, or that misbehaviour reflected difficulties in the students' own personal circumstances. It was said that these staff perceived that having a dialogue with students about behaviour, and potentially accepting some responsibility for problems, diminished a teacher's authority:

We knew that for some staff... the idea that they might need to sit down in a restorative meeting and then, themselves, apologise, or... reflect on their own behaviour... and actually understand their own role in that sort of relationship, was going to be very difficult. David, SLT, Fern Grove, year 4

Five staff from four schools (all except Downton Park) commented in years 4 and 5 that some staff members who had been teaching for a long time could be particularly resistant to changes in discipline approaches because they had developed more ingrained habits and beliefs, while staff newer to teaching could be easier to persuade as they were used to assimilating new skills and techniques as part of their training:

And changing learnt behaviour over twenty-five or thirty years, because that's how it used to be done in the 1970s or whenever it was, or '80s, is quite a tough thing to ask somebody to change. So it's always...change is always for everybody difficult. And the longer you've been doing the same thing and you think that that is the way to treat children... Joe, SLT, Bletchford, year 4

It was difficult to change staff behaviour across the school in order to sustain RP at school-level as staff were wary of being seen to criticise another teacher's response to handling a situation and reported there were no quick solutions to changing their beliefs and attitudes. Three senior leaders from Fern Grove and Franklyn and one staff member from Fern Grove reported that they tried not to be seen to undermine another teacher's authority if they became aware of a dispute between a staff member and student and could see that the staff member's behaviour was contributing to the escalation of the problem. Although senior leaders gave examples of speaking directly to other staff about their behaviour management, non-senior staff could encourage and support others in using RP techniques if staff asked for help but would not challenge another staff member (see chapter 9). David, a senior leader from Fern Grove thought that staff who were resistant to change could change once there was a "critical mass" of staff that had adopted the new approach. Senior leaders Matt in year 4 and Colin in year 5, respectively from Franklyn and Greenthorne, noted the importance of staff who were advocates of RP moving into more senior positions in the school over time and shaping the school's culture:

You know one of [my] colleagues is now the director of inclusion and diversity. We've got one of the members of staff has... continued in his role but in a more senior position. So we've...all those people remain and remain instrumental in helping to shape and create the climate. Matt, SLT, Franklyn, year 4

In year 4, senior leader Joe at Bletchford, described the difficulty in persuading staff and some other members of the SLT who might pay "lip service" to RP approaches or wilfully ignore it. He said he had had conversations with resistant staff, making it clear that RP was the approach the school was adopting and tried to encourage positive engagement. However, Joe reported it was difficult to tell if staff were genuinely using RP in their everyday practice. In year 5, Joe said that two years into adopting Education for All's behaviour policy, which incorporated RP approaches and built on the RP training that had been rolled out in

year 3 (see chapter 6), all staff had either come on board with the new approach or left the school:

Many of those who maybe who weren't on board have either come on board or they may not be here anymore, just because of natural wastage I should say rather than any Machiavellian system to get rid of people who weren't. So overall I think it's really the fact that is going to have a lasting impact and...it's not a short term...one day it's a new initiative and then three months later it's gone...and we're on to something else. Its embedded and it's becoming more and more the way that we are doing things and there's no discussion about changing that, except of continued furthering it. Joe, SLT, Bletchford, year 5

Regardless of whether teachers were receptive to RP, the emotive nature of behaviour management meant that it was challenging staff to remain calm and consistent adults, particularly if their own wellbeing was low. Eleven staff across the five schools described how it took effort for staff to manage their own emotions and work restoratively, even if they were “pastorally-minded” (Toby, Greenthorne).

It's hard work. It's hard work being restorative... When you get to the end of the term and...for the fifth time this kid has turned up late to your lesson, they haven't brought their homework, they've been disruptive, they won't sit in the seat – and you've tried to be restorative with them and it's still not working... it does wear you down a bit. Jenny, staff, Bletchford, year 4

Staff reported that school staff were much more susceptible to shouting at students when their own wellbeing was low and they were under considerable pressure at home or at school. Senior leaders from Fern Grove and Franklyn also noted that the energy cycle of the school week and the school year could also affect staff behaviour (see quote below). Consequently paying attention to staff welfare and mental health could support the sustainability of a school-wide adoption of RP approaches.

I've seen some staff members who will start off on a Monday morning and absolutely be using that sort of language and the tone and calmness and...almost having sort of an inherent dignity in the sort of way in which they talk...and then...Wednesday, last lesson with the Year 10 are stressed. And... again that message comes back to staff around stress and... it's [RP approaches]... not even consistently applied from the people who are...excellent practitioners. David, SLT, Fern Grove, year 4

8.2 Staff's shared commitment to restorative practice approaches

Two sub-themes emerged on the shared beliefs and attitudes staff had concerning behaviour management that affected their collective commitment to sustain RP approaches. The first sub-theme was about achieving operational consistency – all staff being able to administer RP alongside other forms of discipline in a consistent way in response to students' misdemeanours. The second sub-theme was about finding a consistent message about the values of reparation, a key principle of RP, and of punishment. Both sub-themes indicated that sustainability of RP at school-level depended on schools being able to integrate RP with existing disciplines systems and policies (or replace them) and communicate that process effectively to staff.

RP introduced uncertainty into how to respond consistently to students' behaviour

Staff reported that consistency in how staff applied discipline was important for shared commitment to sustaining RP approaches. Ten staff from four schools in year 4 raised the importance of have a consistent staff response to dealing with students' behaviour (Downton Park, Franklyn, Bletchford and Greenthorne):

We've done lots of work on making sure that we've got more consistency throughout the entire school. Because an issue had been that... with some students that... struggle with behaviour... they have found it difficult in that in a certain department you'd get a certain sanction for one behaviour, where in a different department it might be slightly different. Victoria, staff, Downton Park, year 4

Staff lacked knowledge of how RP could be embedded into the existing discipline system, making it difficult to mainstream RP and sustain it across the school. RP aimed to provide a context-specific response to students' behaviour in contrast to detentions which focused on consistent sanctions. Staff who had received in-depth training in RP tried to apply the principles of RP as often as possible in their individual practice, giving detentions only as a last resort, but staff who had received introductory training on the principles of RP, or new staff unfamiliar with RP, were uncertain of when to use RP. Consequently, achieving a shared commitment to sustaining RP required a formalised systemic process or model for integrating RP within the discipline system.

Some people thought we'd gone to...restorative ways of dealing with things and then not having...trying not to use detentions as much...Some people were just going on as normal and just using the old system. And some people were kind of...doing a mixture... And maybe...having a restorative discussion with a pupil about something that had happened, but then still issuing a sanction... I think there was...there definitely wasn't a consistent approach. Brett, staff, Bletchford, year 4

Staff reported that one of staff's shared beliefs and attitudes about how to ensure consistency in discipline appeared to be through issuing detentions as part of an escalating system of sanctions. There were several ways that detentions encouraged consistency. A supply teacher or a new teacher could read the school's behavioural policy and deliver a detention without needing special skills, which was important in the context of high staff turnover (see chapter 9). There was an intuitive understanding of the value of detentions and they could be measured and monitored using a data system (and attention to data was encouraged by government policy, see chapter 4); more detentions and Friday after-school or Saturday morning detentions equalled worse behaviour. Detentions were quick to issue so time was not detracted from lesson time and they did not need to be carried out by the original teacher; they appeared time efficient as they could be scheduled within the school week to be delivered to multiple students at the same time by a single member of staff, as described by senior leaders Colin and Joe in year 4:

We thought it would be helpful for staff to be able to issue detentions and then to release the burden of bureaucracy. Joe, SLT, Bletchford, year 4

The science detention might have 25 kids in there, with the head of science. He might have not put any of those kids in detention. Colin, SLT, Greenthorne, year 4

In three schools, Bletchford, Greenthorne and Fern Grove, staff reported that the automated use of detentions had led to a detention culture – “*the industrialisation of detentions*” (Joe, SLT, Bletchford, year 4) – whereby detentions were given too freely, often dampening their meaning or losing it entirely, and in some cases becoming almost unmanageable for schools to administer. Seven staff from the three schools highlighted two significant problems with detentions being delivered by staff who did not issue them: it allowed staff to defer responsibility for the sanction and placed no restraints on staff on the number of sanctions they gave out, and the problems between teachers and students were not discussed or resolved so there was no opportunity to learn from the incident:

The issue we have here is applying of sanctions, centralized systems and then not enough opportunity for the teacher themselves to own the relationship with the student. So, for example, if you come to my classroom and you're 5 minutes late, [a sanction] is applied. Then that student might go to the next lesson not have a pen or call out or reach step 2 and get a [sanction]. The next day they're in leadership detention. Neither teacher A or B see the child to talk to them about the fact that they're in [detention]. Harriet, SLT, Fern Grove, year 5

Of the three schools with a self-reported detention culture, two schools found ways of integrating RP, without support from Learning Together. In Bletchford in year 3, an entirely new discipline system was introduced by an external company, Education for All, which incorporated RP in its principles and used RP conferencing for multiple or serious incidents. Jenny, a staff member who had cascade RP training across the school, explained what she thought senior leaders saw as the benefit of the new system:

I think what they [senior leadership] thought is that...this Education for All was the implementation of the philosophy or the idea of restorative practice, they thought that this was the implementation of it.... So where...my implementation was moving quite slowly and people were struggling to connect what they had to change about themselves in order to become more restorative, in order to see the benefits in their classroom...I think what they [senior leadership] did was they say well let's use this to change our school culture by following these five [Education for All] rules....

Jenny, staff, Bletchford, year 4

In Greenthorne, Colin, a SLT staff member, introduced RP into the behaviour policy in year 4, stating that in a lesson a student will get two warnings, and on the third occasion the student and staff member will step outside the classroom and the staff-member will ask the student restorative questions and invite them back in. A detention would only be issued if the student's behaviour did not improve. Colin had communicated the change in staff meetings but had found staff were still using a mixture of approaches.

In Fern Grove, RP did not move beyond the practices of a group of interested individuals and so could not be sustained, particularly given the school's high staff turnover (see chapter 9). RP was not integrated into its discipline procedures and it was used in everyday work by staff that had attended in-depth training or had previous experience in RP techniques, as well as when the pastoral care team was involved in supporting a student's behaviour, or more formally when a student was being re-integrated into school after an exclusion. Regarding the last of these, David and Harriet, the SLT staff members interviewed, commented that restorative conferencing was only being used when things had gone wrong, rather than to prevent behaviour problems. David reflected that this was because an existing structure was in place for bringing together the teacher, student and parent (see quote below). Learning Together's limited attention to systems thinking meant that it lacked the potential to be mainstreamed and used systemically to prevent behaviour problems.

There was already processes in place in the school, a child might have done something atrocious - they've really behaved obnoxiously, they've been defiant, rude, horrible, blah, blah, blah. And when they come back in...following that exclusion

there's already set up structures and systems and things in place that the parent and the child and the teacher and everyone is brought together in a room and we try and resolve it. And so we could use the model there. David, SLT, Fern Grove, year 4

In two schools, staff did not report a detention culture: Franklyn and Downton Park. Franklyn staff had dealt with the issue of consistency by introducing the 'RED' meeting into its discipline procedures. A RED meeting was a restorative conference held after a number of behavioural incidents or a serious incident; the student would meet with their teacher and/or a member of SLT to discuss their behaviour, its consequences, and a way forward. However, the successful administration of this restorative conference was dependent on the varied intentions and skills of the staff members and shared commitment to sustaining RP approaches remained an issue in years 4 and 5:

We've now incorporated restorative work within the [RED] detention and the [rules of conduct] and so forth so in a sense we can say we've done it. But if you was to conduct a survey and ask people you know consistently is it being used, you may get something very different back. You know, so that goes to show that we've, we've introduced it but we haven't mastered it. And that comes within time. Gregory, SLT, Franklyn, year 4

You've got more staff now involved in the RED system, although at the moment there's still probably a lack of commonality in terms of how that's delivered. So I think, because we've had lots of new staff come in and we haven't necessarily trained everybody up in the restorative approach. Matt, SLT, Franklyn, year 5

The introduction of restorative practice in Downton Park did not introduce challenges in consistency because the school did not change its discipline system to incorporate RP. The external facilitator reported that Angela, who led the intervention and was responsible for staff's professional development, had presented the option to change the behavioural policy to senior leaders and school governors but they did not want to. Instead, Angela, with agreement from the action group, had introduced RP into 'welfare' mechanisms in the school where she had greater discretion and authority, for example, skills for students to learn in peer mentoring, assemblies and in tutorial time, skills for staff to learn who were student mentors and newly qualified teachers (NQTs). Consequently, Learning Together was sustained by some practitioners but as a minority interest.

Integrating RP required finding a consistent message about the values of reparation and punishment

Staff described the importance of punishment among their colleagues and it was apparent that encouraging a shared commitment to RP principles required schools either to prioritise

RP or find a way to communicate the compatibility of punishment and reparation. Staff in all schools reported that RP had unsettled some of their colleagues' perceptions of the purpose of the discipline system. The principles behind RP contrasted with the values underpinning detention. The premise of detentions was punishment for poor behaviour – the detention was the consequence of the behaviour. Students' missing a detention led to the escalation of the sanction, another detention that was longer or at a more inconvenient time. In comparison, the principle of RP was de-escalation of a situation; its aims were to discuss the incident and its consequences were repair of the harm that had been caused and prevention of poor behaviour from happening again. An RP meeting was not a punishment but an opportunity to learn, though it could be painful for students or staff to admit their part in wrong doing and its consequences.

Learning Together did not articulate how to use RP approaches alongside punishments, which impeded the likelihood that it could be mainstreamed and sustained. Six staff across the five schools did not think RP was incompatible with a discipline system that also included detentions or exclusions, explaining that there could be value in issuing them (infrequently) to communicate the severity and consequences of the significant misbehaviour. Seven staff across four schools (all except Greenthorne, where RP approaches had not been widely disseminated) said that some of their colleagues perceived RP to be a “soft” option when punishment for misbehaviour was more appropriate:

I think there's some people seemed to suggest they thought it was... soft, like they thought the kids were getting away with things... that they wouldn't have before. Brett, staff, Bletchford, year 4

“Why did you say nasty things to your teacher and tell them to f- off and...” you know. And some of them [students] were lacking in the ability to be able to say it... some of our teachers would struggle with that. David, SLT, Fern Grove, year 4

In year 3, Bletchford introduced the values of RP through a whole-school training programme, and in year 4, prioritised the values of RP, placing them fully at the centre of its student behaviour and welfare policy (with the support of an external consultancy) to demonstrate that the school was committed to RP approaches. The following is a quote from the school website in September 2019:

A clear and robust behaviour policy lays foundations and helps establish a behaviour culture in schools, but the success or failure of the implementation comes from how we engage and interpret the policy.... We are working within a restorative framework meaning we are consciously applying the principles of restorative practice to influence our interactions and interventions. Bletchford website, 2-Sep, 2019.

Senior leaders at Franklyn and Fern Grove had found ways to communicate the compatibility of discipline and RP to staff but it was not a message that was systemically spread throughout the schools and embedded into policies. At Franklyn, two SLT staff members described in year 4 (and Matt again in year 5) how they promoted both sets of values to other staff when they had introduced the RED meetings into the discipline procedure so that a restorative conference could take place between a teacher and student to discuss a serious behavioural incident. In year 5, Matt also described how he coached staff on the compatibility of RP and punishment:

Rather than just say, 'You've done it wrong therefore you're punished.' It's like, 'Do you understand what you've done?' And have that discussion, and, 'Do you understand there is a consequence because that's how things work?' And, 'What would you do in that situation?' And then it's like, [student speaking] 'Well you know I think I should be in trouble you know, I should be, I shouldn't be excluded but I should have this.' And it's like, 'Okay, but if it's the third time you've done it.'... Those meetings that we have, they might take 10 or 15 minutes longer than just giving someone a dictum, an order, but they result in a relationship remaining secure. Matt, SLT, Franklyn, year 5

At Fern Grove, David, the SLT staff member interviewed described how the school in the year prior to the trial had focused on upholding strict standards of behaviour. In order for staff to shift from that towards the principles of RP, without SLT appearing to contradict themselves, he had translated RP into an overall concept of warmth to bolster shared commitment:

We've been...discussing quite a lot now the concept of being warm with students and how you can be strict warm. And, actually, the stricter you want to be, the warmer you will need to be because... you need to be very, very positive [in] your... interactions with children...So that actually when a child has then overstepped the line, it's almost the sort of the withdrawal of the positivity.... It's not...transforming us into a school which uses restorative justice as a central concept of our behaviour policy. But it's worked over time to change an ethos in the way in which we speak to children and highlight something about the work that we do with them...um...rather than to them. David, SLT, Fern Grove

Other staff interviewed at Fern Grove continued to use RP in their everyday work and to support other teachers in their relationships with students when asked for help by either party. RP was also used when students came to pastoral care team because of their behaviour. However, in year 5, Harriet, the SLT staff member interviewed, said there had

been further separation in staff responsibilities for behaviour and those for welfare/inclusion, reducing shared commitment to RP approaches. Although Harriet had oversight of welfare provision for students - for example, students with special education needs and disabilities, or social and emotional difficulties - she did not have responsibility for the content or implementation of the behaviour policy. This indicated that Learning Together's developers needed think more systemically about the intervention would integrate within schools to increase its sustainability.

At Greenthorne, the SLT staff member had introduced RP into the behaviour procedure in year 4, but staff interviewed reported that detentions were predominantly used by other staff indicating a lack of shared commitment to RP approaches. Staff who had attended in-depth RP training had conceptualised RP as a tool or option that they could use in addition to sanctions. At Downton Park, staff interviewed presented conflicting accounts of the degree to which RP principles had been balanced with traditional sanctions, indicating that a shared commitment to RP had not been achieved. Angela and Victoria thought that the values of RP were generally used at the school, while Callum thought that other staff members' response to RP was sceptical and that the behaviour system was largely based around sanctions. RP was not integrated into the school's behaviour policy though it was in its anti-bullying policy.

8.3 Conclusion

Staff's individual intentions and their shared commitment to using RP approaches affected its sustainability. While staff members who were involved with Learning Together tended to have a high level of readiness to adopt RP approaches, staff were uncertain of how to change the behaviour of colleagues who were resistant to change so that the intervention could be mainstreamed across the school. Staff reported that some of their peers believed that discussing behaviour with students and potentially accepting some role in how incidents manifested undermined their authority as a teacher. Staff were wary of being seen to criticise another teacher's response to handling a situation and reported there were no quick solutions to changing their beliefs and attitudes, making it hard to change staff behaviour school-wide to sustain RP at school-level. Furthermore, the emotive nature of behaviour management could potentially increase resistance when staff members were under stress, indicating that a focus of staff wellbeing and support could facilitate the sustainability of RP approaches.

Staff reported that two aspects of the introduction of RP affected staff's shared commitment to the approach. Staff highlighted that RP introduced uncertainty into how staff could respond consistently to students' behaviour because it required a level of discretion from staff to examine the context of behaviour and interpret what response might be most appropriate. It was also difficult for some staff to understand how RP related to punishment:

whether it was a replacement for punishments like detentions or whether it could be compatible with detentions and other sanctions. Learning Together needed to provide staff with training and resources in how RP could be integrated into schools' discipline systems and policies to increase its sustainability.

The next chapter explores how organisational factors – school's norms, roles, cognitive and material resources – affected the sustainability of Learning Together.

Chapter 9: Case study: the influence of the school context on the sustainability of Learning Together

This chapter focuses on the influence of school context on staff's ability to sustain Learning Together. There are four overarching themes: school norms that shaped staff's participation in the intervention; the influence of staff's roles; the challenge of disseminating knowledge, information and evidence (that is, cognitive resources) on the intervention; and the influence of schools' material resources on the sustainability of Learning Together (see table 17). The themes follow the GTI domain 'capacity, which refers to the social-structural and social-cognitive resources upon which agents may draw on to implement interventions. The GTI dimensions under capacity were used to organise lower-order inductive themes into overarching themes (see chapter 4).

Table 17: Themes and sub-themes on the influence of the school context on sustainability

Theme	Sub—theme
School norms that shaped staff's participation in Learning Together over time	The norm of prioritising academic learning time
	The continual stream of initiatives that come and go in schools
	The norm of prioritising activities that fit with the school's strategic plans
The influence of staff's roles on the sustainability of Learning Together	The importance of senior leader's role
	Seconded senior leaders had less authority than senior leaders
	The importance of the role of a middle leader to drive forward and operationalise an intervention
The challenge of disseminating cognitive resources on the intervention	The need to raise the profile of Learning Together
	The process of disseminating cognitive resources on RP approaches across the school
	Staff turnover had a significant impact on the transfer of knowledge and expertise and on staff motivation
	RP was considered an approach that needed to be modelled or seen in action
The influence of schools' material resources	n/a

9.1 School norms that shaped staff's participation in Learning Together over time

Three social norms emerged that affected school staff's involvement in Learning Together. The norm of prioritising academic learning time in schools made it difficult for staff to integrate RP approaches into schools' systems and it affected the experienced effectiveness of the action groups. The continual stream of new initiatives that came and went in schools reduced staff's long-term commitment to interventions and their ability to integrate them systemically into schools. Finally, the norm of prioritising activities that related to school's improvement plans affected the attention, staff time and resources that schools devoted to an intervention.

The norm of prioritising academic learning time

The lack of non-academic time in the school day increased the difficulty of integrating Learning Together systemically in schools, hindering its sustainability. Nearly all staff across all schools highlighted the norm of prioritising academic learning time and consequent lack of time in the school day that was available for activities unrelated to teaching and exams. This lack of time affected staff's ability to carry out RP because the approach required staff members to find time to discuss disciplinary incidents with individual students (unlike detentions which could be 'industrialised', see chapter 8). It also affected the experienced effectiveness of the action groups because it was difficult for the same group of staff and students to meet regularly outside of lesson time.

Staff described the following times in an average school day that were *not* devoted to lessons: before or after school (and in exceptional circumstances on weekends); travel-time between classes; free periods for staff (i.e. class times where staff did not have teaching responsibilities); assemblies; tutorial/registration time; breaks; and lunch time. Staff reported a large range of responsibilities that they had to fulfil in non-lesson time (see box 1). Ten staff across the five schools reported that non-academic time was used up very quickly. Three teachers from three schools highlighted that there was very little time left over for non-academic initiatives, or for thinking and reflection:

If we're going to change things seriously, we need to be given time to actually think, "Right, let's assess this, let's think it all through. Let's think about how we're going to plan it." Without worrying about, "I've got to mark those books for tomorrow, I've got to plan those lessons for tomorrow... I've got this trip I'm organising next week, I've got all that paperwork to get in for next Tuesday. I've got a meeting in half-an-hour; can we keep this quick please?" You know...I've got a parent on the line, blah, blah, blah, whatever it might be. Callum, staff, Downton Park, year 4

Box 1: Staff responsibilities during non-lesson time

- Speaking to students and/or parents about pastoral or behavioural matters
- Speaking to other staff members
- Liaising with external agencies, for example, social care
- Lesson planning and marking
- Attending meetings, for example, heads of department or heads of year meetings
- Administering detentions
- Reading emails and other administrative tasks
- Supervising registration, lunch or break time
- Organising student voice activities or extracurricular activities (for example, the school council or trips)
- Running revision sessions for older year groups

Staff needed a system for carrying out RP so that it could be sustained consistently and effectively at school-level. Eight staff from four schools (Franklyn, Fern Grove, Bletchford, and Greenthorne) reported that one of the challenges with RP was finding time in the school day to have a conversation with a child. Although sometimes a short conversation was needed, often a longer meeting was required if more than one student or a parent was involved and/or underlying issues emerged (see quote below). June and Harriet from Fern Grove also noted that sometimes they had to hold extra meetings before a restorative conference between a teacher and a student to prepare each party for how the session would run and help them think about what they were going to say.

The other biggest barrier to using restorative practice is the time pressures on staff... The incident that I've just mentioned to you. I hope to have time to be able to sit down with the students. It will obviously have to be in my break time or my lunchtime or before school...because it's not a lesson...And as a head of year, if I have ten of those a week then that's a lot of time...taken out. And... I've always...whenever I've felt like we've done a proper job, it's not normally been a two minute, "Right, what's happened? Who's been affected? What are we going to do?" It's been more... the reasons why...they're affecting someone else's behaviour, it tends to be more complex and it tends to... kind of open a can of worms. Toby, staff, Greenthorne, year

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Staff reported that often it was not possible for staff to meet with a student straight after class because students and staff had other lessons to attend or staff had other responsibilities. If multiple students needed to be spoken to, conducting a meeting with each one of them was simply not feasible. Katie from Fern Grove highlighted in year 4 that if staff were setting high numbers of detentions in one day, it was not workable for schools to attempt to integrate RP into the discipline system by proposing staff speak to each student. At Bletchford, senior leader Joe reported that when RP was integrated into school policies with the support of the external consultancy Education for All, the school had to work to find solutions to the time problem:

At the end of the lesson they would have...a reparation meeting with the teacher as to what went wrong. And that can't always happen at the end of the lesson; it might happen at lunchtime or after school. So we're trying to work out the best way of that, but each department has a different... what would work for them, they do different. They're finding their own solutions there; we just need to know what they are. Joe, SLT, Bletchford, year 4

In year 5, Bletchford seemed to have found a method: to hold brief conversations straight after lessons using RP principles, and use longer, more formal RP meetings for more serious incidents.

At the end of that [lesson], there could be a restorative meeting, a very brief meeting with the teacher just to sort things out which is relatively on a low level. But if it became more serious, where there had been a removal from the class or some other incident where they had to be removed then there would be a restorative meeting with a senior member of staff as well as the teacher and the child. Joe, SLT, Bletchford, year 5

He noted that the staff appeared to be using more of the low level meetings than the formal ones as the approach became embedded. This suggests that sustainability required schools to find a systemic solution for integrating RP that effectively matched staff time and availability.

The lack of non-academic time also affected the potential sustainability of the action groups. It was logistically difficult to schedule the meetings so that all staff could attend or so that they could feed into existing student voice groups (see chapter 7). Four staff who had led the action groups from Downton Park, Greenthorne, and Franklyn said that running the groups had involved a lot of administrative work: reminding staff and students to attend; booking refreshments; planning an agenda; writing minutes; and writing feedback to SLT or school council. Staff were unlikely to commit time to these tasks which were outside their paid

responsibilities in the long-term, suggesting that the senior leaders would have needed to have allocated staff time and funding (for example, an administrator) to support the running of the group.

The lack of non-academic time also affected staff and student attendance at the groups, affecting their experienced effectiveness and consequent sustainability. In Fern Grove, Greenthorne and Franklyn, action groups were held in lesson time. Senior leaders David, Colin, and Gregory (from each of the schools) reported having to justify to other staff why they had to remove their students from lessons, particularly for older students who had exams. Katie at Fern Grove, Amy at Greenthorne and Gregory at Franklyn reported they were not able to attend meetings as they were not able to find staff to cover their lessons or because of other responsibilities. Downton Park and Bletchford held the action groups at lunch time because the schools were unwilling to hold the group in lesson time. In both schools, during the trial, the lunch hour was shortened respectively to 30 and 40 minutes. Staff at both schools thought that this was too short to run the group effectively and students were not keen to attend and miss out on their chance to socialise with friends:

Our lunch hours are less than an hour. And just trying to get people to go is quite difficult. I mean I always went and [Chris] was always there. Jenny would come if she could...you know, rushing, rushing around trying to come...Getting pupils to come was quite a challenge because they wanted their lunch, basically. They did provide sandwiches, but I think kids still want to talk to their friends and run around. Penny, staff, Bletchford, year 4

The continual stream of new initiatives that come and go in schools

The continual stream of initiatives in schools affected staff's commitment and ability to systemically integrate interventions. Staff explained the norm that schools were constantly participating in new education and health initiatives, whether from policy mandates, their own interventions, or by invitation from local government or other external providers who could provide free or subsidised training and resources. Six staff from three schools (Downton Park, Bletchford and Fern Grove) described the time and attention staff had had to devote to understanding and implementing recent changes to the national curriculum (see chapter 4):

It can be...tricky because you're constantly having to re-familiarise yourself with new ways of doing things. And... really it is at the cost of the student a lot of the time because there's so much time taken for us to invest in getting to grips with...what do we have to show now? How do we have to show this? What evidence do we need to show? Angela, staff, Downton Park, year 4

In year 5, Callum at Downton Park and Colin at Greenthorne also mentioned that their school's had made adjustments to recent changes to the Ofsted framework for inspection (see chapter 4). They noted that changes in government educational policies and the inspection framework certainly motivated schools to take action, regardless of whether or not changes were regarded as positive.

Four staff from three schools (Downton Park, Bletchford and Franklyn) talked about interventions that teachers had initiated within their own schools, for example, initiatives to improve lesson quality and mindfulness sessions. Fourteen staff across the five schools described a multitude of initiatives run by external providers to improve students' learning and/or health and wellbeing through: teacher training, student training, staff supervision, the provision of health/mental health services, the delivery of classes to students, mentoring students or providing longer-term interventions. Intervention topic areas appeared to follow trends, for example, gender equality was a focus for staff and students at Downton Park, Fern Grove and Franklyn, LGBT concerns were raised at Downton Park and Franklyn, and young people's mental health and resilience were a focus of initiatives in all five schools. When new trends became salient, new intervention opportunities arose internally and from external providers. For example, in year 4, Franklyn started a new four-year intervention to improve young people's resilience and in year 4 Fern Grove started a new intervention to improve student's wellbeing and mental health, and then started another one in year 5.

In year 4, Paul from Greenthorne and Jenny from Bletchford said that new initiatives introduced by senior leaders without sufficient explanation could give the impression that existing, good practices were being disregarded without thought. Jenny and Joe from Bletchford, David from Fern Grove, and Gregory from Franklyn, similarly noted that swift changes in initiatives contributed to the perception that many were "tick box exercises", that is, superficial rather than meaningful changes:

We have to be seen to be embracing these concepts. For years we've been bandying around the word "growth mindset", and I cringe and I shrink a little bit when I hear growth mindset... That's just...a really popular concept now that people have latched on to – but you [senior leaders] don't show it. You don't demonstrate it. You just say, oh; growth mindset in assembly, and we've ticked that box. Jenny, staff, Bletchford, year 4

It's like we bring in something new, we run it and then it kind of fades out. And I see that happening in quite a lot of schools; it's not just this school. But just, that culture of almost doing a tick box, "oh we've done that, we've covered this," not really believing in things. Gregory, SLT, Franklyn, year 4

The consequence of being involved in so many new initiatives and changes brought about by education ministers was that staff were cynical that they would be meaningful for their practice and it made it difficult to consolidate learning and commit to sustaining approaches. Staff felt that they had little control over their own work, and reflected the fact that the teaching profession lacked professional authority and autonomy.

Because you know that in education everything changes all the time. And whatever you have as a new initiative, you know it's going to be dumped within six months or a year; so why bother. Joe, SLT, Bletchford, year 4

I feel like we're just, honestly in a battle ground every single day and then we have a new general telling us a new direction of battle, and then, "Oh by the way while you're battling on the western front, you need to carry ten tonnes of rice to soldiers on the other side of the river." You know it's just constant at the moment like, we are social workers, police officers, mental health assessors, first aid mental health... Harriet, SLT, Fern Grove, year 5

The norm of prioritising activities that fit with the school's strategic plans

School's level of involvement in Learning Together was also affected by schools' norm to prioritise activities and resources that fit with its school improvement plan. If a school had planned a review of its behaviour policies or review was imminent because of a review cycle, Learning Together's approaches and activities had a better chance of being given more attention and resources. David at Fern Grove explained that once the school deemed behaviour a priority, school's commitment to an intervention was increased:

Once it's listed as a priority, then sufficient... training time, briefing time, the ability to stand up, the ability to make a fuss and do things; that comes with that. David, SLT Fern Grove, year 4

The timely implementation of Learning Together appeared to contribute the school's involvement in the intervention. At Fern Grove, David from Fern Grove and the external facilitator (interviewed in year 2 for the trial's process evaluation) reported that Learning Together was perfectly aligned with the priorities of the school at the start of the trial as the school was seeking to revise its behaviour policy after it had received a poor Ofsted rating of "requiring improvement" on behaviour:

One of the suggested topics as part of the action group's work was that we looked at the whole school behaviour policy. It just happened at the same time as well in our sort of journey cycle, post OFSTED, me coming in, changing etc., that that fitted very nicely at that point. Because we were looking to make some very sweeping changes,

and I'd got carte blanche to rip up the behaviour policy and to start again... David, SLT, Fern Grove, year 4

David said working towards warmer relationships between staff and students (the school's translation of RP approaches, see chapter 8) featured on the school's development plan during the trial but it was not part of the school's plan in year 4, when the original action group was discontinued. David went on to explain that the timeliness of the intervention was important; if another external provider offered an initiative that involved a behaviour review, it would be turned down:

And whereas if now I were to sign up to a project that said could you review [behaviour policy], I'd be thinking, "no, actually; because the entire focus of the school now we have written a new behaviour policy is about getting every staff member trained consistently and applying it. And any change at all would be detrimental. So now I would be entirely closed off to the idea of tweaking it. David, SLT, Fern Grove, year 4

At Franklyn, the school had had an Ofsted inspection the school year before the start of the trial. In year 1, Matt reported that part of the school's reasons for joining the study was to help move them from a 'good' Ofsted rating on the behaviour to an 'outstanding' one (which they achieved in the school year after the trial). Senior leader Matt in year 4 said that the beliefs underpinning Learning Together were part of the school development plan – being a "rights respecting school". However, Gregory, another senior leader, reported that RP approaches needed to feature more specifically on the plan to have prompted the dissemination of RP training across the school:

It didn't fit in with whole school plans. I'll call it that... At the end of the year, we have our school sort of plan... And um it didn't take priority... So I believe that when something doesn't take priority as important as that [RP] it... it almost kind of gets, now we've done that, we'll move on to something else. Gregory, SLT, Franklyn, year 4

Although Fern Grove and Franklyn did not sustain the original action groups beyond the trial, the schools did create new student-staff action groups that focused on student wellbeing and attitude to learning, and created new student voice paid responsibilities for staff (see chapter 6). This suggests that strategic priorities may have helped to sustain the schools' attention on staff-student relationships, student wellbeing and involvement in decision-making, even when other factors may have contributed to the discontinuation of the original intervention.

At Bletchford, the external facilitator reported that the behaviour policy was not changed during the trial period in part because the school had recently reviewed their behaviour

policy and the intervention was not in time with a review cycle. At the end of year 3, senior leaders paid an external consultancy, Education for All, to carry out an inspection of student behaviour and behaviour management, with a view to changing the behaviour policy to incorporate RP approaches in year 4. Although Learning Together had provided training on RP for individual practitioners to use, the training did not explain how RP could be incorporated into school systems and policies. In year 4, Joe reported that RP had featured in the school's development plan and staff reported that Education for All's behaviour policies had been adopted. As the new behaviour policy had only been in place two years by the last data point for the study, it is not clear whether the school's plan contributed to sustainability of the approach beyond two or three years.

At Greenthorne, staff reported that Learning Together was implemented as stand-alone project for year group 8 in year 1 and did not become a part of the school's development plans. In year 4, senior leader Colin said that he did not think the school was likely to wholeheartedly adopt RP approaches to discipline as overall behaviour levels in the school were good and were not considered a priority. However, in year 5, after a new head teacher was in place and students' resilience was on the school's agenda following changes to the Ofsted inspection framework, senior leader Colin reported that the conditions for introducing more student voice and restorative practice were more favourable.

*Well our new head one of his big things is about student leadership and student voice. He's very strong on that and he wants the kids to be taking the lead, and taking ownership with things...
But moving forward, one of my roles this year, is about personal development. Looking at resilience and all that kind of stuff. So I did write down on a piece of paper today, restorative practice as something we can try and include. Colin, SLT, Greenthorne, year 5*

At Downton Park in year 1, a senior leader interviewed for the trial's process evaluation indicated that the senior team were reluctant to make changes to the behaviour policy because reviews were normally lengthy (more than the time available to the action groups); they involved consultation with parents, teachers and governors; and revisions would need to align with other key policies. Angela reported in year 3 that she had managed to include a consultation on the behaviour policy in the school development plan in year 3 (process evaluation data). Angela and Callum confirmed in year 4 that a consultation had occurred with staff and the school council but no changes related to RP had resulted. In year 4, Callum commented that the generally good levels of behaviour among students may have contributed to staff member's reluctance to change policies to incorporate RP:

We're not a school with particularly high levels of exclusion, particularly high levels of poor behaviour... and I think maybe the other schools may have bought into it more quickly, or made things move a lot quicker, because... they were exhausting other means of trying to resolve some of their issues. We still had the issues... the balance of priorities is different, I think that...sometimes people don't see the merit in something unless it's really urgently pressing. Callum, staff, Downton Park, year 4

To conclude this section on social norms, staff reported three key school norms that affected the sustainability of Learning Together. First, schools expected staff to devote most of their time to academic learning making it difficult for staff to integrate RP approaches into schools' systems, particularly since detentions, in the short-term, appeared a more efficient option as staff could defer the burden of time to discipline students to other staff (see chapter 8). The lack of non-academic time in the school day also affected the experienced effectiveness of the action groups. The second norm was that staff were used to a continual stream of initiatives coming and going in their school. Consequently, staff reported 'initiative fatigue', an inability to consolidate learning from initiatives, and a lack of control over their work, affecting staff's long-term shared commitment to sustainability and their ability to integrate them systemically into schools. Finally, the norm of prioritising activities that related to school's improvement plans affected the attention, staff time and resources that schools devoted to an intervention.

9.2 The influence of staff's roles on the sustainability of Learning Together intervention

While the previous section focused on pre-existing structures that affected Learning Together's sustainability, this section focuses on the agency of different staff members. Three sub-themes emerged concerning how staff member's roles affected their ability to sustain the intervention: the importance of the senior leader's role; staff seconded to SLT to lead the work having less authority than senior leaders; and the importance of the role of a middle leader in driving forward and operationalising an intervention. The next sections describe how different roles contributed to the sustainability of the intervention.

The importance of the senior leader's role

The role of a senior leader was the key to changing school systems, policies and practices to integrate RP approaches school-wide. Staff reported that the authority of a deputy or associate head with agreement from the head teacher, or the head teacher his/herself, was needed to change the school's culture regarding discipline and/or discipline procedures. Senior leaders could: legitimise the use of RP; encourage other staff member to buy-into and follow a new approach; monitor and supervise staff behaviour; authorise a change to discipline procedures; and authorise spending (for example, for additional training). Four

senior leaders from Bletchford, Franklyn, Fern Grove and Greenthorne, noted that it was part of their role to bring their colleagues on board with new approaches in the school, particularly staff who were reluctant to change, which was essential for mainstreaming RP.

We [senior leaders] made it very clear that...you know, trying to be encouraging, to say, "Look, it is difficult; but we all have to try. And although we'll always get it wrong and we won't be perfect, the next time we still...we don't just throw it out and give up."
Joe, SLT, Bletchford, year 5

Only senior leaders had the authority to monitor and challenge other staff members about their behaviour and ensure that new initiatives were being practiced by staff across the school, essential for sustainability at school-level. Non-SLT staff reported that they could encourage and support other staff in their classroom management but they gave no examples of challenging other staff. In contrast, three SLT staff from two schools (Fern Grove and Franklyn) gave examples of how they had spoken to staff when they considered that they had behaved inappropriately towards students, for example, by losing their temper and shouting. Four senior leaders highlighted the importance of their role in monitoring staff behaviour to: hold staff accountable for their role in managing students' behaviour, ensure that new behavioural approaches were being implemented, review their ongoing effectiveness, and maintain focus and energy on behaviour change.

I think...that...embedding an ethos and a change takes longer than I think we'd possibly anticipated it did. We can make changes very quickly in a school, but if you then take your eye off that change...if you put the change in and you put monitoring in to make sure that the change you want is happening, the change happens very quickly. As soon as the energy or the drive around the monitoring bit of it falls away, people start to revert back to their practice...previously. David, SLT, Fern Grove, year 4

Staff from four schools (all except Downton Park) gave examples of senior leaders monitoring staff's behaviour towards students, for example, observing staff in classrooms and corridors, delivering training, testing them on their knowledge in staff meetings, and organising behaviour reviews by external consultants. Senior leaders could organise student surveys and focus groups to explore particular topics and oversaw data on student behaviour.

Senior leaders also had the authority to make changes to policies or procedures, which were sometimes introduced very swiftly. In particular, new head teachers were known for introducing changes on their arrival, suggesting the head teacher had the power to dictate the direction of the school regardless of the views and experiences of the rest of the staff

body. Senior leader Colin at Greenthorne had commented in year 4 that the school was not making any significant policy changes until the new head teacher started in year 5, as he was likely to initiate his own ideas. In Bletchford, several staff commented on senior leaders' decision to quickly introduce a new discipline system with little staff consultation or lead-in, leaving staff in a position where they did not know why the school's approach had been changed or how they were supposed to implement it in their classrooms:

It's more about... how it's been kind of put in place at Bletchford that I would change, rather than the actual approach. I think the approach would be OK if it was given a bit, if we were given more guidance on how to use it. Brett, staff, Bletchford, year 4

These abrupt changes in schools also suggest that the scientific evidence on an intervention's effectiveness played a very small role in school decision-making, as senior leaders were not drawing on a body of knowledge that was familiar to the profession as a whole. Instead, staff awaited the instructions of the next leader (or educational minister) in charge.

Seconded senior leaders had less authority than senior leaders

Three schools attempted to meet the intervention requirement that a senior leader must be involved in the action groups by seconding a middle leader (that is, a head of year or equivalent) to a senior position. However, the events that played out in each of the schools indicated that the role of a seconded leader did not have the same power as other senior leaders to make changes to the discipline system, which would have been necessary to integrate and sustain RP at school-level.

At Greenthorne, Paul held the seconded position for the first year of the trial and it was brought to an end at the beginning of the second year. Colin, the SLT staff member interviewed, explained that the head had passed responsibility for the running of the action group to himself perhaps because Paul had not been equipped with the skills to deliver the intervention. Colin described the disjunction between Paul and the SLT:

[Paul] got quite a diverse group of students which was kind of what the remit was...and he got some of the staff on board. But and that's all we [SLT] kind of knew about it. We didn't really, it was like his own little self-contained thing. I mean I didn't realise until I took it over that it was supposed to be like a whole school thing...The [Learning Together] lessons that were supposed to have been delivered throughout and he'll blame SLT for his, not getting his way, but we kind of basically said "Get on with it and we'll support you". But there were various political issues and clashes of personality and that kind of stuff so he, so we had to take [the lessons] off-timetable to fill that remit. Colin, SLT, Greenthorne, year 4

The external facilitator commented that perhaps it was a combination of Paul not having the authority and lacking leadership skills:

I think...really Paul should have been supported to move it forward, because he really got it [Learning Together]. And the team...I felt they were beside him. Maybe they weren't, but I felt that they were going along with him and got it together and were trying to do something...And I think that Paul had more time to do it. He might not have had... Perhaps he didn't have the authority. So it was, it was almost...you know, maybe they didn't give Paul enough authority or he didn't step up to the authority.
Rachel, external facilitator, year 4

At Bletchford, in year 2, a middle leader Jenny who had been on the in-depth RP training and was an action group member, put together a plan to roll-out RP training across the school, which she shared with senior leaders. Joe, a deputy head, had attended Jenny's internal training at the end of year 2 to become an RP trainer and was enthused about the introduction of RP into their school's policies and procedures. In year 3, Jenny was seconded to the SLT to roll-out the RP training across the school (see section 9.3 for details on the training). During year 3, Joe became aware of a new behavioural system at an education conference, Education for All, and he saw it as a framework for embedding RP into the school. At the end of year 3, the SLT decided to introduce the new behavioural system into the school without consulting Jenny or other staff, indicating the concentrated power of the SLT. Jenny described feeling marginalised by being excluded from the decision to adopt Education for All after the work she had put into to disseminating RP in the school:

And then they said, and now this is what our behaviour system looks like. But in the mean-time completely cut me out of the picture and then would consult [me] on... "So can you give us a script for an intervention? Can you give us a script for a reflection sheet where a child's been internally excluded?" So they still want my support, yet they just marginalised me.
Jenny, staff, Bletchford, year 4

In Downton Park, Angela was seconded to SLT and had led the action groups, with a senior leader in attendance at the action groups in years 1 and 2 but not in the third year. Staff interviewed said that the senior leader and governors had been unwilling to change school policies or rules and consequently, no changes had been made:

This teacher who's left... was responsible for....the whole school behaviour, was much more senior and...I'm not totally sure that she was prepared to change the way she...did things or the way the school was going to work.
Callum, staff, Downton Park, year 4

The importance of the role of a middle leader to drive forward and operationalise an intervention

Staff across the school reported that the role of a middle leader was crucial to sustaining the operational work of an intervention and maintaining staff and students' energy and enthusiasm for initiatives. Staff reported that the attributes of this person were important as they carried out a significant amount of work in engaging and/or training other members of staff and students, as well as carrying out administrative work in organising the intervention. Positive attributes associated with this role described by staff included: being energetic, focused on actions, and willing to put in extra work; and having good relationships with a broad range of staff and good communication skills.

After the trial, Bletchford, Franklyn and Fern Grove had both a senior leader and a middle leader responsible for taking forward the intervention. In Bletchford, Jenny reported that there was no middle leader to drive forward the action groups or curriculum, and they were discontinued in year 3. In contrast, the senior and middle leaders focused on integrating restorative practice using the Education for All framework in years 4 and 5; both were trained by external consultancy and were the school's internal trainers. When senior leader Joe was asked what had helped to embed Education for All (and within that RP) within the school, Joe reflected that it was both demonstrating a commitment to change over a number of years and the involvement of staff in roles with different responsibilities.

It's come from all different aspects. It wasn't just suddenly top down. It wasn't just leadership or the head or a few people driving something and then doing it through them. It was embedded by people at all different levels, with the middle leadership, with the teachers on the ground, the behaviour working group... which is covering a wide variety of different staff. Joe, SLT, Bletchford, year 5

In Franklyn in years 4 and 5, the senior leader Matt continued to support the use of RP in the discipline system, and a middle leader was responsible for running new student groups focused on LGBT and on gender equality, with support from the senior leader:

He'll [Matt will] stop in occasionally...um...to, to meetings or I'll keep him posted or I'll say, 'Hey, I want to run this initiative, are you happy to pay for it?' (Laughing) So yeah, or if he sees something that he thinks would be relevant to either group, he'll send it through to me or come and present it and kind of tell the kids about whatever it is he's thinking about. So yeah, he...I don't know how he finds time to, but he does stay, yeah, stay active in it. Jessica, staff, Franklyn, year 4

In Fern Grove in year 4, the senior leader David created a new student voice responsibility for a middle leader to help him run student engagement and consultation. David created new

student-staff groups: one focused on learning and teaching; one focused on behaviour and wellbeing; and one focused on a student voice group with round tables for each year group. When David moved on to a new school at the end of year 4, the groups discontinued but the middle leader remained in post.

In Downton Park, no senior leaders were involved in the intervention in years 3 to 5. Angela, seconded to SLT during the trial, continued to focus on teaching RP principles in staff and student training in years 4 and 5. In year 4 at Greenthorne, no middle or senior leaders were actively trying to embed RP or the action groups at school-level, although Colin, a senior leader, did add the option of RP into behavioural procedures. In year 5, Colin was more optimistic about starting to use RP partly as a result of having additional support from a new middle leader with pastoral responsibilities.

To conclude this section on school roles, the involvement of a senior leader was crucial to making changes to school systems and policies or changing the culture of the school towards behaviour management, essential for mainstreaming an intervention across the school, and could not be fulfilled by a seconded senior leader. However, the role of a middle leader was also essential to sustainability to operationalise and sustain oversight of the work and maintain staff and students' energy and enthusiasm for initiatives.

9.3 The challenge of disseminating cognitive resources on the intervention

Four sub-themes emerged in relation to whether/how cognitive resources – that is, knowledge, information or evidence – about Learning Together were disseminated and distributed to staff over time. First, staff reported that there was need to raise the profile of Learning Together at the beginning of the trial to convince staff of the legitimacy of the intervention and encourage staff and students to participate. The second sub-theme was that it required considerable effort, leadership and co-ordination to transfer cognitive resources relating to RP across the whole school so that it could be sustained at school-level. The third sub-theme was that staff turnover had a significant impact on the transfer of knowledge and expertise, undermining sustainability when it was dependent on individual practitioners' enthusiasm, knowledge and skills. The fourth sub-theme that was relevant to how knowledge of RP was passed on was that staff described it as an approach that needed to be modelled or seen in action to be learnt.

The need to raise the profile of Learning Together

Staff reported that they had to work hard to raise awareness and 'sell' the benefits of Learning Together to staff and students to make it stand out in the stream of other initiatives (see section 9.1), increase experienced effectiveness, and develop a foundation for sustainability. Staff from Bletchford, Greenthorne, Fern Grove and a student from Franklyn

reported that not enough action had been taken to raise the profile of the action groups among students and staff in the first year or two of the trial, giving them the impression that it was not very important:

It needs to be more in people's faces. It needs to be a higher profile around the school you know people need to know what Learning Together was... I mean looking back, we kind of put a few posters up but getting more posters out, getting things into forms. Colin, SLT, Greenthorne, year 4

Because initially, as I said, how I got started, someone said, come and have a little chat with us about helping...And that was a bit...not off-putting, but it didn't make a great statement with me about what the programme was like. Craig, student, Franklyn, year 4

Six staff from Downton Park, Fern Grove, Greenthorne and Franklyn, and a student from Franklyn, described the effort staff had put into publicising RP or local actions from the action groups through students' assemblies, poster displays around the school and in classrooms, and staff meetings.

It [restorative practice approach] was given a quite profile launch around the way in which we work with children and the way in which we want the relationships in this school to sort of be... not authoritative, not hierarchical... but respectful. When we had our assembly launching our changes and our [Rules of Conduct], these are our rules, those students' faces and pictures were, to their eternal embarrassment in a whole school assembly, on the slide behind me. David, SLT, Fern Grove, year 4

Staff and students at Fern Grove and Franklyn also came up with punchy names for their local actions to help them spread around the school (names not given here to preserve anonymity), and new classroom rules for behaviour at Fern Grove and behaviour management at Franklyn were displayed in each classroom. Jessica, a staff member from Franklyn, described promoting the new student-staff action groups on LGBT and gender equality with events and badges. Two staff from Bletchford contrasted the lack of marketing of the roll-out of RP in year 3 with the marketing of Education for All, the external provider that was contracted to revise the school's behaviour policies and practices (encompassing RP). They suggested that the promotion of Education for All contributed to its adoption at the end of year 3:

It's a corporate approach... these guys have a website and a Twitter feed and podcasts... . . . I thought the leadership looked at restorative practice, they thought, "Yeah; that's quite good." Then they went out and paid a load of money for this

company, who've got this like fancy website and all the rest of it, and then they said, and now this is what our behaviour system looks like. Jenny, staff, Bletchford, year 4

The promotion of initiatives signalled their importance and legitimacy to staff and students and helped to spread knowledge of them around the school. However, Angela and Callum at Downton Park reported that it was difficult to keep up the profile of Learning Together over time, as new priorities and initiatives came to the fore:

It's really difficult to...keep the profile of these things up and running in an active way. But I definitely think they are there and being used and referenced... But it's... a kind of a new tide of stuff always coming in.... Angela, staff, Downton Park, year 4

The process of disseminating cognitive resources on RP approaches across the school

The sub-theme looks at *how* cognitive resources about Learning Together were disseminated and distributed to staff over time. All staff were in some way responsible for students' behaviour; staff had differing levels of responsibility though there was overlap between roles (see table 18). The significance of having diffused responsibilities for behaviour was that it required considerable effort, leadership and co-ordination to transfer knowledge and expertise in RP approaches across the school. Only Bletchford school attempted to train the whole school community in new behavioural approaches. Although staff trained in-depth in RP disseminated the approach to other staff in the four other schools, it was either contained to some positions or the training did not continue beyond one school year.

Table 18: How staff described the responsibilities of different staff in the school in relation to behaviour

Level of responsibility	Position	Responsibility for behaviour
<i>Support and specialist staff</i>	Auxiliary staff – reception staff, canteen staff, office staff	Modelling behaviour through daily interaction with all students.
	Pastoral support staff, e.g. pastoral support officer. Learning support staff, e.g. teaching assistants. External health staff – health link worker, school nurse, school counsellors	Welfare support for students with additional social, emotional, behavioural, and/or learning needs.
<i>Teaching staff without additional responsibilities</i>	Cover/supply teachers Teachers in training and newly qualified teachers Subject teachers without additional responsibilities	Management of student behaviour in classrooms, corridors, and in school outside areas.
<i>Teaching staff with lower-level responsibilities</i>	Teachers who are form tutors	Management of student behaviour in classrooms, corridors, and in school outside areas. First point of contact for students with additional pastoral or learning needs in their form class.
<i>Teaching staff with middle management responsibilities</i>	Assistant Heads of Year/Year Leads	Management of student behaviour in classrooms, corridors, and in school outside areas. Additional pastoral responsibilities for the year group, which can include behaviour and attendance.
	Heads of Year/Year Leads	Management of student behaviour in classrooms, corridors, and in school outside areas. Additional oversight and responsibility for pastoral needs and behaviour in year group.
	Head of Departments	Management of student behaviour in classrooms, corridors, and in school outside areas. Additional oversight and responsibility for behaviour management in subject department.
	Heads of Key Stage (higher middle management)	Management of student behaviour in classrooms, corridors, and in school outside areas. Additional oversight and responsibility for pastoral needs and behaviour across multiple year groups.
<i>Teaching staff with high level management responsibilities</i>	Assistant head teachers Associate head teachers Head teachers	Management of student behaviour in classrooms, corridors, and in school outside areas. Responsibility for cross-year group issues or multiple year groups, such as oversight of pastoral care, key stages, or sixth form. Responsibility for students with serious behaviour problems, including involvement in the decision to exclude a student.
<i>Other groups of influence</i>	Governors, parents, student bodies, for example, prefects, sixth form leadership, school council.	Consult with school middle and high-level leaders and have influence over welfare and behaviour policies.

When schools were left to decide how to take forward RP in the school, they approached it in different ways, highlighting the fact that Learning Together did not provide enough guidance on how to mainstream the intervention. Bletchford targeted all staff through continuing professional development (CPD) training and coaching. Fern Grove used short-term targeting of all staff through training, monitoring, and profile-raising in staff meetings. Downton Park targeted deputy heads of year or heads of year through several training sessions. Staff at Franklyn coached staff informally on an ad hoc basis. Staff at Greenthorne made support available to staff with an interest and reminded staff at meetings about the behaviour policy which included the option to use RP. The next sections describe schools' efforts to transfer knowledge and skills in RP.

Targeting the whole-school community through CPD training and coaching

In Bletchford, in year 2, Jenny, a middle leader (head of year) who attended the in-depth RP training and was an action group member, was keen to develop the use of the RP approach in the school. The external facilitator reported that Jenny had then encouraged two other staff members to become champions for RP. Together, they visited a school that the RP trainers had used as an exemplar for successful implementation of RP to think about how they could use it at Bletchford and draft an implementation plan. The external facilitator, Richard, reported that Jenny had explained RP at heads of department meetings, as the school's CPD programme was booked-up in advance, and Jenny had written a number of papers for senior leaders on rolling-out RP training:

In that summer term, there was a plan in place. Jenny had written a paper for senior management and it [the training programme] was all going ahead as they planned... the following academic year. Richard, external facilitator, year 4

Heads of department agreed that Jenny could offer several more training sessions to staff, which she did. Jenny explained that the school's CPD programme was unusual: an hour-long training session was held every week (some were for all staff; some for specific staff roles). Several staff members explained that Jenny had then trained 8 to 10 staff to become part of a "restorative practice working group" (Brett, staff, Bletchford) to help her roll-out training in year 3; the group included a senior leader, Joe:

[The training] was very, very effective. Really well organised, very good resources...we actually practised doing it, so it was excellent. Joe, SLT, Bletchford, year 4

In year 3, each trainer delivered four, hour-long CPD sessions to about 15 staff members, one every few weeks with RP-related tasks to complete between sessions, and training was given to students as well:

We invited the dinner ladies, we invited the office staff, we...and that really is the sort of philosophy behind it; if you're going to be a restorative school, everybody has to sign up to it. So I delivered this. I trained ten people to deliver the sessions in little break out groups. And then we trained the students. So it started off like a rocket. I mean it started off really, you know, full of energy. I also trained the leadership team. I did a twilight session with them, a two-hour twilight session. Jenny, staff, Bletchford, year 4

Jenny also reported that in year 3 she had attended teachers' lessons at their request to coach them when they were having difficulties using RP techniques, and invited them to observe her lessons. At the end of year 3, SLT paid an external consultancy to introduce a new behavioural system into the school, 'Education for All⁷,' which integrated RP. All staff received one four-hour training session in Education for All on the first day of term at the beginning of year 4. Bletchford staff interviewed who were confident in RP reported that they continued to use RP and support their colleagues in using the approach. In year 5, the senior leader, Joe, said that behaviour had continued to be an integral part of CPD training and staff who had needed extra support were coached by an external consultant from Education for All. Joe said a behaviour working group had been set up around the spring term of year 4 and continued into year 5 to help embed the principles and techniques of the approach in the behaviour system and policies, which included Jenny and a cross-section of staff with different levels of responsibilities.

To conclude, after seeing the potential of RP in year 2 through Jenny's training programme, senior leaders at Bletchford committed to a whole-school approach to disseminating RP approaches. However, Learning Together did not provide guidance on how to mainstream RP approaches in the school to embed it into systems and policies. Consequently, senior leaders allocated funding to an external consultancy to support them in policy development, providing resources and ongoing staff training, and ongoing monitoring and evaluation of how staff were using the techniques.

Short-term targeting of all staff

Fern Grove also attempted to disseminate RP principles to all teaching staff but only in the short-term. The senior leader David reported that he had explained the concept of warmth (a translated version of RP principles, see chapter 8) on a Teaching and Learning (TAL) day at school, and followed up by monitoring staff warmth in lesson observations and feeding back findings to staff in all-staff briefings, praising staff who he had observed had demonstrated warmth. In year 5, senior pastoral leaders June and Harriet commented that they did not have a platform to provide ongoing RP training to staff. David reflected that if he had really

⁷ Not real name

wanted RP approaches at the heart of the school, he would have included it in new staff's induction to mitigate the loss of knowledge from staff turnover; but he had not. David and another staff member Katie thought that the school could have targeted staff more effectively, for example, by delegating responsibility to departments or working groups, and putting on bespoke training for non-teaching staff:

There's better models and we could have probably, on reflection, done something a little bit cleverer in how that was done. It could have been drip fed and it could have been regular, small scale, you know, in your department meetings now let's talk about that. We could have got a core group of staff on...on board, you know, at the subject...heads of department type level. And then they could have gone and worked on individual projects in their areas, which...generally in school that's got more success rate than the one-off training days. David, SLT, Fern Grove, year 4

To summarise, staff reported that the school had only made a short-term plan for disseminating the RP approach across the school and responsibility for its dissemination was primarily held by one senior leader (David). Consequently, expertise in RP primarily remained with those who were original trained in RP or already using it and it was not sustained as a whole-school approach.

Targeting specific staff members

Staff at Downton Park disseminated the RP approach to a selection of staff members but did not attempt to pass on knowledge to the whole staff body. In Downton Park in year 2 and 3, training was given to deputy head of years and head of years so that they could discuss RP with their students in tutorial time. Staff who attended the in-depth training reported training their colleagues in the key principles in an hour and a half in-service training (INSET) day. In year 4, one staff member, Callum, said that he continued to talk to students about RP principles in the PSHE programme, and another staff member, Angela, reported that she included RP when training new staff at the school but was no longer involved in tutorial time. When Callum was interviewed in year 5, he did not know if RP was still being used in student or peer mentor training. He commented on the need for more training:

There could be space for, if there was a willingness to do, to retrain people with the expertise that we still have. We still have staff who were involved but obviously over time with people moving on and faces changing I think that that skill set could be dwindling. Callum, staff, Downton Park, year 5

Informal coaching of staff

At Franklyn, there were no formal attempts to transfer RP knowledge and skills across the school though senior leader did make efforts to informally coach staff in the RP approach.

Staff who attended the in-depth RP training did not cascade training to other staff members. In year 4, Matt, the senior leader, noted the logistical challenges of fitting everything into the school's training programme, and Jessica, a staff member at Franklyn, commented on the lack of opportunities for staff to share learning with other staff:

It's something that we do struggle with. Like we send teachers on these amazing training sessions – like I recently went to one about working with traumatised students. So now I sit with this knowledge and these things and I'm like, "Oh, I really want to share that." But I'm like, "Where is my platform for that?" Like our CPD for the year is already sorted. Jessica, staff, Franklyn, year 4

A restorative staff-student meeting was included in discipline procedures, but without ongoing training, it was implemented inconsistently (see chapter 8). Senior leaders Matt and Gregory also independently described promoting RP to staff and reminding staff of those principles when their relationships had deteriorated with a student. In year 5, Matt, the senior leader, noted the need for further training for new and existing staff:

We've done a lots of work [that] embodies the restorative approach particularly dealing with behaviour. So it's something that we revisit. But we probably haven't formally, we haven't had a training day as such on it. It's just that we've gone over the behaviour policy and systems, as opposed to the fundamental kind of what underlines, behaviour and how do you repair behaviour that's gone array. Matt, SLT, Franklyn, year 5

Passive approaches to knowledge dissemination

At Greenthorne, information about RP was passively disseminated to selected staff members. The year 1 action group leader Paul held an RP training session for other staff members in year 1 (which Colin, a senior leader, commented was not well attended). When Paul was asked whether the materials from the RP training were diffused to other staff members, he said:

I'm not sure we distributed them... but...we all had paperwork from the...training that we went on and we had files for that... And so I made mine available to anybody who was interested. But it wasn't, it wasn't formally sort of rolled out to the whole school or anything like that. Paul, staff, Greenthorne, year 4

Another staff member, Amy, circulated a summary sheet of the RP approach to heads of years but she did not think that they were used because most of them had not been trained in RP. Senior leader Colin commented that RP had needed to be escalated more widely to gain traction at the school:

[Paul] was saying, "Right, restorative practice, it's a great idea, we need to embed this in the school." And I was like, "Well ok, we can embed it in the school but it's only going to work if everyone's doing it. We've all got to buy-into it." So these conversations were taking place at classroom-level, with subject tutors as opposed to it being escalated so it becomes a massive issue. Colin, SLT, Greenthorne, year 4

When Colin took over the action group in year 2, he had not attended the in-depth RP training and he did not attempt to disseminate knowledge of RP across the school. In year 4, Colin reported he had notified staff in years 2 and 3 at staff meetings at the start of each team of the opportunity to use RP within discipline procedures. In year 5, no further efforts had been made to progress the use of RP in the school.

To conclude this section, RP was most successfully sustained in Bletchford where a middle leader initially enrolled a team of staff, including a senior leader, to help her make targeted and sustained efforts to train the whole school community in RP in year 3, and then senior leaders employed the support of an external consultancy to help them mainstream RP into school systems and policies in years 4 and 5. In Fern Grove, the senior leader attempted to translate RP into something that could be understood by all staff but did not integrate RP into school systems. In the other three schools, RP continued to be practiced by small numbers of interested individual staff members but it was not spread to the whole school community, and knowledge was lost in the turnover of staff.

Staff turnover had a significant impact on the transfer of knowledge and expertise and on staff motivation

Staff turnover caused significant problems for retaining knowledge and expertise in the intervention's approaches and activities because Learning Together was not embedded into school policies and systems. Forty staff received in-depth training in RP across the five schools according to trial process evaluation from the trial. Staff were asked in post-trial interviews whether trained staff were still at the school. Although recollection of who had attended training was imperfect, staff could recall whether or not 32 of the 40 staff members remained at the school for the course of the trial (the eight staff members with missing information were spread across the schools). Eleven of the 32 (34%) staff had moved on from the schools during the trial. However, turnover noticeably differed by school: seven staff left Fern Grove; two staff left Bletchford; one staff member left Downton Park; and one staff member left Franklyn. All staff that had received in-depth RP training remained at Greenthorne. In the year after the trial, three other trained staff members moved on to other schools: two from Fern Grove and one from Downton Park.

By the end of year 4, Fern Grove staff reported that the school had lost all but one of the staff that had received in-depth training in RP. Staff members Katie, June and Harriet highlighted that very high turnover meant that training on RP needed to be delivered each year. David, the senior leader, thought that turnover at Fern Grove was caused by the lack of affordable housing for staff in the school's central urban location:

Our biggest thing around staff turnover is that as soon as our staff then are... two, three years here... some people want to get married, they want to have children, they want to have a house with a garden, which is then suddenly...not, not achievable any longer within [this area]... So that means that we have unstable staff and over time I think in certain key positions, and then...you're either reintroducing things as basic training, and you think, well actually we've not really built on it. David, SLT, Fern Grove, year 4

Three staff from different schools - David at Fern Grove, Colin at Greenthorne and Callum at Downton Park - commented that there was high turnover in particular of lower middle-leaders, for example, deputy heads of year. Several reasons were suggested: David suggested that it could be related to affordable housing; Colin thought it was because teachers at his school stayed in middle-leadership positions creating few opportunities for lower middle-leaders to progress; and Callum reflected it could also be because of the challenges of this junior leadership role.

When staff described the impact of staff turnover on intervention sustainability, it was mostly in negative terms. When staff left, they carried intervention knowledge and skills with them, again suggesting a lack of a professional evidence base from which staff could draw knowledge. New staff arrived and were not trained in the approach, which slowed down any progress with embedding RP into the school. Several staff described the lack of information handed over between teachers involved in the intervention. Two staff members from Bletchford, and David, the senior leader at Fern Grove, described the negative impact of becoming involved in Learning Together after another staff member left without having had any initiation into what they had been doing:

I was literally just sat in the office and someone got hold of me "It's on now, do you want to come?" And it was like that. I had no idea really what was going on [in the action group]...to be honest. Brett, staff, Bletchford, year 4

My predecessor in my job signed me up and then... So really, when I came round, she was like..."By the way there's a project that we've sort of signed up for"...Because I hadn't done the research or gone into it, I wasn't sort of like biting the Learning Together people's arm off to sort of get involved. David, SLT, Fern Grove, year 4

In three schools, Franklyn, Greenthorne, and Fern Grove, the lead staff member for the action group changed during the course of the intervention and the second leader was not trained in-depth in RP. In Franklyn, the senior leader left and was replaced by Matt, another senior leader. At Greenthorne, a seconded senior leader completed the first year and a senior leader took over the second year. At Fern Grove, Harriet the staff member leading in year 1 went on leave and was replaced by another staff member in the second year (with support from David, a senior leader). External facilitators Miriam and Rachel commented on the motivation of the second leader to fulfil the tasks but not engage with the concept of the intervention at the three schools:

I mean when Harriet was in charge in year one, lots of staff came, all the students came, there was a big effort to make it student friendly... ..The moment she left it lost its whole drive, so it was much weaker. And it was driven a lot by David really in the second year – even though he wasn't there all the time..... [The second action group leader] wasn't interested in it. I think she got it dumped on her, so she was never really...with it like Harriet was. Miriam, external facilitator, year 4

Colin coming in to save it probably wasn't a really good thing, because he didn't have the first year's grounding... .. I'm not saying Colin didn't understand it, he understood it and he was getting it done. You know, I mean get it done really quickly, I mean let's get this sorted, alongside other tasks. Whereas I believe Paul had...wanted to do some deeper work. Rachel, external facilitator, year 4

Staff turnover also increased the overall pressure on staff as three staff (from Downton Park, Bletchford, and Fern Grove) described the stress of recruitment and retention and two staff from Bletchford noted that due to budget constraints, staff who had left were not replaced (see section 9.4).

Matt, the senior leader at Franklyn, a school also in an urban location, highlighted that student turnover also contributed to the challenge of changing the behaviour culture of the school, as staff had to constantly reinforce the school's behaviour policy:

It can be 40% of the students that start in year [group] 7 will have left by year [group] 11, so the migration is massively high. And with that being high you have to reinforce those rules all the time. Matt, SLT, Franklyn, year 5

Student turnover could also be an issue for initiatives that were led by students. In Franklyn, the students who were involved in initiating the new student-staff groups on LGBT and on gender equality had left the school by year 5. Although the groups continued, they met less

often and staff member Jessica noted in year 4 that further promotion of the groups was needed to mitigate the loss of student leaders.

However, there could also be positive impacts from staff moving on. Joe, a senior leader at Bletchford, and Amelia, a staff member at Franklyn, noted that the intervention could progress more easily once staff who were resistant to culture change left the school. Colin, a senior leader at Greenthorne, reflected it could give other staff an opportunity to progress. For example, Amy, was a deputy head of year when she was trained in RP at the beginning of the intervention. By year 4, she had progressed to a head of year role and reported that she believed in the value of RP and continued to use it in her work. Colin reported in year 5 that the following year Amy would be promoted to a head of key stage.

RP was considered an approach that needed to be modelled in action

The final sub-theme relating to the transfer of cognitive resources was how knowledge of RP needed to be passed on. Eight staff across four schools explained the importance of seeing RP modelled in action in order for staff to buy-into it and understand it. Three staff members from three schools (Downton Park, Bletchford and Franklyn) reported the value of taking part in role plays during the in-depth training. Three teachers explained that, when cascading the RP training to other staff at their schools, staff needed to see RP in action rather than hearing about the approach, suggesting that teaching as a profession lacks a common body of professionally owned knowledge:

I think they needed to see it in action really, to really appreciate that. We did use some resources from the...other schools that had used it...which were quite powerful – videos etc. But I think it's... when someone's standing up and telling you, "Oh, well we're doing it like this, but this is actually a better way of doing a certain thing"... ... I think they needed a bit of convincing. Callum, staff, Downton Park, year 4

Staff do have...an introduction to safeguarding, to behaviour... but it's done very quickly. Now we've changed that because we've noticed the problems that causes. When you just speak to a member of staff in an hour, and then they go in to a lesson-surprise, it all crumbles! So what we're doing is, making sure that staff are spending more time, observing lessons, going in to lessons, you know finding out, understanding our approach... ... What does it actually mean to embody a restorative approach and we're getting those staff to observe some teachers to see how they deal with... incidents in the classroom, but also the repair that happens afterwards. Matt, SLT, Franklyn, year 5

At Bletchford, Jenny, who was responsible for rolling-out RP training to staff, reported that she “modelled it everywhere I could around the school.” Jenny described her frustration with

some senior leaders who *said* they supported the approach but did not demonstrate it; “*you need to walk the talk.*” Jenny thought that in order for schools to truly embrace RP it was important for senior leaders to show the principles not just in their interactions with students but also with their staff (see also chapter 8):

What are we doing to make sure that we look after the people that we've got? And restorative practice is the answer because it says, in staff briefing, for example, leadership are looking around and they're noticing, “John looks a little bit tired; I wonder if everything's OK. Let me go talk to him.” Jenny, staff, Bletchford, year 4

Senior leaders Joe and David, respectively from Bletchford and Fern Grove, also highlighted the importance of adults modelling the restorative principles that they wanted to see from students on a daily basis, for example, listening to others and staying calm.

In summary, staff indicated that transferring knowledge and expertise in RP needed to go beyond explaining the principles to demonstrating how it worked in action. This had implications for how the approach could be passed on to other staff members; attempts to disseminate RP without active modelling through role play, coaching or observations were unlikely to give staff the tools to sustain the use of RP in schools.

To conclude this section, staff identified four key issues concerning whether and/or how schools transferred cognitive resources on the intervention's approaches and activities to across the school. First, staff identified the need to promote Learning Together to staff members and students to raise awareness of the intervention, persuade them of its importance and encourage them to become involved in its activities, to develop a foundation for sustainability. Second, all staff were in some way involved in students' behaviour management so the dissemination of RP approaches across the school was potentially important for the intervention's effectiveness at school-level. The five schools varied in how they attempted to disseminate knowledge, which may have been a result of the lack of guidance from Learning Together in how to mainstream the intervention. Only Bletchford made long-term efforts to develop a school-wide RP approach with the help of an external consultancy. The third factor identified in all schools was the detrimental impact of staff turnover on the sustainability of cognitive resources when they were held only by individual practitioners and not at system level. More positively, staff noted that turnover could help support shared commitment to an intervention if staff that were resistant to it moved on to other schools. Finally, staff reported that transferring knowledge and expertise in RP needed to go beyond explaining the principles to demonstrating how it worked in action through modelling, role play and coaching, suggesting that passive approaches to transferring knowledge might be unsuccessful and that the teaching profession as a whole lacked access to a professional body of knowledge that they could all draw upon.

9.4 The influence of school's material resources on the sustainability of the intervention

Staff reported that funding had supported the sustainability of Learning Together at Bletchford, Fern Grove and Franklyn. Senior leaders at Bletchford paid for an external consultancy to help them develop behaviour policies based on RP principles and provide staff training and coaching; senior leaders at Fern Grove and Franklyn had found money to support new student voice posts, paid responsibilities for staff members. Behaviour reviews were also part of the three schools' development plans, which may have contributed to senior leaders' decisions to authorise spending. In year 1, when seconded senior leader Paul at Greenthorne had asked if senior staff would fund additional RP training for students, they had refused. In year 5, June at Fern Grove asked me whether the RP training was likely to be funded again. No other staff raised a shortage of money as a reason for not offering ongoing training in RP.

Although budget cuts to schools did not affect the sustainability of Learning Together directly, it contributed to the school's norm of prioritising academic learning time and a senior leader from Fern Grove and one staff member from Bletchford said cuts increased the appeal of taking up new free initiatives. Six staff and one external facilitator (from Bletchford, Fern Grove, Franklyn and Downton Park) talked about the impact of budget cuts on the school. Staff reported that funding cuts in schools had resulted in redundancies or no replacement of staff who had left, reducing staff-student ratios. At Bletchford during the trial, the external facilitator reported that a large number of support staff were made redundant and several of those staff members were part of the action group; the facilitator said the staff morale in the group during that period of time was low. The consequence of the cuts was that there was more work for existing staff, there were fewer resources and some student opportunities (for example, school trips or residential weekends) and school services had ceased (for example, Bletchford no longer ran a summer school), and staff's non-academic time was compressed even further as they had to fulfil the pastoral responsibilities that support staff had previously carried out.

I don't have the resources that I had 15 years ago, I don't have the resources I had five years ago, so we're doing more with less, and in fact being asked to do more with less. Matt, SLT, Franklyn

June and Harriet from Fern Grove also commented that the impact of funding cuts to early intervention services and other public services had also increased the pastoral responsibilities of school staff. In short, the lack of money in education overall contributed the overall workload of staff and school's expectations about the activities in which it was appropriate for staff to be involved. If Learning Together's activities were aligned with

school's improvement plan, senior leaders could allocate some additional funding to support them.

9.5 Conclusion

This chapter explained how schools norm, social roles, cognitive and material resources affected the sustainability of Learning Together. Three norms were identified that affect staff's involvement in the intervention. First, the prioritisation of academic learning made it difficult for staff to integrate RP approaches into schools' systems. It also affected the experienced effectiveness of the action groups as it was difficult to organise for staff to attend during lesson time or conversely persuade staff and students to give-up their non-academic time to attend the meetings. The second norm was that staff were used to a continual stream of initiatives coming and going in their schools, which negatively impacted on their long-term commitment to be involved in Learning Together's approaches and activities and reduced their ability to integrate new approaches at school-level. The third norm was that schools primarily dedicated staff time and resources to activities that matched their existing school improvement plans; three of the five schools planned to address behaviour and changed their policies over the course of the intervention.

Staff reported that two roles were crucial to the sustainability of the intervention: a senior leader that could legitimise and authorise changes to the discipline system or the school's culture towards behaviour management, as well as support ongoing staff training and monitoring, processes that were crucial for sustainability at school-level, and a middle leader that could operationalise and sustain oversight of the work and maintain staff and students' energy and enthusiasm for initiatives.

Staff identified several issues concerning whether and/or how schools transferred cognitive resources on the intervention's approaches and activities across the school. Staff identified the need to launch the intervention with a positive start by promoting its benefits and importance to staff and students to encourage their involvement in its activities. The five schools varied in how they attempted to disseminate knowledge, perhaps as a result of the lack of guidance from Learning Together in how to mainstream RP into school systems, policies and practices. One school employed the services of an external consultancy to support them in engaging all staff in school-wide adoption and sustainment of RP, which appeared successful. Staff from all schools described the detrimental effect of staff turnover on the sustainability of cognitive resources, particularly when knowledge and expertise was held only by enthused individuals. Finally, staff reported that training staff in RP needed to encompass a combination of modelling, role play and/or coaching suggesting that passive approaches to transferring knowledge might be unsuccessful. The considerable negative impact of staff turnover and the need for learning-in-practice suggested that the teaching profession as a whole were not guided by a professionally-owned body of knowledge.

The final section examined the impact of schools' material resources on the sustainability of Learning Together. Staff reported that budget cuts in education had contributed the overall workload of staff and school's expectations about the activities in which it was appropriate for staff to be involved. Evidence from three schools suggested that senior leaders could allocate some additional funding to support the sustainability of Learning Together's approaches or activities if they were aligned with the school's strategic plan.

Chapter 10: Discussion

School-based health interventions have been found to positively impact on students' health wellbeing and behaviour, with associated benefits for attitude to learning and educational achievement (Durlak et al., 2011; Farahmand et al., 2011; Langford et al., 2014). However, existing evidence from health care settings suggests that interventions are difficult to sustain in everyday practice, and if continued, are sustained with lower levels of fidelity (Stirman et al., 2012). The sustainability of school-based interventions once external funding ceased has been relatively unexplored compared to health care. Research councils, charitable foundations, and the UK government have invested significantly in effectiveness trials of school-based public health interventions in the last decade (for example, Adab et al., 2018; Humphrey et al., 2015; NIHR, 2017). Although schools may benefit from free resources and training that evaluations have to offer, school staff also have to invest considerable time and energy in engaging with new intervention activities (Scheirer and Dearing, 2011). The thesis set out to examine whether and how schools sustained interventions to improve students' health, wellbeing and behaviour to illuminate whether effective interventions can address public health concerns in the long-term, and what processes and resources are needed to facilitate their sustainability.

The thesis encompassed two studies: a systematic review and a case study of the sustainability of one intervention, Learning Together, in five schools. Empirical evidence on the sustainability of public health interventions in schools was systematically reviewed to synthesise existing evidence on the sustainability of school-based interventions and its facilitators and barriers. Learning Together was a multi-component intervention which aimed to reduce bullying and aggression and improve students' wellbeing (among other outcomes), introduced into English secondary schools through an effectiveness trial. The case was selected as it was designed to support adaptation to enable embedding and integration in schools. The case study aimed to provide an in-depth analysis of the sustainability of each intervention component, staff's motivation and ability to sustain the intervention and how the school context affected staff's agency to develop the intervention's sustainability.

Chapter five presented the published paper for the systematic review which set out its main findings and implications; these are recapped in this chapter. The discussion then focuses primarily on the key findings and implications of the case study, in light of the findings from systematic review and other literature. The chapter reflects on the strengths and limitations of both studies, and considers the utility of the GTI for exploring sustainability. It then reflects on the finding's implications for research and policy. The discussion ends with overall conclusions from the thesis.

Summary of the key findings

Systematic review

The review aimed to identify the body of existing evidence on the sustainability of school-based public health interventions and its facilitators and barriers. Twenty-four studies of 18 interventions were found that assessed the sustainability of school-based health interventions delivered partly/wholly by educators or school-employed health professionals, but quality was not consistently high. None of the interventions assessed were fully sustained; all had components sustained by some schools or staff, bar one that was completely discontinued. Two key facilitators of sustainability emerged. First was the central importance of a committed principal and administration that could authorise continuation, allocate resources, integrate the intervention into school policies and enrol new staff into a community of practice. Second was the importance of supporting staff who were confident in delivering health promotion and believed in its value. These facilitators were consistent with studies of the implementation of school health interventions (Littlecott et al., 2019; Pearson et al., 2015; Tancred et al., 2018) suggesting factors were crucial to both phases.

Many of the facilitators and barriers to sustainability identified for school settings were similar to those in health care: for example, dedicated leaders, the need for continued resources and training, staff turnover and intervention workability (Johnson et al., 2004; May and Finch, 2009; Racine, 2006; Scheirer, 2013; Simpson and Flynn, 2007). Several factors were more salient for schools. Health encompasses multiple outcomes, some of which may be more obviously relevant to school settings. The review identified the sub-theme of educational outcomes taking precedence over physical activity, nutrition and mental health outcomes but not outcomes focused on anti-social or violent behaviour. This suggested that throughout adoption and implementation, change agents needed to convince schools that health interventions can bring education benefits (Durlak et al., 2011; Farahmand et al., 2011; Keshavarz et al., 2010; Murray et al., 2007).

Student engagement was key to implementation and sustainability at teacher-level. A central role of educators is to engage students (Day, 2007; Elias et al., 2003) and staff were unlikely to sustain interventions that did not draw students in (Lytle et al., 2003). Sometimes sustainability was prompted by students' requests for the intervention (Egan et al., 2019; Goh et al., 2017). Knowing parents encouraged the healthy activities of the intervention outside of school also motivated staff to continue, further supporting the view that schools are complex adaptive systems, where multiple networks of agents act and react to one another (Keshavarz et al., 2010). In contrast, only 16% of the 62 sustainability approaches in Lennox et al.'s review (2018) included patient involvement, suggesting that most existing tools and frameworks for health care settings do not consider patient support for the intervention critical for sustainability.

Also of particular significance for schools was the need to adapt intervention materials and activities to accommodate other curriculum requirements and the diversity of children's backgrounds and development over long periods of time (Elias et al., 2003; Huberman, 1983). This dynamic context suggests that intervention developers should anticipate the need for adaptation, even for effective, well-implemented and funded school health interventions (Chambers et al., 2013; Keshavarz et al., 2010; May and Finch, 2009).

Contrary to other studies of sustainability in health care settings (Stirman et al., 2012), the review found little evidence that individual champions helped sustain interventions: like other staff, champions moved to new institutions leaving interventions at risk. This finding also suggest that power may be more concentrated in schools compared to larger health care organisations where more individuals may be involved in decisions to change practice. No discernible relationship was found between evidence of effectiveness and sustainability, and no school staff mentioned outcome evaluation as an influential factor in sustainability, suggesting that teaching as a profession is less focused on scientific evidence than practical knowledge.

The case study of Learning Together

The case study aimed to determine whether Learning Together was sustained one- and two-years after the end of a three-year effectiveness trial, and examine the process and resources that affected its sustainability (or discontinuation).

Learning Together in its entirety was not sustainable; no schools sustained all three of its components. On average across the schools, fidelity dropped between the end of the trial (year 3) and the first year after the trial (year 4), and remained stable between years 4 and 5. The sustainability of Learning Together's curriculum was very low. Staff confirmed that the curriculum was discontinued in three schools by the end of year 3, in one school in year 4, and in the final school in year 5. The staff-student action groups were also not sustainable; the groups were discontinued in all schools by the end of year 3. However, action groups in two schools created school-wide actions to revise school rules and behaviour policies which were sustained into years 4 and 5. The most sustainable component of Learning Together was RP; the approach was sustained by individual practitioners in all schools; written into behavioural policies in four schools; and one school sustained RP at school-level (that is, known and used by all staff across the school), with the assistance of an external consultancy. The fate of Learning Together mirrored the findings from the thesis's systematic review and a systematic review of the sustainability of interventions in health care (Stirman et al., 2012); some components were sustained by some staff in some schools.

The action groups also initiated a process of change; in three schools, staff created new student-staff groups in years 4 and 5. At least one staff member from each school said that the creation of the new groups was in part a result of their experience of the original action group and seeing the benefits of listening to the views of a diverse group of students and allowing them to contribute to decision-making. The development of the action groups suggested that although the groups in their original form were discontinued, they nonetheless contributed to other changes that were designed to improve students' wellbeing, connectedness to school and involvement in decision-making. Although the original action groups were not sustainable according to the definition used in this thesis, they may have met the criteria in three schools for a sustainability definition that encompassed capacity-building as they changed the social bonds between staff members and students and sustained intervention principles and values (Green, 1989; Shediac-Rizkallah and Bone, 1998; Weiss et al., 2002).

Setting off on the right foot: implementation processes that affected later sustainability

Senior leaders were more willing to commit fully to Learning Together's components if they fit with their strategic priorities. In the two schools (Fern Grove and Franklyn) where improving students' behaviour was a priority, senior leaders supported the action groups aim to review behaviour policies and allocated funding to support new staff paid responsibilities for student voice. At Bletchford during the trial, the school was in the midst of putting together a strategic plan after a large number of staff redundancies due to budget cuts. Once the plan was developed, senior leaders in year 3 decided to change their behaviour policy, allocate funding to an external consultancy to support its mainstreaming across the school, and incorporated RP in their school development plan. The findings suggest that if Learning Together were to be scaled-up and sustained in school, early conversations with senior leaders about their current priorities and openness to change would help to identify schools that might be more disposed to embedding an intervention, supporting the view that sustainability *could* be influenced by decisions made at adoption or early implementation (Pluye et al., 2004; Scheirer, 2005) and planning for sustainability with schools could improve an intervention's chances of survival (Elias et al., 2003). Although Fern Grove and Franklyn did not sustain the original action groups beyond the trial, the schools did create new student-staff action groups that focused on student wellbeing and attitude to learning, and created new student voice paid responsibilities for staff, suggesting that strategic priorities may have helped to sustain the schools' attention on the outcomes targeted by Learning Together, even when other factors may have contributed to the discontinuation of the original intervention. Further evidence is needed to determine how schools' priorities affect commitment beyond implementation.

Staff reported that early work to publicise the intervention's key activities and messages could help to signal its importance and legitimacy to staff and students, encouraging their shared commitment to the Learning Together. Although this finding relates to initial implementation and not to sustainability, initial efforts to secure staff commitment influenced staff's perception of the intervention's effectiveness and its potential to be mainstreamed. Learning Together did not support staff in raising the profile of the intervention by providing ready-made materials and suggesting marketing strategies. Staff reported that they had to carry out work to "pitch" the intervention into clear messages for staff and students to make it appealing and promote the intervention through assemblies, poster displays, and staff meetings. Two staff at Bletchford school thought the "fancy" or "corporate" marketing of resources from the external consultancy contributed to senior leaders' decision to employ them to mainstream RP into the wider school at the end of year 3. Furthermore, the pressured environment in which school staff worked meant they had little time to give to making sense of the intervention and working out key messages. This suggests that schools needed support to translate the intervention activities and approaches into resources and publicity materials that would be appealing to the wider school. Communication efforts were identified in conceptual frameworks of sustainability from school settings (and not health care settings) as a way of developing a common language about the intervention; raising awareness; sharing news of success; building interest; and involving parents and community members (Axelrod et al., 2007; Elias, 2010; Plog et al., 2010)

One of the key factors that motivated staff to discontinue a component was whether staff observed or experienced it to be effective in engaging students and improving students' behaviour, and how it compared to existing related practices (Buchanan et al., 2005; Han and Weiss, 2005; May and Finch, 2009). Learning Together tried to build in local adaptation of the curriculum through allowing the action groups choice over the selection of curriculum modules but this mechanism for adaption was poorly developed. The curriculum was negatively appraised by staff in four schools compared to existing PSHE provision and it fitted poorly with all schools' timetabling; this component was discontinued in four schools by the end of the trial and in one school the year afterwards. In the first year of the process evaluation for the trial, staff that were interviewed were asked about existing PSHE provision but this information was not used by the developers to provide different options to schools for how the curriculum could be implemented. Instead, school staff worked out the best way to adapt the intervention to meet their needs; however, this was extra work for school staff whose time was already very pressured. Schools' ability to carry out adaptive work on the curriculum was low; even at Downton Park where staff reported it was mostly well-received struggled to reduce the content so that it could be delivered in a tutorial session. The findings support the assertion that adaptations are typically made as a response to contextual problems without regard to its theoretical rationale (Elliott and Mihalic, 2004; Mihalic, 2004). They also suggest that the intervention was poorly developed for integration.

The experienced ineffectiveness of the action groups in three schools (Bletchford, Downton Park and Greenthorne) during the trial was related to the fact that senior leaders did not want to use the groups to change the schools' behavioural policies or rules, as suggested by the intervention manual. At Greenthorne, ineffectiveness was also related to the action group's separation from the school's three existing student voice groups. Another contributing factor may have been a lack of clarity in the purpose of the group – the manual suggested the group should be used to revise school policies and rules. However, it also suggested that schools could use the group to implement RP approaches or decide on other actions that aimed to improve relationships and student participation. Learning Together's design assumed that schools, with the support of the facilitator, would be able to work out contextually-relevant actions, building on Hawe et al's (2004) notion of maintaining 'fidelity of function' but allowing adaption to intervention form and dose. However, the reality was that when schools did not want to use the groups to revise school rules and policies, they created superficially relevant projects for the sake of fulfilling the requirements of the intervention. For example, at Downton Park, the existing student council could have disseminated RP approaches; there was no need for a new student-staff group. In contrast, the two schools (Fern Grove and Franklyn) that used the action groups to change behaviour policies and rules found the action groups to be very effective. They used the opportunity to tailor the intervention activities to decide on useful and relevant local actions that were sustained into year 5. These findings suggest that if the trial were to be replicated or the intervention scaled-up, the primary theoretical purpose of the group – to revise school rules and policies on behaviour – needs to be communicated clearly to schools. The findings indicate that adaptations can contribute to both sustainability and discontinuation; going against current thinking that they are a necessary part of or precursor to sustainability (Lennox et al., 2018; Moore et al., 2017). Learning Together tried to build in local adaptation and integration with existing work through allowing the action groups decide on local actions; however, for the action groups to contribute to sustainability processes, the groups' potential to change rules and policies was their most important function.

The findings also suggest that multiple components of the intervention did not work synergistically, reinforcing one another. Instead, schools chose to sustain the intervention components that worked most successfully for them. If a component was considered effective, as the action groups were in two schools (Fern Grove and Franklyn) and RP was across all schools, there was no guarantee that it would be sustained, but it improved its chances of sustainability. Experienced effectiveness was the first hurdle to overcome in the journey towards sustainability. The second hurdle was whether staff thought that the component needed to be sustained. Staff at Fern Grove and Franklyn reported that although the original groups had been effective, they had served their purpose – they had led to changes to schools' behaviour policies and rules. This supports the idea that there is a

contextually appropriate end point to an intervention (Shediac-Rizkallah and Bone, 1998), or in this case an intervention component; however, the data goes further by suggesting that the action groups were not needed for sustainability because they could not tackle a key sustainability process: moving the intervention from core group of interested individuals to a school-wide, mainstreamed approach.

Moving Learning Together from a core group of motivated staff to mainstreaming the intervention in the wider school

"If everyone is moving forward together, then success takes care of itself." Henry Ford

Learning Together required a systems approach from the outset to elucidate how RP could be integrated into existing discipline policies, systems and practices. Instead the intervention components were tagged on to existing practices and depended on individual commitment rather than institutional integration, which was insufficient for sustainability. RP was the most durable component because it excited individual commitment the longest and was in some schools integrated into systems, thanks to local actors and in one school an external consultancy, but not due to support that the intervention itself provided.

A key sustainability process was to transfer the commitment, knowledge and skills in RP from being held by a small group of staff and students to being mainstreamed in the wider school and used by staff correctly and consistently. Staff reported that within any school, a notable number of staff would be resistant to RP, holding 'traditional' discipline values of punishment and strictness and believing teachers held authority which should not be questioned, which would hamper shared commitment to the approach. They highlighted that all staff needed clear guidance on whether RP replaced existing discipline systems or was to be integrated within them, and in both cases, when it was appropriate to use RP and how it should be implemented. Several staff who attended the in-depth training were unsure of how they could best convince other staff of the benefits of RP; the training's focus was on individual practice and not on how RP could be used as a whole-school system of discipline. In Bletchford, where RP was sustained at school-level, senior leaders sought out an external consultancy to help them translate RP into a system-wide approach to behaviour. Learning Together provided a half-day all-staff training session in RP in year 1 but this was insufficient for disseminating knowledge of how to use RP in everyday work and high staff turnover in schools meant that many new staff joined over the course of the trial and afterwards, they had no training in RP. Learning Together could have offered more guidance and support to staff on how to mainstream the intervention, for example, through directing schools to organisations that could provide RP training for new staff (at a competitive rate), or providing publicity materials, models of how RP could be integrated into the discipline system or change management coaching for senior leaders.

A number of senior leaders and middle leaders across the schools reported that mainstreaming RP depended on: a plan for disseminating RP and integrating it with existing discipline systems; senior leaders' promoting and modelling the principles of RP; providing training for all teaching and non-teaching staff; training and coaching new staff and supply teachers; creating data systems that supported monitoring of how RP was used; monitoring and reviewing staff use of RP through staff observations, data systems and student feedback; and challenging staff that did not comply. The importance of planning and creating an infrastructure for sustainability, ongoing training provision and monitoring and evaluation have been highlighted in previous studies (Axelrod et al., 2007; Buchanan et al., 2005; Elias, 2010; Elias et al., 2003; Johnson et al., 2004). Senior leaders were crucial to the sustainability of RP because they had the power to authorise and legitimate changes to school systems and policies, allocate funding and/or staff time for training, persuade staff across the school to adopt new approaches, and monitor whether staff complied. Although senior leaders were aware of what was needed for sustainability, none had the capacity to lead and implement the process by themselves. Learning Together needed to provide much more guidance and support to schools on how to mainstream the intervention.

Revising school rules and policies was also important for sustaining local actions derived from the action groups and to sustain a school-wide RP approach at Bletchford; it gave the changes legitimacy, raised the profile of the action groups across the school in Fern Grove and Franklyn, and was one way of transferring knowledge to new staff members. Even if RP approaches were not sustained at school-level, writing them into school policies was important for keeping RP approaches on the table as a tool for staff to use, or an option that might be picked up on in the future. For example, RP was written into Greenthorne's behavioural policy during the trial, individual staff who were trained in RP continued to use the approach, and in year 5, senior leader Colin thought it could be developed under the school's new resilience agenda following changes to the Ofsted inspection framework and the arrival of a new head teacher that was open to change.

Sustainability processes that may be specific to education

Staff reported the continual stream of new initiative fads and radical changes in direction with the arrival of new head teacher or education minister. Both of these forms of interventions undermined the sustainability of evidence-based approaches in education because they made staff cautious (or worse deeply cynical) about the meaningfulness of new approaches, affecting their willingness to enrol in them and commit to sustaining them, and it was very difficult to consolidate learning when new waves of priorities and initiatives flooded in. Although head teachers, leaders of academy chains and education ministers in England have professional autonomy, school staff reported that they had little control over the content of their teaching, the culture of their school, or their workload. Abrupt changes in direction from new head teachers, the disruptive impact of staff turnover, and the fact that

RP needed to be seen in action to be understood indicated that teaching as a profession also appeared to be led by practical knowledge, reflective practice, funders' interests, and fashionable trends, for example, have a "growth mindset" or being a "rights respecting school", which may or may not coincide with scientific evidence. School staff did not appear to be led by a scientific evidence-base created by educators; education trial and reviews are often led by psychologists and sociologists; and this differentiates the profession from health care. The consequence is that it may be particularly difficult to sustain interventions in school settings if there is not a concerted effort from intervention developers to help school mainstream intervention approaches and embed them in school policies and systems.

In contrast to findings from the physical activity, nutrition and mental health interventions in studies in the systematic review (Goh et al., 2017; Lytle et al., 2003; Nadeem and Ringle, 2016; Tjomsland et al., 2009), staff reported that Learning Together's focus on students' behaviour was relevant and legitimate in schools. But even so, the lack of non-academic time in schools made it difficult for staff to commit time to the intervention and build it into schools' timetables and systems. Although Learning Together was promoted as means of reducing exclusion from school and improving attainment, two schools (Bletchford and Downton Park) did not agree to hold the action groups during lesson time and Downton Park staff turned down the possibility of students being interviewed for this study because of exam and revision pressures, confirming other studies' findings that staff could perceive interventions as disruptive to learning time (Keshavarz et al., 2010; Tancred et al., 2018). This might be related to the fact that the scientific effectiveness of Learning Together was unknown at the time of the trial; perhaps senior leaders may have devoted more academic time to the intervention if this were the case. However, based on the findings, promoting the potential impact of the intervention on educational outcomes did not appear to affect its sustainability.

The cost of Learning Together and schools' material resources did not appear to be a key barrier to sustaining the intervention; the cost of the intervention has been highlighted as an influential factor in sustainability frameworks developed in non-school settings (Aarons et al., 2011; Buchanan et al., 2005; Johnson et al., 2004). Learning Together did not require any special equipment, its main costs were related to staff roles and time, although more funding may have been needed to support ongoing staff training and coaching. Senior leaders from two schools identified funds from the school budget to cover new paid staff responsibilities for student voice, and senior leaders from Bletchford paid for an external consultancy to support RP's mainstreaming into the school's system, policies and practices. It seemed that when the intervention aligned with the school's strategic priorities, money could be found to support it.

Reflections on defining interventions

I defined an intervention in the thesis as a set of resources and activities directed toward one or more common goals. The definition was appropriate for the purposes of studying sustainability from an implementation science perspective, where the intention, resources and activities of intervention can be described for a research audience interested in comparing the effectiveness of different interventions. However, at ground-level, teachers delivering the intervention and students did not interpret the intervention's resources and activities in the same way as its developers, or even as each other. Teachers in the case study made sense of the intervention in relation to their existing school practices and what would work in their own local context. The intervention was just one of a number of ways of addressing the problem of bullying/aggressive behaviour and/or school discipline practices. The different interpretations of the intervention by deliverers and researchers does not necessitate a change in the definition of an intervention per se. However, it does perhaps require a shift in contextualising the definition. The notion of common goals could be replaced with organisational goals or community goals as the intervention is taking place in the context of the organisation or community (as appropriate to the intervention).

MRC guidance on the development and evaluation of complex interventions (Craig et al, 2008) poses a number of questions for intervention developers all of which focus on how the developers define the intervention. None of the questions ask developers to consider: do practitioners agree there is a problem in need of a new intervention?; what existing practices or policies take place within the intervention setting which have similar goals to the intervention?; or whether, how and why practitioners value existing practices and how do they perceive their effectiveness? These questions would elicit a much greater consideration of how the intervention is defined in context and what might affect its ongoing use. O'Cathain et al (2019) have synthesised many examples of actions developers can take to conceptualise and plan interventions with recipients, practitioners and other stakeholders. More guidance is needed on how developers should proceed if there *are* existing practices which mimic intervention functions or if practitioners more highly value other practices (Hallingberg et al, 2018).

Could the intervention have been defined as an 'event' in the system, which changed relationships, displaced entrenched practices, and redistributed and transformed resources (Hawe et al., 2009)? The term 'event in the system' captures the timeliness of interventions and a focus on the organisational (or community) context, which is welcome. However, the word event implies a singular performance of magnitude, a noteworthy social gathering, which Learning Together was not. A more fitting metaphor might be that the intervention was a visitor in the system, a house guest who was invited in with caution, whose virtue was weighed up and measured by its hosts and whose postulations were not unanimously

agreed upon. Some hosts welcomed the opportunity to forge new relationships facilitated by the visitor, others did not; some used the visitor's views and opinions to justify and strengthen their own views and behaviours. The visitor brought some gifts but had little influence over the hosts' resources. While the metaphor of event is perhaps a poor fit, a complex systems theoretical approach would have been a valuable alternative framework to the GTI because of its focus on relationships, organisational practices, and resources, the relevance of which was borne out by the data.

Reflections on defining sustainability

I defined sustainability in the thesis as the continuation or discontinuation of school-based health interventions after external funding and/or other resources to initially implement the intervention end. On reflection, this definition implies sustainability is a state rather than a process and in the thesis I have examined both: sustainment in chapter 6 and sustainability in chapters 7 – 9. Terminology has contributed to the confusion in how sustainability is conceptualised (Moore et al, 2017). Sustainability as a state and sustainability as a process are both worthy of study but there should be separate (and consistent) terminology for each one. Going forward, the word 'sustainment' could be used to describe the state and 'sustainability' to describe the process (in line with Moullin et al, 2020). With this separation, adaptation may be part of a sustainability process but is not needed for a measure of sustainment.

Sustainment can be defined by intervention continuation (also known as routinisation or institutionalisation), maintenance of health benefits, or improved capacity to address an intervention goal though not necessarily the original intervention (for example, new sources of funding, continued coalitions/partnerships, new institutional structures), based on the public health literature (Fleischer et al., 2015; Lennox et al., 2018). Intervention continuation might be most appropriate if the goal is to modify how teachers teach a particular curriculum (for example, teaching phonics rather than letter names). Maintenance of health benefits might be most appropriate for those interested in the long-term effectiveness of an intervention to reduce teenage pregnancy. Sustained capacity might be suitable for an intervention to improve parent involvement in school life, where the goal is to change existing social relationships and structures to improve outcomes. Multiple facets of sustainment might also be warranted for multi-layered interventions. The selection of a definition and measure of sustainment would depend on the nature and purpose of the intervention and the evaluation question, and could be informed by intervention deliverers, recipients and other stakeholders. It might be difficult to achieve a consensus on definition: teachers might want a specific project to continue, while senior leaders might prefer new structures to build capacity (and to demonstrate continuing innovation); students may want a project to continue, while researchers may prefer proof of its long-term effects. However, conversations about these differences could elicit a deeper understanding of the meaning of

the intervention for different parties. While I do not think a singular definition encompassing all three facets is needed, a consensus that these are the key facets to select from would be helpful for future research.

Studying sustainability as a process is valuable to help providers plan for sustainability and researchers to evaluate the likelihood of sustainment. A new definition of sustainability as a process towards intervention continuation was constructed from the case study findings:

Sustainability is the process of moving the implementation of an intervention from a small group of enthused individuals (or one enthused individual) to harnessing mainstream organisational support and utilising organisational policies and systems.

Over the course of the thesis, I found it helpful to think of sustainability as a process rather than conceiving of the factors that influence sustainment as 'process'. The former encourages thinking about timeliness and relationships/systems while the word 'factors' can promote the deconstruction and segmentation of the context and the intervention. Based on the findings from the case study, a sustainability plan or process evaluation for intervention continuation in a school setting should answer (at least) the following questions:

- Do staff believe it is necessary to sustain the intervention in its current form to achieve the desired outcomes? Are there other existing structures within the school that could be used or adapted instead?
- How do individuals closely involved in the intervention perceive its effectiveness?
- How effectively are intervention resources and activities communicated and marketed across the school and to its stakeholders (e.g. parents, governors)?
- Are there staff members at middle and senior management levels who are fully engaged with the intervention?
- How will new staff observe and learn about the intervention in practice?
- What opportunities are there for ongoing or booster training in intervention activities?
- To what school policies does the intervention relate and how will policies be updated to refer to the intervention?
- Does the intervention fit in with the school's strategic development plan?

These questions capture many of the factors described in the narrative review of sustainability influences in chapter 2 but instead of listing factors, they connect the factors to an overall process of mainstreaming an intervention from the interests of individuals to organisations. Planning for sustainability could start during implementation at the point when deliverers and recipients have a good level of understanding of the intervention's resources and activities. In the case of Learning Together, this was likely to have been at the start of the second year when schools had been through one year of deciding upon and

implementing actions from the action groups. A process evaluation of sustainability process would ideally be carried out prospectively or retrospectively, though recall bias is more of a concern with the latter approach. There are a number of existing measures of sustainment and sustainability that could be drawn upon and adapted in future studies, in addition to the questions above, for example, the NHS sustainability model and guide (Maher et al, 2010), the Program Sustainability Assessment Tool (PSAT, Luke et al, 2014), the Program Sustainability Index (Mancini and Marek, 2004), and the Sustainability Planning Model (Johnson et al, 2004).

The definition of sustainability has theoretical implications for how an intervention's form and function moderates its likely sustainability. It suggests that any intervention in an organisation which aims to address its patients/clients/members universally but only involves individuals or groups of individuals in its delivery will be difficult to sustain unless the whole staff group is targeted and it is endorsed by senior leaders. It cannot be assumed that groups of individuals will have the ability or resources or power to cascade learning throughout the organisation. The organisational context also affects interventions that are targeted at specific groups of people and delivered by an individual, for example, training a school counsellor to deliver a new form of therapy. Individual practitioners are governed by organisational policies, professional standards and incentives. The sustainability of the intervention depends upon retaining the skills of that practitioner within the organisation (through career development or incentives) or having an organisational mechanism for passing on those skills to a new recruit. Any intervention which targets the practices of the entire staff or student body, challenging to undo, and is sanctioned by a decision maker, for example, a policy intervention or a restructure of the environment, theoretically has a higher chance of sustainment as it is a mainstream intervention in principle. However, the quality of implementation and ongoing effectiveness may require monitoring and support. In short, the form and function of the intervention may well affect its sustainability depending on whether there are resources and activities devoted to mainstreaming the intervention.

The complexity of an intervention may also affect the sustainability of the intervention based on the proposed definition of sustainability. Complexity may come from the mainstreaming processes needed to support more than one component, but it could also come from the level of difficulty in harnessing organisational support. Theoretically, it may be harder to sustain an intervention if it is trying to change existing social norms around a behaviour, create new relationships between people that would not ordinarily work together, or where there is not organisational consensus about whether existing practices need replacing. Most of the time, school-based health interventions are aiming to prevent health problems or improve quality of life rather than survival, desirable outcomes to which many forms of intervention/practices contribute and so it is natural that there would be a range of views on the relative merits of different practices. These are issues of complexity that could affect

sustainability. It is quite possible that a multicomponent intervention working at multiple organisational levels could be highly sustainable if practices build on existing norms related to the behaviour (at school and in the parent community), staff are allowed to reallocate resources to the intervention, and senior leaders endorse policies and rules to support the intervention principles.

Reflections on the analytic progression of the PhD using the GTI

The systematic review and case study were both designed in the first 18 months of the PhD before the GTI had been selected as the main theoretical framework. The GTI was then used to inform analysis of data from the review and the case study. I selected the GTI as a conceptual framework for its ability to explain the social processes of implementation over time, moving away from other sustainability/implementation and sustainability frameworks that set out influential factors or precursors to sustainment. This final reflective section of the key findings considers how the GTI was used in the systematic review and case study, how the case study contributed to gaps in knowledge identified by the review, and whether the GTI could be a valuable tool for examining sustainability in future studies.

One of the challenges of using the GTI for the review was how to apply a framework focused on social relationships and processes to a research question that focused on barriers and facilitators and to data from studies that were, as whole, lacking rich in concepts, metaphors and description. I was not consciously aware at the time of the cause of the challenge; I was only aware that it was difficult to apply the dimensions to the data. When I began to analyse the review data, I looked for matches between the data and the GTI's concepts but I mostly labelled the lower-order and higher-order themes using terms that were used in other conceptual frameworks. For example, I had themes on 'training and recruitment' and 'accountability'; the exception was GTI's 'workability' dimension, the essence of which made intuitive sense to me. After the first draft of the findings, I went back to the GTI again and tried to think more carefully about the social processes that were the focus of each domain and whether/how the barriers and facilitators that comprised the lower-order themes fitted within the domain. The second draft presented a richer analysis, though there was still a tension in fitting some facilitators/barriers to domains.

Table 19: Time line detailing analytic progression of the PhD

PhD stages	Dates	Notable points of analytic progression
Start of PhD	Oct 2015	Developing a knowledge base in sustainability and public health interventions
Maternity leave	July 2016 – Dec 2017	
Conceptual narrative review	Jan – Nov 2017	Building knowledge of conceptual frameworks on implementation & sustainability/sustainability, leading to a desire to focus on sustainability processes as a key aim of the PhD.
Upgrade from MPhil to PhD	May 2017	Prompted thinking about the selection of Learning Together as a case study and how the developers thought it could become sustained in schools.
Systematic review protocol registered	Sep 2017	
Ethical agreement	Nov 2017	
Systematic review search and data collection and extraction	Sep 2017 – Dec 2018	
Case study fieldwork year 4	Jan – Mar 2018	Analytic reflections in field notes
Systematic review analysis	Jan – May 2019	First application of the GTI: Themes arranged under three GTI domains: capacity, potential, and capability. Contribution subsumed under other domains. Additional theme added of 'wider policy context for health promotion.'
Case study fieldwork year 5	June 2019	
Updated conceptual narrative review with school-specific frameworks	Sep 2019	Refining knowledge of conceptual frameworks on implementation & sustainability/sustainability
Case study analysis	July 2019 – Mar 2020	Second application of the GTI: Themes arranged under two GTI domains: capacity and potential. Capability and contribution subsumed under other domains. Sustainability process definition developed.

During the review analysis, I found it difficult to interpret the GTI's sociological language, particularly since my educational background was in psychology and not sociology. I dealt with this challenge by translating some of the language of the domains so that I could work with them more easily. I re-labelled 'potential' as staff's motivation and commitment and 'capability' as intervention adaptation and integration. Another issue I had with using the framework was how to manage the relationship between data from the domain 'contribution' and other domains (see box 2). Although there was evidence of relationships between other

domains, contribution was the only domain without rich data to support it as a stand-alone theme. Perhaps this was because contribution had a greater focus on early implementation processes, which had less relevance for sustainability; or possibly the processes described in contribution were less relevant for school-based interventions than in health care, for example, because there was less team-based working among teachers. In the review findings, I decided to acknowledge where relationships existed rather than trying to create a separate higher-order theme for contribution.

Box 2: Relationships between the domain 'contribution' and other GTI dimensions in the data for the systematic review

- How teachers made sense of their involvement in an intervention (*coherence*) was closely related to whether teachers were motivated to participate in an intervention (*individual intentions*).
- The principal had a key role (*social role*) in whether and how teachers became enrolled in an intervention (*cognitive participation*).
- Teachers' work in the classroom was largely autonomous (*social norms*) so there were few examples of them working together to implement interventions over time (*collective action*).
- Teachers' were motivated (*individual intention*) when they observed an intervention's positive impact on students' engagement, wellbeing and behaviour (*reflexive monitoring*).

On its first application, the GTI had been an imperfect fit to answer a review question about the facilitators and barriers to sustainability but it did move me closer to my aim of looking at the process of sustainability by drawing out issues related to schools' capacity to sustain interventions and how staff engaged with interventions. The systematic review data suggested that social resources and the wider policy context were two themes that could potentially add value to the theory's ability to explain sustainability processes. On reflection, I still believe that the GTI was the best choice of existing framework as I did not find a suitable alternative that focused on sustainability and covered processes at the level of individuals and the organisation. I could have used my own conceptual framework from the narrative review but I had increasingly wanted to move away from a traditional 'factor-style' implementation science approach.

During the analysis of the systematic review, I reflected often on whether its findings were resonant with or divergent from the experiences staff had reported in case study schools. The idea in the review paper's discussion that some intervention components may be time-limited was probably more tangible as a result of the data I had gathered on Learning Together's action groups. Many of the themes were similar, including: the importance of senior leaders; the need to retain the knowledge, skills and experience in the intervention; and the pressures on teachers' time. However, there were important differences too, in

particular, how the target outcome of Learning Together, that is, students' bullying and aggressive behaviour, may have impacted on its sustainability compared to other interventions. Teachers clearly saw students' behaviour as relevant to their practice, while review studies reported that public health interventions were not seen by staff as core business for schools. Staff confidence in tackling behaviour seemed less salient to sustaining Learning Together than teachers' underlying values about the nature of the student-teacher relationship. Some ideas also emerged from the fieldwork that I did not see in the review studies. It was clear that the multiple channels of communication in the schools made it difficult to maintain the profile and procedures of Learning Together. The perceived need or urgency for a new intervention to tackle problem behaviour seemed relevant to the case study schools but did not emerge from the systematic review studies.

The systematic review findings gave me confidence that the case study had been designed well. The case study filled an empirical gap in longitudinal studies prospectively following the course of intervention sustainability. It used a comprehensive conceptual framework, and data were gathered from multiple respondents in each school. It also qualitatively compared the sustainability of Learning Together's multiple components, which few studies had done. The case study provided much richer data on sustainability than most of the review studies (the studies of the CATCH intervention were the most comprehensive from the review). In particular, the case study was able to explore meaning of the intervention to different staff and students in the school context, it was able to look in depth at the variation and similarities across schools, and examine the intervention in the context of existing school practices around managing students' behaviour.

Analysis of the case study data began after submission of the systematic review to a journal in June 2019. I continued to struggle with the difference between collective intentions and social norms, and the difference between collective action and capability. I discovered a book chapter (May et al, 2020) on the GTI that helped me to clarify that collective intentions were about staff beliefs and attitudes about engaging with the intervention target outcome specifically (for example, healthy eating or physical activity), while social norms were about wider organisational norms that impacted on the intervention's sustainability. This distinction was conceptually very useful, given the observations I had made about the relevance of Learning Together's purpose. Collective action was about how staff worked together and coordinated action, while capability was focused on the qualities of the intervention and how it fit into other practices, though clearly the two were closely related. The book chapter also encouraged me to rewrite the descriptions of each GTI dimension into language that was applicable for Learning Together, which made the theory much easier to work with.

There were some differences in how I constructed the final themes for the case study compared to the systematic review as result of the differing research questions, data sets

and my growing familiarity with the GTI. Social support did not emerge as a case study theme in relation to sustainability but the review findings suggest that this could be a future sustainment strategy to test at the stage of scale-up. School climate – how practitioners experience the conditions of an organisation – was mentioned in a few studies in the systematic review but it does not feature in the GTI. Theoretically, the climate could be inferred from studying the domains capacity and potential but, personally, I am not keen on the term ‘climate’ as it lacks specificity and does not convey the dynamic nature of the school environment. Finally, in the case study, I did not have a separate theme for the domain of capability as I did in the systematic review. I found that the dimensions of workability and integration were either embedded into descriptions of the implementation and sustainment of the intervention (see chapter 6) or were embedded into the other results chapters focused on motivation and school context. For example, the workability of RP and action groups was related to the prioritisation of academic learning time.

The case study deepened my understanding of teachers’ autonomy, a theme that emerged in the systematic review. In four review studies, it was reported that teachers could choose which interventions to sustain and adapt in their classrooms and I found this to be true of whether teachers’ adopted RP in case study schools, with the exception of Bletchford school that rolled out the practice across the school. However, the case study also showed that in other ways, teachers had very little professional autonomy, for example, in choosing the content of the curriculum, selecting new educational or health initiatives, or the culture of their school or their workload. Choosing how to teach in their classroom was the one area where they had some control indicating that while intervention developers need to support schools to mainstream interventions, giving teachers flexibility and choice in how they can adapt interventions in line with theory of change is important.

The criticism raised by Segrott et al (2017) that the GTI does not take into account the roles of other stakeholders, for example, students and parents, is valid. I accounted for students’ involvement in the intervention in terms of how it influenced cognitive resources, as there was evidence from one school that, as students’ who had been involved in action groups grew up and left the school, it was difficult to sustain them. However, students’ or parents’ agency might warrant separate contributions to sustainability, particularly if those members of the school are part of intervention delivery. The GTI is primarily a theory focused on the work of practitioners and is most relevant to studying intervention continuation in organisations. It may not be as useful for studying the sustainability of interventions which aim to build capacity by changing social relationships and structures among different social groups.

Figure 8 sets out the conceptual framework for sustainability processes for school-based health interventions developed from analytic progression from the systematic review to the

case study. Nearly all the GTI dimensions that were initially organised under the domains of ‘capability’ or ‘contribution’ could be subsumed under domains of ‘potential’ and ‘capacity’, with the exception of ‘coherence’ and ‘reflexive monitoring’ which contributed to staff motivation to sustain an intervention. This suggested that the GTI domains of *potential*, motivation to sustain an intervention, and *capacity*, the influence of the school context, were the most valuable to examining sustainability processes. In the revised conceptual framework, based on the GTI, the GTI domain capability is included as part of coherence: how practitioners’ made sense of the intervention. Perceived effectiveness, social resources, and the wider policy context are additions to the GTI.

The revised framework could be used to inform further studies of sustainability. It is based on existing empirical evidence of the sustainability of school-based interventions, and its relevance for other settings is unknown. It should be noted that many of the review studies which inform the framework were methodologically weak and there were gaps in reporting and gaps in evidence for different types of public health interventions. Consequently, further studies are needed to explore the framework’s value and utility for examining processes contributing to sustainment in schools.

Figure 8: Sustainability process for school-based health interventions, a conceptual framework with its foundation in the GTI



Strengths and limitations

The systematic review

The systematic review was comprehensive and rigorously conducted. It was the first to apply the GTI to the study of sustainability. The framework was helpful in creating a balance between listing the common enablers and barriers and representing the complexity and context-dependent nature of sustainability in schools. The data aligned well with the constructs of capacity (theme 1), potential (theme 2) and capability (theme 3), while the construct of contribution was implicated within the other themes. It made sense to consider 'cognitive participation' and 'collective action' under the construct of 'capacity' as the ongoing enrolment of staff, the legitimisation of health activities, and whether staff worked independent or collectively appeared significantly affected by schools' social norms and roles. Under capacity, an additional domain of 'social resources' was included which suggested that contact between schools and other organisations could facilitate sustainability through creating opportunities for resource- and knowledge-sharing, while stimulating ongoing interest in the intervention.

Regarding limitations, we did not double-screen full reports and we may have missed reports due to the array of terms used to describe sustainability, despite our sensitive search strategy. We deviated from our original protocol in using thematic synthesis rather than meta-ethnography due to the nature of studies found. We excluded interventions delivered by clinical services co-located in schools, and consequently, our findings may be less representative of the sustainability of targeted or tiered services which typically require a high level of clinical expertise (only 3 of the 24 interventions in the review were targeted). The sustainability of health interventions provided solely by external clinicians is unknown; for example, they could be more sustainable because they do not require educators to expend time gaining additional knowledge and skills, or they may be less because they require sustained funding. There was substantial heterogeneity in study designs, methods and reporting of included studies; many studies were methodologically weak and did not report on the sustainability of all components, in particular reporting for family/community components was poor. Most studies were located in the US, and consequently, our review findings may be most relevant to this setting. Around half of interventions focused on healthy eating/physical activity, with a lack of evidence for the sustainability of other public-health interventions.

The case study of Learning Together

The case study was comprehensive and thoroughly analysed, using the GTI to bring depth to the analysis. It prospectively followed the course of the intervention in five schools over two years, asked participants to report retrospectively on their involvement in Learning

Together and their current views and experience of working with the intervention. It drew on data from the trial's process evaluation to triangulate staff's reports and describe details on the discontinuation of the curriculum and action groups during the trial (where relevant) to address possible recall bias. The selection of a multi-component intervention enabled there to be sufficient variability to explore the relative impact of different components' characteristics. It used an existing conceptual framework to inform the research tools and the coding of higher-order themes and enhance the study's depth. It included interviews with a range of school staff (3 or 4 per school) and students in the schools that had implemented the action groups in year 3 (with the exception of Downton Park who had turned down student input), strengthening the validity of the findings. It reported on the sustainability of all intervention components.

There are a number of limitations to the case study. No observations were conducted of RP being used in the schools or of the new student-staff actions groups to verify participants' accounts; the findings are based on self-report data only with the exception of changes to behaviour policies which were examined directly. Although the study assessed fidelity of implementation post-trial, it relied primarily on participants' reports and did not use independent observation or validation. In particular, fidelity data for year 5 had low reliability as it was based on one participant interview. Only the staff who were closely involved in the intervention were interviewed; the findings do not take into account the perspectives of staff and students that chose not to participate in the intervention or knew about it but were not involved in its delivery. These perspectives could have strengthened the findings on mainstreaming the intervention in the wider school. Head teachers interviews might have given more breadth and richness to the data on schools' priorities and plans and how they affected sustainability. Some follow-up data on sustainability gathered from all 20 schools, for example, through a telephone survey, could have contextualised the findings obtained from the five schools and informed understanding of their analytic generalisability. The findings were not shared with participants prior to the completion of the thesis due to time constraints; their input could have contributed to the study's internal validity.

The schools that took part all had good or outstanding Ofsted ratings and all had best 8 value added scores about 1000, indicated their students made better progress than expected at age 16. Consequently, the findings may be less applicable to the sustainability of interventions in schools that have lower achievement and/or capacity. It may be that these schools have a higher impetus to change and embrace new interventions; or even more focused on raising academic standards with little time to devote to non-academic activities; or under greater pressure from a lack of resources, staff turnover and leadership challenges.

Implications for research and policy

Systematic review

Informed by our synthesis, we proposed three questions to consider when optimising school health interventions. First, is it important that each component is sustained? Some components, such as needs assessment, may be time-limited stepping-stones. Second (if a component is to be sustained), how would you expect the intervention to be sustained: if there were high staff turnover or the loss of the champion, during time-pressured periods such as exams, with different classes of students with varying needs or if there were no opportunities for regular training updates? Third, do staff understand the key theoretical principles that should underpin any adaptations to intervention activities and resources? Creating forums during the period of the evaluation of effectiveness when these 'stress-testing' questions can be discussed with staff could help researchers to understand the likely sustainability of interventions.

Stronger study designs/methodology are needed for future research; there were few longitudinal studies prospectively following intervention sustainability from initial implementation. Increased use of conceptual theory would enhance studies' richness and breadth and improve the analytic generalisability of findings. Student engagement in the intervention should be considered a key factor affecting both implementation and sustainability processes. The inclusion of views from a range of school participants, including students, would strengthen the validity of findings. Improved reporting on sustainability of *all* intervention components is key, with justification provided for excluding specific components. Research on the sustainability of interventions outside health eating/physical activity is needed, for example, there were no studies of sexual-health interventions, as are studies of the sustainability of interventions delivered by external providers co-located in schools.

Sustainability strategies contributed to our analysis where authors commented on them in papers' results and discussions (Crooks et al., 2013; Egan et al., 2019; Goh et al., 2017; Johnson et al., 2004; Tjomsland et al., 2009). However, several papers referred to specific sustainability strategies in their background sections but did not consider their impact in their analysis of sustainability, including 'train-the-trainer' models to spread the intervention across and between schools (Dijkman et al., 2017; St Pierre and Kaltreider, 2004), external consultants exploring adaptations with staff (Kalafat and Ryerson, 1999) and a staged-approach to implementation (Schetzina et al., 2009). Primary research on the impact of implementation and sustainability strategies and planning would be valuable (Cook et al., 2019; Gruen et al., 2008).

Our review suggests regional and/or national school policies and educational standards that promote health and wellbeing and its connection to students' learning and school enjoyment could enhance sustainability by legitimising staff spending time, effort and resources on continuation, as well as bringing funding and resources to sustain health goals.

Case study of Learning Together

After the synthesis for the systematic review, three questions were proposed for intervention developers and evaluators to consider when optimising school health interventions (see above). Following the analysis of the case study, two additional questions were added. How do staff perceive the effectiveness of components compared to existing related practices? This question should highlight components that are at risk of being discontinued early on and inform conversations between developers and schools about how the intervention could be adapted so that it works more effectively in practice for staff (as opposed to scientific effectiveness in improving students' outcomes). What support do staff need to integrate the intervention into school systems and policies (or replace them), communicate changes, and disseminate knowledge, information and expertise about the intervention across the school? Mainstreaming the intervention across the school was crucial for sustainability; by definition any intervention whose existence depended on the knowledge and skills of a select group of individual staff members was not sustainable in the long-term, given the high rates of staff turnover and the lack of a shared professional knowledge base in teaching. Schools should not be expected to know how to embed an intervention – the findings clearly showed this was difficult and outside of staff members capacity and/or expertise. It is an area for future research with strong participatory involvement from school practitioners where different approaches to mainstreaming interventions in schools can be tested and evaluated.

Effectiveness studies should consider intervention sustainability from the start. The developers of Learning Together considered local adaptation and integration but gave schools no time to plan for the intervention, provided insufficient training and guidance on how RP could be integrated into schools' policies and systems, and gave little thought to how the intervention might be scaled-up. Unfortunately, inattention to scale-up and sustainability is the norm in intervention research and that needs to change if we want interventions to have a lasting impact of students' health and make a positive contribution to the teaching profession (Pearson et al., 2015; Shelton et al., 2018b). Intervention developers should consider how they could make it as easy as possible for school to adopt, implement and sustain interventions by considering: how components fit with schools' timetabling, planning, strategic priorities and existing policies, providing them with options for adaptation or different delivery models, simplifying intervention manuals and key messages, providing schools with communication materials to explain and to publicise the intervention, giving options for ongoing training or directing schools to certified training providers who can offer

training at competitive rates, supporting schools to set up audits of practice. Both implementation and sustainability strategies need to be evaluated (Cook et al., 2019).

The case study, like the systematic review, suggested that regional and/or national school policies and educational standards that promote student health and wellbeing could enhance sustainability by legitimising staff spending time on non-academic activities and by funding pastoral staff that could support health goals, relieving pressure on teaching staff. More fundamentally, to support the sustainability of evidence-based practice in education, teachers need to be trained in trials, reviews and evidence-based practice. The teaching profession itself needs to lead not follow in evidence production and use, develop evidence-based guidelines for teaching, and use audit to implement them. Although the EEF is beginning to build an evidence-base for teaching in the UK and has examined how to increase research use in practice, its main focus is on narrowing the attainment gap rather than providing an evidence-base for teaching as a whole.

The sustainability processes explained by the case of Learning Together are likely to be generalisable to other school health interventions implemented in English secondary schools. The findings may also have relevance for similar interventions in other countries where the teaching profession has a culture of drawing on practical knowledge rather than reference to a professionally-owned knowledge base, intensified by a churn of interventions from senior leaders and administrators, local and central government (Alexander, 2001; Fang and Gopinathan, 2009). Learning Together had an advantage in its potential for sustainability in that it concerned an outcome that schools consider relevant and legitimate to their core business of educational attainment and safeguarding; staff reported they wanted to manage students' behaviour as efficiently and effectively as possible. Other school health intervention that target problems that schools accept are important but are not considered their primary responsibility, for example, sedentary behaviour or dating violence (Gorely et al., 2011; Meiksin et al., 2020), may be even harder to sustain.

Conclusion

Multiple factors facilitating and prohibiting schools' ability to sustain health interventions emerged from the systematic review. Evidence from the review suggested that sustainability currently depends upon schools developing and retaining senior leaders and staff that are knowledgeable, skilled and motivated to continue delivering health promotion through ever-changing circumstances. The case study revealed that this was an unlikely scenario, explaining why the evidence from health care and school setting suggests that almost no interventions are sustained in their entirety. Instead, intervention developers need to pay greater attention to how they can support schools to mainstream interventions that are evidence-based, perceived as practically effective by staff and necessary to sustain. In addition, work is needed to develop a professionally-owned knowledge base in teaching to

ensure teachers have access to information on evidence-based approaches in teaching. There is a significant gap in our understanding of how to scale-up and sustain interventions and methodologically stronger primary research on sustainability and sustainability strategies, informed by theory, is needed.

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Appendix 1: Recent NIHR awards for effectiveness trials of school-based public health interventions

Award ID	Start date	Name of intervention or trial	Health issue targeted	Grant	Reference for protocol/study
NIHR127951	2020	BESST	Mental health	£1,664,148.20	(NIHR, 2020)
17/92/11	2019	KiVa	Bullying	£1,849,544.60	(NIHR, 2019a)
17/97/02	2019	Frank friends	Drug prevention	£1,465,055.20	(NIHR, 2019b)
17/50/01	2018	PLAN-A	Physical activity	£836,721.60	(Willis et al., 2019)
15/181/01	2017	If I were Jack	Teenage pregnancy and sexual health	£1,734,947.98	(Lohan et al., 2018)
15/166/08	2017	BRIGHT	Oral health	£1,916,394.20	(NIHR, 2017)
13/90/30	2015	Girls Active	Physical activity	£599,440.00	(Edwardson et al., 2015)
13/90/18	2015	GoActive	Physical activity	£1,025,362.00	(Jong et al., 2018)
13/117/02	2015	SIPS JR-HIGH	Alcohol	£855,951.22	(McGeechan et al., 2019)
12/153/60	2014	INCLUSIVE	Bullying and aggression	£1,487,709.47	(Bonell et al., 2014)
10/3006/01	2012	PATHS	Social and emotional wellbeing	£1,086,330.40	(Humphrey et al., 2016)
10/3010/01	2012	HeLP	Obesity	£1,431,744.15	(Wyatt et al., 2013)
10/3006/07	2012	Incredible years teacher classroom management	Social and emotional wellbeing	£1,792,203.25	(Hansford et al., 2015)
09/3005/04	2011	Active for Life	Physical activity and nutrition	£1,349,139.91	(Lawlor et al., 2011)
09/3000/05	2011	Smoke Free Homes	Second-hand smoke	£221,302.00	(NIHR, 2011)
09/3000/03	2011	FRIENDS	Mental health	£1,279,979.48	(Stallard et al., 2014)
06/85/11	2010	WAVES study	Obesity	£2,651,248.34	(Adab et al., 2018)

Appendix 2: Data extraction and synthesis for the narrative review of barriers and facilitators to sustaining health interventions

In 2017, I carried out a comprehensive review and re-synthesis of 30 papers describing implementation frameworks with a sustainability phase, which were identified in an existing, broader systematic review of implementation frameworks in health care by Moullin et al. (2015). Forty-nine papers were included in Moullin et al.'s review, of which 31 focused on sustainability, covering 30 frameworks.

Papers were included in the re-synthesis if:

1. Moullin et al identified the framework as one which include the stage of sustainability.
2. Explicitly linked factors to sustainability rather than to implementation in general.
3. Described the way in which a factor(s) influenced sustainability – factors listed or a factor stated without an explanation of how and why it was influential were excluded.
4. Described an intervention defined as any formal activity(ies) and/or tool(s) introduced into organisational or community setting by researchers to achieve a goal.

Of the 31 papers describing frameworks, 21 were included in the re-synthesis describing 20 frameworks. I included three other papers in the synthesis: Chambers et al's (2013) framework was mentioned in Moullin et al's discussion, published too late to be included in the review, and two papers were identified in Fleischer et al's (2015) concept analysis of sustainability, Buchanan et al (2005) and Gruen et al (2008). Buchanan et al's (2005) focused on sustaining organisational change in business and public sector organisations, not health care, but was included for its theoretical contribution to organisational factors.

Data on each paper was extracted into summary tables: title, authors, lead author's country, name of framework, field, methods for developing the conceptual framework, and text which described or analysed factors influencing sustainability. Only three drew on research from school settings; most of the frameworks were developed from literature reviews or the authors' experiences in non-school settings (that is, health care/clinical settings, mental health, nursing, substance use, child welfare). Each paper was read twice, inductively coding factors considered influential to the sustainability of interventions. Factors listed or named without an explanation of how they influenced sustainability did not contribute to the synthesis, nor were factors linked solely to other stages (for example, adoption or implementation) and not explicitly associated with sustainability. Through a process of continually referencing to the source texts, each code's data were checked for consistency of interpretation and re-coded as necessary, and categorised into six overarching domains.

In 2019, I updated the review. Lennox et al. (2018) published a systematic review of sustainability approaches in health care, identifying 40 constructs in 62 approaches. I screened the title and abstracts of the papers describing approaches in community health care, non-specified health care setting, and public health to look for approaches developed partially or fully in school settings (in high income countries). Four approaches were developed partly/fully in school settings. After applying inclusion criteria #2-4 above, I found one additional paper to include in the review (Goodman and Steckler, 1989). Finally, I included five papers I found during screening for the systematic review I conducted on the sustainability of public health interventions in school (Chapter 5). These papers were excluded from the systematic review as they did not meet the inclusion criteria, typically because they were non-empirical, based on authors' experiences or literature reviews. However, they were conceptually rich in examining the school setting (Axelrod et al., 2007; Elias, 2010; Elias et al., 2003; Han and Weiss, 2005; Plog et al., 2010).

I applied the same data extraction and synthesis as described above for the seven additional papers. The same overarching domains emerged, though there were some additional sub-domains that were only found in frameworks developed in school settings.

Appendix 3: Summary table of studies in the narrative review of barriers and facilitators to sustaining health interventions

<i>Name of framework</i>	<i>Author(s); lead author's country of origin</i>	<i>Developed from work in school settings?</i>	<i>Field</i>	<i>Phase of focus</i>	<i>Description of method</i>	<i>How identified</i>
Unspecified	Elias et al (2003); US	Yes – in full	Social-emotional and academic innovations	Implementation and sustainability	Literature review of educational innovations and authors' experiences in implementing social-emotional and academic interventions.	Screening from systematic review
Unspecified "essential ingredients" that characterize potentially sustainable teacher-implemented classroom mental health programs	Han & Weiss (2005); US	Yes – in full	School-based mental health programmes	Sustainability	Literature review of educational and prevention literature.	Screening from systematic review
Social and Emotional Learning (SEL) implementation and sustainability process	Axelrod et al (2007); US	Yes – in full	SEL	Implementation and sustainability	Literature review of organisational change, school leadership, implementation, school reform, SEL, prevention and youth development. Interviews with practitioners, researchers, and programme developers, and authors' own experiences with school and school districts implementing SEL.	Screening from systematic review

Unspecified – features uniquely supportive of sustainability	Elias (2010); US	Yes – in full	SEL	Sustainability	Study of 9 SEL programmes and 14 sites. Telephone interviews with school staff and programme implementers.	Contact with author during systematic review
Unspecified	Plog et al (2010); US	Yes – in full	Bullying intervention and prevention programmes	Adoption, implementation and sustainability	Literature review of studies on implementation of prevention programmes and authors' own experiences implementing a school-based bullying prevention programme.	Screening from systematic review
A model for program institutionalization	Goodman & Steckler (1989); US	Yes – in part	Health promotion	Sustainability	Literature review on implementing change programmes and multiple-case study of ten health promotion programs, including three programs in public schools	Lennox et al (2018)
Core implementation components	Fixsen et al (2009); US	Yes – in part	Human services (child welfare, education, health, mental health, substance abuse)	Implementation and sustainability	A review of two implementation frameworks.	Moullin et al (2015)
Ecological framework for understanding effective implementation	Durlak & DuPre (2008); US	Yes – in part	Prevention and promotion targeting children and adolescents	Implementation and sustainability	Systematic literature review on prevention and promotion interventions on health, academic performance, drugs use, and social and mental health issues for children and adolescents.	Moullin et al (2015)

Conceptual framework for sustainability of public health programs	Scheirer & Dearing (2011); US	Yes – in part	Public health and community health.	Sustainability	Discussion by 50+ participants in a session on sustainability research at a conference on the Science of Disseminations and Implementation; a workshop concerning the sustainability of education programs in schools; and authors' own research and experience on sustainability and planning for the diffusion of health programs.	Moullin et al (2015)
A model of diffusion in service organizations	Greenhalgh et al (2004); England	No	Health services	Adoption, implementation and sustainability	Systematic literature review on spreading and sustaining health service delivery and organisation. Identified seminal theoretical and overview papers and books, and analysed the conceptual and theoretical models proposed by recognised experts in different research traditions.	Moullin et al (2015)
Sustainability planning model	Johnson et al (2004); US	No	Prevention science	Sustainability	Systematic literature review and information that emerged from a series of 'think tanks' involving key substance abuse prevention professionals.	Moullin et al (2015)
Contingency model of innovation adoption	Berta et al (2005); Canada	No	Long-term nursing care	Adoption and sustainability	Literature review focusing on organisational learning, innovation diffusion, knowledge transfer and findings from studies of clinical practice guidelines of implementation in health care.	Moullin et al (2015)

Availability, Responsiveness and Continuity (ARC) model	Glisson & Schoenwald (2005); US	No	Mental health	Implementation and sustainability	The model builds on existing theory and research of organisational and community intervention strategies used in business, industry and agriculture.	Moullin et al (2015)
The process of sustainability in context	Buchanan et al (2005); England	No	Social science and organisational change and management	Sustainability	Literature review covering seven perspectives on sustaining organisational change in mainly manufacturing and business organisations.	Fleischer et al (2015)
Model of sustaining innovations in their effectiveness	Racine (2006); US	No	Health and human services	Implementation and sustainability	Literature review of theoretical and empirical research from organisational and management studies.	Moullin et al (2015)
Factors in implementation of practice change as identified by doctors	Hader et al (2007); Canada	No	Health care	Adoption, implementation and sustainability	Qualitative study of doctors' views on the implementation of clinical practice guidelines, mapped onto an adapted version of Roger's (1985) diffusion of innovation model.	Moullin et al (2015)
Sticky knowledge	Elwyn et al (2007); Wales	No	Health care	Adoption, implementation, sustainability, diffusion	The application of a conceptual model by Szulanski (2003) into a scenario of attempting knowledge transfer in primary care.	Moullin et al (2015)
Replicating Effective Programs (REP)	Kilbourne et al (2007); US	No	Health care	Adoption, implementation, sustainability, diffusion	Experiences of the U.S. Centers for Disease Control and Prevention (CDC) REP project, preparing HIV interventions for dissemination. Framework builds on a systematic literature review and community input.	Moullin et al (2015)

Framework of dissemination in health services intervention research	Mendel et al (2008); US	No	Health care	Adoption, implementation and sustainability	Literature review of social science literature and the experiences of investigators from the UCLA/RAND National Institute of Mental Health (NIMH) Center for Research on Quality in Managed Care, and their community partners.	Moullin et al (2015)
Practical, Robust Implementation and Sustainability Model (PRISM)	Feldstein & Glasgow (2008); US	No	Health care	Implementation and sustainability	Literature review and authors' experience in conducting implementation research studies.	Moullin et al (2015)
John Hopkins Quality and Safety Research Group translating evidence into practice model	Pronovost et al (2008); US	No	Health care	Implementation and sustainability	Experiences of the authors who developed an integrated approach to improve the reliability of care in treating bloodstream infections.	Moullin et al (2015)
Evidence-based Practice Model for Staff Nurses	Reavy & Tavernier (2008); US	No	Health care	Implementation and sustainability	Based on three other theoretical models and applied and evaluated in one medical center.	Moullin et al (2015)
A system for sustainable health programmes	Gruen et al (2008); Australia	No	Health	Sustainability	Systematic review of conceptual and empirical studies about health-programme sustainability.	Fleischer et al (2015)
The CHANGE model	Vega (2009); US	No	HIV prevention	Implementation and sustainability	Literature review and experiences of the capacity building organisation Manos Unidas	Moullin et al (2015)

Normalisation Process Theory (NPT)	May & Finch (2009); Scotland May (2013); England	No	Health care	Implementation and sustainability	May & Finch (2009) Secondary analyses of multiple qualitative studies in health care settings, seminar discussions, development meetings. May (2013) Explains the application of NPT to clinical shared-decision making.	Moullin et al (2015)
Model for success and breakdown factors of shared governance	Ballard (2010); US	No	Shared governance in nursing	Implementation and sustainability	Literature review and author's experience.	Moullin et al (2015)
Conceptual model of implementation phases and factors affecting implementation in public service sectors	Aarons, Hulburt & Horowitz (2011); US	No	Evidence-Based Practice in publicly funded settings serving children and families. Mostly focused on child welfare settings, but also examples from mental health services.	Implementation and sustainability	Literature review and authors' experience	Moullin et al (2015)
Linking sustainability to intervention types	Scheirer (2013); US	No	Health programmes	Sustainability	Author's reflections on recent research and advice to practitioners about health program sustainability.	Moullin et al (2015)
Dynamic Sustainability Framework	Chambers et al (2013); US	No	Health services research	Sustainability	Authors' reflections and experience in conducting and advancing implementation science.	Moullin et al (2015) (discussion section)

Appendix 4: Summary of sustainability influences and the frameworks from which they were synthesised

<i>Domain and influences</i>	<i>Frameworks developed in health/health care/other</i>	<i>Frameworks developed partially/fully in school settings</i>
Intervention-level factors		
Effectiveness	Berta et al., 2005; Buchanan et al., 2005; Feldstein and Glasgow, 2008; Gruen et al., 2008; Hader et al., 2007; Johnson et al., 2004; Racine, 2006; Vega, 2009	Han and Weiss, 2005; Scheirer and Dearing, 2011
Adaptation	Buchanan et al., 2005; Chambers et al., 2013; Gruen et al., 2008; Kilbourne et al., 2007; Racine, 2006	Elias, 2010; Han and Weiss, 2005; Scheirer and Dearing, 2011
Co-ordination with other programmes		Elias, 2010; Plog et al., 2010
Cost	Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Hader et al., 2007; Johnson et al., 2004; Kilbourne et al., 2007; Pronovost et al., 2008; Racine, 2006	
Practitioners' capability and commitment to sustaining an intervention		
Acceptability and feasibility of long-term implementation	Berta et al., 2005; Buchanan et al., 2005; Elwyn et al., 2013; Hader et al., 2007; Johnson et al., 2004; May, 2013b; May and Finch, 2009; Racine, 2006; Reavy and Tavernier, 2008	Elias et al., 2003; Han and Weiss, 2005
Practitioners' competence and motivation	Aarons et al., 2011; Buchanan et al., 2005; Greenhalgh et al., 2004; Johnson et al., 2004; May, 2013b	Elias, 2010; Elias et al., 2003; Fixsen et al., 2009; Goodman and Steckler, 1989; Han and Weiss, 2005; Plog et al., 2010
Practitioners' collective action	Ballard, 2010; Buchanan et al., 2005; Johnson et al., 2004; May, 2013b; May and Finch, 2009; Reavy and Tavernier, 2008	Elias, 2010
Senior leaders' capability and support to sustain an intervention		
Senior leaders' buy-in and support	Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Greenhalgh et al., 2004; Johnson et al., 2004; Racine, 2006	Axelrod et al., 2007; Fixsen et al., 2009; Goodman and Steckler, 1989
Senior leaders' skills	Aarons et al., 2011; Buchanan et al., 2005; Johnson et al., 2004	Fixsen et al., 2009
Intervention champions	Feldstein and Glasgow, 2008; Johnson et al., 2004	Axelrod et al., 2007; Durlak and DuPre, 2008; Goodman and Steckler, 1989

Domain and sub-domains	Frameworks developed in health/health care/other	Frameworks developed partially/fully in school settings
Organisational factors affecting sustainability		
Monitoring and evaluation of the intervention	Aarons et al., 2011; Chambers et al., 2013; Feldstein and Glasgow, 2008; Glisson and Schoenwald, 2005; Gruen et al., 2008; Johnson et al., 2004; Kilbourne et al., 2007; Pronovost et al., 2008; Racine, 2006	Axelrod et al., 2007; Elias, 2010; Elias et al., 2003; Fixsen et al., 2009; Plog et al., 2010
Organisational climate and culture	Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Chambers et al., 2013; Feldstein and Glasgow, 2008; Greenhalgh et al., 2004; Johnson et al., 2004; Racine, 2006	Elias, 2010
Staff turnover	Aarons et al., 2011; Ballard, 2010; Gruen et al., 2008; Johnson et al., 2004	Axelrod et al., 2007; Elias, 2010; Elias et al., 2003; Fixsen et al., 2009; Plog et al., 2010
Ongoing funding and resources for the intervention	Aarons et al., 2011; Gruen et al., 2008; Johnson et al., 2004; Mendel et al., 2008; Racine, 2006; Vega, 2009	Han and Weiss, 2005; Scheirer and Dearing, 2011
Ongoing communication about the intervention		Axelrod et al., 2007; Elias, 2010; Plog et al., 2010
Planning and creating an infrastructure for sustainability	Ballard, 2010; Buchanan et al., 2005; Feldstein and Glasgow, 2008; Gruen et al., 2008; Johnson et al., 2004; Kilbourne et al., 2007; Racine, 2006	Axelrod et al., 2007; Elias, 2010; Elias et al., 2003
Capacity-building support for sustainability		
Partnerships and collaboration between developers and local stakeholders	Aarons et al., 2011; Buchanan et al., 2005; Chambers et al., 2013; Feldstein and Glasgow, 2008; Glisson and Schoenwald, 2005; Gruen et al., 2008; Johnson et al., 2004; Kilbourne et al., 2007; Mendel et al., 2008; Racine, 2006; Scheirer, 2013	Durlak and DuPre, 2008; Elias et al., 2003
Provision of ongoing training, coaching and technical assistance	Aarons et al., 2011; Ballard, 2010; Buchanan et al., 2005; Feldstein and Glasgow, 2008; Glisson and Schoenwald, 2005; Johnson et al., 2004; Kilbourne et al., 2007; Pronovost et al., 2008; Racine, 2006; Reavy and Tavernier, 2008; Vega, 2009	Axelrod et al., 2007; Elias, 2010, 2010; Fixsen et al., 2009; Han and Weiss, 2005; Plog et al., 2010
Wider contextual factors		
External political support and financial climate	Buchanan et al., 2005; Gruen et al., 2008; Johnson et al., 2004; Racine, 2006; Scheirer, 2013	Durlak and DuPre, 2008; Han and Weiss, 2005; Scheirer and Dearing, 2011

Legitimacy of the intervention in
professional fields

Buchanan et al., 2005; Racine, 2006

Elias, 2010

Appendix 5: The general theory of implementation re-worded for application in the thesis

Potential: school staff's motivation to implement Learning Together over time

- *Individual intentions*: individual differences in school staff's readiness to transform personal beliefs and attitudes about how to improve students' health, wellbeing and behaviour into behaviours prescribed by Learning Together, affecting their motivation to participate in an intervention over time.
- *Shared commitments*: school staff's collective readiness to translate shared beliefs and attitudes about how to improve students' health, wellbeing and behaviour into the behaviours prescribed by Learning Together, affecting their shared commitment to participate in the intervention over time.

Capability: the extent Learning Together could be made to fit into school staff's everyday practice

- *Workability*: how school staff allocate work and interact with one another to operationalise Learning Together.
- *Integration*: the work carried out to integrate the Learning Together into existing practices, policies and systems, including procedures to develop accountability and fidelity/consistency of use and resources allocated to its operation over time.

Contribution: the actions carried out by school staff to implement Learning Together over time

- *Coherence or sense-making*: how school staff attribute meaning to Learning Together components, how they make sense of their use/ worth and differentiate them from other processes in their work at school.
- *Cognitive participation*: school staff initiate work that establishes the legitimacy of Learning Together and enrolls them and others (that is, develops 'buy-in') into the implementation process over time.
- *Collective action*: how school staff operationalise Learning Together's components and distribute and mobilise skills and resources to enact them over time.
- *Reflexive monitoring* – school staff appraise, formally and informally, the effects and operation of Learning Together.

Capacity: the influence of the social context on Learning Together's implementation over time

- *Social norms*: collective rules or understandings of acceptable behaviour that govern school staff's behaviour, rewards and involvement in the implementation process over time.

- *Social roles*: socially patterned identities within schools which define expectations of different staff and what they are authorised (or not) to do to operationalise Learning Together over time.
- *Cognitive/informational resources*: whether/how knowledge, information or evidence about Learning Together are disseminated and distributed to staff over time.
- *Material resources*: funding, equipment, physical space, and any other material resources that are mobilised by staff to implement Learning Together over time.

Appendix 6: Revisions to the systematic review protocol

The original review protocol was submitted to PROSPERO on the 6th September 2017 (registration no. CRD42017076320). On 21st November 2017, the following two minor amendments were made:

1. The citation was amended from “The barriers and facilitators to sustaining public health interventions in schools,” to “The barriers and facilitators to sustaining public health interventions in schools in OECD countries”.
2. The review question was amended from “What barriers and facilitators affect the sustainability of public health interventions in schools?” to “What barriers and facilitators affect the sustainability of public health interventions in schools in OECD countries?”

On 1st August 2018, a further two minor amendments were made.

1. A number of websites were removed from the website search for the following reasons:
 - *National College for School Leadership* – NCSL was repurposed in April 2018.
 - *National Healthy Schools Programme* (www.home.healthyschools.gov.uk) – No longer exists.
 - *National Youth Agency website* – Not relevant; the website focuses on youth work rather than school-based interventions.
 - *UNAIDS* <http://www.unaids.org/en/> – The organisation is a global, strategic body to tackle HIV/AIDS. It is highly unlikely to conduct research on the implementation and sustainability of specific school-based health interventions.
 - *UNFPA* <https://www.unfpa.org> – The organisation is a global, strategic body focused on sexual and reproductive health. It is highly unlikely to conduct research on the implementation and sustainability of specific school-based health interventions.
 - *UNICEF* <https://www.unicef.org.uk/> – The organisation is global, strategic body focused on child wellbeing. It is highly unlikely to conduct research on the implementation and sustainability of specific school-based health interventions.
 - *World Bank* <https://www.worldbank.org/> – The organisation is global, strategic body focused on reducing poverty. It is highly unlikely to conduct research on the implementation and sustainability of specific school-based health interventions.

2. The intervention inclusion criteria were further specified:

In the protocol dated 21st November 2017, it read: “*Be delivered partly or wholly within school during school hours.*” In the protocol dated 1st August 2018, it was amended to, “*Be delivered partly or wholly within school during school hours by school teachers, pastoral, managerial or administrative staff, health or wellbeing professionals employed by the school (e.g. school counsellors), or students (e.g. peer mentors).*”

Appendix 7: Search terms for each database (additional file 1 in published paper)

ERIC and British Education Index

There were no thesaurus terms for sustainability. Searches were conducted in the BEI and ERIC on 5th September 2017 and combined the following terms for sustainability, school, intervention and public health:

TI(sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR “long-term implementation” OR “long term implementation” OR discontinuation OR mainstreaming OR scale-up OR “scale up” OR scaling-up OR “scaling up” OR endurance OR persistence) OR AB(sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR “long-term implementation” OR “long term implementation” OR discontinuation OR mainstreaming OR scale-up OR “scale up” OR scaling-up OR “scaling up” OR endurance OR persistence)

AND

SU(Schools) OR TI (school* OR student* OR pupil* OR teacher* OR “teaching staff” OR “teaching personnel” OR school-based OR “school based”) OR AB (school* OR student* OR pupil* OR teacher* OR “teaching staff” OR “teaching personnel” OR school-based OR “school based”)

AND

SU(“EDUCATIONAL evaluation” OR “PROGRAM development (Education)” OR “PROGRAM implementation (Education)” OR “PROGRAM improvement (Education)” OR “PROGRAM effectiveness (Education)” OR “PROGRAM design (Education)” OR PROGRAM attitudes (Education)” OR “ORGANIZATIONAL change – Study & teaching”) OR TI (intervention* OR program* OR “organizational change” OR “organisational change” OR “change process*” OR “organizational transformation” OR “organisational transformation” OR innovation*) OR AB (intervention* OR program* OR “organizational change” OR “organisational change” OR “change process*” OR “organizational transformation” OR “organisational transformation” OR innovation*)

AND

SU("HEALTH promotion" OR "CHILDREN – Health" OR "STUDENTS – Health" OR "SCHOOL children – Health" OR "SCHOOL health services" OR "HEALTH education" OR "HEALTH programs" OR "LIFE skills") OR TI ("health policy" OR "health policies" OR "health environment*" OR "healthy environment*" OR "health ethos" OR "health attitude*" OR "healthy attitude*" OR "health curricul*" OR "health behav*" OR "healthy behav*" OR "health intervention*" OR "physical activity" OR "sedentary behav*" OR eating OR tobacco OR alcohol OR "substance abuse" OR bullying OR aggressi* OR safety OR violence OR "mental health" OR wellbeing OR "sexual health" OR "sex education") OR AB ("health policy" OR "health policies" OR "health environment*" OR "healthy environment*" OR "health ethos" OR "health attitude*" OR "healthy attitude*" OR "health curricul*" OR "health behav*" OR "healthy behav*" OR "health intervention*" OR "physical activity" OR "sedentary behav*" OR eating OR tobacco OR alcohol OR "substance abuse" OR bullying OR aggressi* OR safety OR violence OR "mental health" OR wellbeing OR "sexual health" OR "sex education")

ERIC records identified n=1,268

BEI records identified n=71

CINAHL

There was no suitable Major or Minor Subject Heading (MH) in CINAHL for sustainability. The search was conducted on the 22nd September 2017 and combined the following terms for sustainability, school, intervention and public health:

(TI (sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR "long-term implementation" OR "long term implementation" OR discontinuation OR mainstreaming OR scale-up OR "scale up" OR scaling-up OR "scaling up" OR endurance OR persistence)) OR (AB (sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR "long-term implementation" OR "long term implementation" OR discontinuation OR mainstreaming OR scale-up OR "scale up" OR scaling-up OR "scaling up" OR endurance OR persistence))

AND

(MH "Students, High School") OR (MH "Students, Middle School") OR (MH "Schools, Elementary") OR (MH "Schools, Middle") OR (MH "Schools, Secondary") OR (MH "Teachers") OR (TI (school* OR student* OR pupil* OR teacher* OR "teaching staff" OR "teaching personnel" OR school-based OR "school based")) OR (AB (school* OR student*

OR pupil* OR teacher* OR "teaching staff" OR "teaching personnel" OR school-based OR "school based"))

AND

(MH "Intervention Trials") OR (MH "Program Development) OR (MH "Program Evaluation") OR (MH "Organizational Change") OR (TI (intervention* OR program* OR "organizational change" OR "organisational change" OR "change process*" OR "organizational transformation" OR "organisational transformation" OR innovation*)) OR (AB (intervention* OR program* OR "organizational change" OR "organisational change" OR "change process*" OR "organizational transformation" OR "organisational transformation" OR innovation*))

AND

(MH "Public Health") OR (MH "Accidents+") OR (MH "Exposure to Violence") OR (MH "Hygiene") OR (MH "Public Health Dentistry+") OR (MH "Safety+") OR (MH "Reproductive Health") OR (MH "School Health") OR (MH "Social Determinants of Health") OR (MH "Women's Health") OR (MH "Health Promotion") OR (MH "Health Education+") OR (MH "Habits+") OR (MH "Eating Behavior+") OR (MH "Drinking Behavior+") OR (MH "Attitude to Health") OR (MH "Health Beliefs") OR (MH "Life Style Changes") OR (MH "Life Style, Sedentary") OR (TI ("health policy" OR "health policies" OR "health environment*" OR "healthy environment*" OR "health ethos" OR "health attitude*" OR "healthy attitude*" OR "health curricul*" OR "health behav*" OR "healthy behav*" OR "health intervention*" OR "physical activity" OR "sedentary behav*" OR eating OR tobacco OR alcohol OR "substance abuse" OR bullying OR aggressi* OR safety OR violence OR "mental health" OR wellbeing OR "sexual health" OR "sex education")) OR (AB ("health policy" OR "health policies" OR "health environment*" OR "healthy environment*" OR "health ethos" OR "health attitude*" OR "healthy attitude*" OR "health curricul*" OR "health behav*" OR "healthy behav*" OR "health intervention*" OR "physical activity" OR "sedentary behav*" OR eating OR tobacco OR alcohol OR "substance abuse" OR bullying OR aggressi* OR safety OR violence OR "mental health" OR wellbeing OR "sexual health" OR "sex education"))

CINAHL records identified n=46

EMBASE

The search was conducted in EMBASE on the 15th September 2017 and combined the following terms for sustainability, school, intervention and public health:

(program sustainability).sh. OR sustain*.ti,ab. OR continua*.ti,ab. OR maintenance.ti,ab. OR institutionalisation.ti,ab. OR institutionalization.ti,ab. OR routinisation.ti,ab. OR routinization.ti,ab. OR embed*.ti,ab. OR incorporation.ti,ab. OR integration.ti,ab. OR normalization.ti,ab. OR stabilization.ti,ab. OR durability.ti,ab. OR (long-term implementation).ti,ab. OR (long term implementation).ti,ab. OR discontinuation.ti,ab. OR mainstreaming.ti,ab. OR scale-up.ti,ab. OR (scale up).ti,ab. OR scaling-up.ti,ab. OR (scaling up).ti,ab. OR endurance.ti,ab. OR persistence

AND

school.sh. OR (high school).sh. OR kindergarten.sh. OR (middle school).sh. OR (primary school).sh. OR school*.ti,ab. OR student.sh. OR (elementary student).sh. OR (high school student).sh. OR (middle school student).sh. OR pupil*.ti,ab. OR teacher.sh. OR (school teacher).sh. OR teacher*.ti,ab. OR school-based.ti,ab. OR (school based).ti,ab.

AND

(intervention study).sh. OR (program development).sh. OR exp program evaluation/ OR health program.sh. OR intervention*.ti,ab. OR program*.ti,ab. OR (organizational change).ti,ab. OR (organisational change).ti,ab. OR (change process*).ti,ab. OR (organizational transformation).ti,ab. OR (organisational transformation).ti,ab. OR innovation*.ti,ab.

AND

(public health).sh. OR (health promotion).sh. OR (health education).sh. OR (school health education).sh. OR exp health behavior/ OR prevention.sh. OR accident prevention.sh. OR wellbeing.sh. OR (physical well-being).sh. OR (psychological well-being).sh. OR (health adj3 (promot* or policy or policies or educat* or environment* or ethos* or attitude* or curricul* or behav* or intervention*).ti,ab. OR (healthy environment*).ti,ab. OR (healthy attitude*).ti,ab. OR (healthy behav*).ti,ab. OR (physical activity).ti,ab. OR (sedentary behav*).ti,ab. OR eating.ti,ab. OR tobacco.ti,ab. OR alcohol.ti,ab. OR (substance abuse).ti,ab. OR bullying.ti,ab. OR aggressi*.ti,ab. OR safety.ti,ab. OR violence.sh. OR exp mental health/ OR wellbeing.ti,ab. OR (sexual health).ti,ab. OR (sexual education).sh.

EMBASE records identified n=4,085

PSYCINFO

The search was conducted in EMBASE on the 12th September 2017 and combined the following terms for sustainability, school, intervention and public health:

sustain*.ti,ab. OR continua*.ti,ab. OR maintenance.ti,ab. OR institutionalisation.ti,ab. OR institutionalization.ti,ab. OR routinisation.ti,ab. OR routinization.ti,ab. OR embed*.ti,ab. OR incorporation.ti,ab. OR integration.ti,ab. OR normalization.ti,ab. OR stabilization.ti,ab. OR durability.ti,ab. OR (long-term implementation).ti,ab. OR (long term implementation).ti,ab. OR discontinuation.ti,ab. OR mainstreaming.ti,ab. OR scale-up.ti,ab. OR (scale up).ti,ab. OR scaling-up.ti,ab. OR (scaling up).ti,ab. OR endurance.ti,ab. OR persistence

AND

exp schools/ OR school*.ti,ab. OR (School Environment).sh. OR Students.sh. OR exp Elementary School Students/ OR (High School Students).sh. OR (Kindergarten Students).sh. OR (Junior High School Students).sh. OR pupil*.ti,ab. OR exp Educational Personnel/ OR (Elementary School Teachers).sh. OR (High School Teachers).sh. OR (Junior High School Teachers).sh. OR (Middle School Teachers).sh. OR teacher*.ti,ab. OR school-based.ti,ab. OR (school based).ti,ab.

AND

intervention.sh. OR (school based intervention).sh. OR exp Program Development/ OR exp Program Evaluation/ OR (organizational change).sh. OR intervention*.ti,ab. OR program*.ti,ab. OR (organizational change).ti,ab. OR (organisational change).ti,ab. OR (change process*).ti,ab. OR (organizational transformation).ti,ab. OR (organisational transformation).ti,ab. OR innovation*.ti,ab.

AND

(Public Health).sh. OR (Community Health).sh. OR exp Health Promotion/ OR exp Health Behavior/ OR exp Health Education/ OR exp Prevention/ OR (Well Being).sh. OR exp Drug Usage Attitudes/ OR (health adj3 (promot* or policy or policies or educat* or environment* or ethos* or attitude* or curricul* or behav* or intervention*)).ti,ab. OR (healthy environment*).ti,ab. OR (healthy attitude*).ti,ab. OR (healthy behav*).ti,ab. OR (physical activity).ti,ab. OR (sedentary behav*).ti,ab. OR eating.ti,ab. OR tobacco.ti,ab. OR alcohol.ti,ab. OR (substance abuse).ti,ab. OR bullying.ti,ab. OR aggressi*.ti,ab. OR safety.ti,ab. OR violence.sh. OR (Mental Health).sh. OR wellbeing.ti,ab. OR (sexual health).ti,ab. OR (Sex Education).sh.

Psychinfo records identified n=2,107

PUBMED

There was no suitable Medical Subject Heading (MH) in PubMed for sustainability. The search was conducted on the 19th September 2017 and combined the following terms for sustainability, school, intervention and public health:

sustain*[TIAB] OR continua*[TIAB] OR maintenance[TIAB] OR institutionalisation[TIAB] OR institutionalization[TIAB] OR routinisation[TIAB] OR routinization[TIAB] OR embed*[TIAB] OR incorporation[TIAB] OR integration[TIAB] OR normalization[TIAB] OR stabilization[TIAB] OR durability[TIAB] OR "long-term implementation"[TIAB] OR "long term implementation"[TIAB] OR discontinuation[TIAB] OR mainstreaming[TIAB] OR scale-up[TIAB] OR "scale up"[TIAB] OR scaling-up[TIAB] OR "scaling up"[TIAB] OR endurance[TIAB] OR persistence[TIAB]

AND

"School Health Services"[MH] OR "School Teachers"[MH] OR school*[TIAB] OR student*[TIAB] OR pupil*[TIAB] OR teacher*[TIAB] OR "teaching staff"[TIAB] OR "teaching personnel"[TIAB] OR school-based[TIAB] OR "school based"[TIAB]

AND

"Clinical Trials, Phase IV as Topic"[MH] OR "Program Evaluation"[MH] OR "Program Development"[MH] OR "Organizational Innovation"[MH] OR intervention*[TIAB] OR program*[TIAB] OR "organizational change"[TIAB] OR "organisational change"[TIAB] OR "change process*[TIAB] OR "organizational transformation"[TIAB] OR "organisational transformation"[TIAB] OR innovation*[TIAB]

AND

"Health Promotion"[MH] OR "Health Education"[MH] OR "Health Knowledge, Attitudes, Practice"[MH] OR "Healthy Lifestyle"[MH] OR "health policy"[TIAB] OR "health policies"[TIAB] OR "health environment*[TIAB] OR "healthy environment*[TIAB] OR "health ethos"[TIAB] OR "health attitude*[TIAB] OR "healthy attitude*[TIAB] OR "health curriculum"[TIAB] OR "health curricula"[TIAB] OR "health behaviour*[TIAB] OR "health behaviour*[TIAB] OR "healthy behavior*[TIAB] OR "healthy behaviour*[TIAB] OR "health intervention*" [TIAB] OR "physical activity"[TIAB] OR "sedentary behavior*[TIAB] OR "sedentary behaviour*[TIAB] OR eating[TIAB] OR tobacco[TIAB] OR alcohol[TIAB] OR "substance abuse"[TIAB] OR bullying[TIAB] OR aggression[TIAB] OR aggressive[TIAB] OR

safety[TIAB] OR violence[TIAB] OR “mental health”[TIAB] OR wellbeing[TIAB] OR “sexual health”[TIAB] OR “sex education”[TIAB]

PubMed records identified n=2,780

**WEB OF SCIENCE Social Sciences Citation Index and Conference Proceedings
Citation Index – Social Science & Humanities (CPCI-SSH)**

Web of Science does not have a thesaurus. Topic Searches (TS) look for topic terms in the title, abstract and keywords. The search was conducted on the 19th September 2017 and combined the following terms for sustainability, school, intervention and public health:

TS=(sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR “long-term implementation” OR “long term implementation” OR discontinuation OR mainstreaming OR scale-up OR “scale up” OR scaling-up OR “scaling up” OR endurance OR persistence)

AND

TS=(school* OR students OR pupil* OR “educational personnel” OR teacher* OR “teaching staff” OR “teaching personnel” OR school-based OR “school based”)

AND

TS=(intervention* OR program* OR “organizational change” OR “organisational change” OR “change process*” OR “organizational transformation” OR “organisational transformation” OR innovation*)

AND

TS=(“public health” OR prevention OR “health knowledge” OR “lifestyle changes” OR “health promot*” OR “health policy” OR “health policies” OR “health educat*” OR “health environment*” OR “healthy environment” OR “health ethos*” OR “health attitude*” OR “healthy attitude*” OR “health curricul*” OR “health behav*” OR “healthy behav*” OR “health intervention*” OR “physical activity” OR “sedentary behav*” OR eating OR tobacco OR alcohol OR “substance abuse” OR bullying OR aggressi* OR safety OR violence OR “mental health” OR wellbeing OR “sexual health” OR “sex education”)

Web of Science records identified n=3,624

Appendix 8: Website search results (additional file 2 in published paper)

Standard search terms used when websites provided a search engine

sustain* OR continua* OR maintenance OR institutionalisation OR institutionalization OR routinisation OR routinization OR embed* OR incorporation OR integration OR normalization OR stabilization OR durability OR “long-term implementation” OR “long term implementation” OR discontinuation OR mainstreaming OR scale-up OR “scale up” OR scaling-up OR “scaling up” OR endurance OR persistence

Health-related search terms used in Eppi-Centre database

public health OR health promotion OR health education OR health behavior OR prevention OR wellbeing OR health policy OR health policies OR school environment OR school ethos OR health attitude* OR health curriculum OR health intervention OR healthy environment OR healthy attitude OR healthy behavior OR physical activity OR sedentary behav* OR eating OR tobacco OR alcohol OR substance abuse OR bullying OR aggressi* OR safety OR violence OR mental health OR sexual health OR sexual education

Website	Date searched	Comments	Studies identified?
Australian Health Promoting Schools Association (https://www.achper.org.au/)	27/06/18	Searched contents of Curriculum Studies in Health and Physical Education journal. Screened title and abstract (T&A) of two most recent issues of Active + Healthy Journal – not possible to view contents pages of older issues as a non-member. Put standard search terms into website search.	None.
Barnardo's (http://www.barnardos.org.uk/what_we_do/policy_research_unit)	27/06/18	Searched policy and research documents.	None.
Center for Disease Control (www.cdc.gov)	27/06/18	Looked at the Adolescent and School Health are of website (www.cdc.gov/healthyyouth/data/index.htm), including SHPPS and YRBSS survey results, and journal articles (2013-18).	None.
Education Endowment Foundation (https://educationendowmentfoundatio)	29/06/18	Looked at completed projects and scaling-up area of the website.	None.

n.org.uk)			
EPPI-Centre database of education research (https://eppi.ioe.ac.uk/webdatabases/intro.aspx?ID=6)	29/06/18	Searched with the standard search terms using the free-text search. Identified 203 studies. Combined with health-related terms – 18 studies identified. Screened on title and then abstract if title looked promising.	None.
Institute for Effective Education (https://the-iee.org.uk/)	29/06/18	Searched through the “what we do” categories and each category’s linked website. Put the standard search terms into the website’s search engine.	None.
International School Health Network (www.internationalschoolhealth.org)	2 nd and 3/07/19	<p>Searched the ‘Schools for all’ knowledge exchange program (http://www.schools-for-all.org/) using the term “sustain*” only as it was not possible to combine search terms (i.e. use the standard search terms) and there were a high number of links to search through. 134 links identified, looked at the first 100 links for references for research papers on sustainability.</p> <p>Through this page Home - where evidence meets experience > Glossary of Terms (GT) > Implement, Maintain, Scale Up, Sustain & Capacity > Sustainability and Sustainable Programs (GT) - http://www.schools-for-all.org/page/Sustainability+and+Sustainable+Programs+%28GT%29 – identified the following:</p> <p>Han, S.S., Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. <i>J Abnorm Child Psychol</i>, 33(6), 665-679. EXCLUDED ON DUPLICATION - IDENTIFIED IN THE DATABASE SEARCH</p> <p>Harvey, G. (2005). <i>An Examination of the Sustainability of School Based Program Initiatives: The Case of “Turning the Tide in Schools</i>. University of Melbourne. Unpublished Doctoral Thesis. INCLUDED ON TITLE AND ABSTRACT. EMAILED AUTHOR TO ASK FOR A COPY ON 3RD JULY. HE REPLIED THE SAME DAY AND GAVE ME A COPY. EXCLUDED AS SCHOOLS STILL RECEIVE SOME (REDUCED) FUNDING AND ASSISTANCE WITH INTERVENTION SO CONSIDERED A STUDY OF LONG-TERM IMPLEMENTATION.</p> <p>O’Loughlin, J., Renauld, L., Richalrd, L., Gomez, L.S., Paradis, G. (1998). Correlates of the sustainability of community-based heart health promotion interventions. <i>Prev Med</i>, 27(5 Pt 1), 702-12. EXCLUDED ON DUPLICATION - IDENTIFIED IN THE DATABASE SEARCH.</p>	One include on T&A but excluded on full text.

		<p>Pluye, P., Potvin, L., Denis, J. L., Pelletier, J. (2004). Program sustainability: Focus on organizational routines. <i>Health Promotion International</i>, Dec;19(4), 489-500. EXCLUDED ON INTERVENTION – NOT SCHOOL-BASED.</p> <p>Rissel, C., Finnegan, J., Bracht, N. (1995). Evaluating quality and sustainability: Issues and insights from the Minnesota Heart Health Program. <i>Health Promotion International</i>, 10, 199-207 EXCLUDED ON DATE.</p> <p>Sanders, K.E., Francis, K., Lum, M., Schiada, G. (2004). Toward a grounded theory of sustainability in social service organizations: A systems point of view. <i>Systems Research and Behavioral Science</i>, 27(5), 567-578 EXCLUDED ON INTERVENTION – NOT SCHOOL-BASED.</p> <p>Scheirer, M. (2005). Is sustainability possible? A review and commentary on empirical studies of program sustainability. <i>American Journal of Evaluation</i>, 26(3), 320-347. EXCLUDED ON EVIDENCE – NOT EMPIRICAL.</p> <p>St. Leger, L. (2005). Questioning sustainability in health promotion projects and programs. <i>Health Promotion International</i>, Dec;20(4), 317-319. EXCLUDED ON EVIDENCE – NOT EMPIRICAL.</p> <p>Swerissen, H., Crisp, B.R. (2004). The sustainability of health promotion interventions for different levels of social organizations. <i>Health Promotion International</i>, 19(1), 123-130. EXCLUDED ON EVIDENCE – NOT EMPIRICAL.</p> <p>Through this page -Home - where evidence meets experience > ISHN Conferences & Symposia > Integrating Health & Social Programs Within Education Systems: A Global Dialogue/European Discussion > Forum Documents & Report http://www.schools-for-all.org/page/Forum+Documents+%26+Report - identified:</p> <ul style="list-style-type: none"> • Simovska, V., & McNamarra, P. (Eds.) (2015). <i>Schools for health and sustainability: theory, research and practice</i>. Dodrecht: Springer Science+Business Media B.V. 10.1007/978-94-017-9171-7 	
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		<p>And then looked at the chapters and screened the following on abstract:</p> <ul style="list-style-type: none"> • Mannix-McNamara , P., & Simovska, V. Schools for health and sustainability: insights from the past, present and for the future. p3-17 EXCLUDED ON EVIDENCE – NOT EMPIRICAL. • Fischer & Barth. Key competencies: reconciling means and ends in education for sustainable consumption. P.41-60. EXCLUDE ON PAPERS SUBJECT. • Leo & Wickenberg. Under one umbrella: professional norms promoting education for sustainable development at the school level p.61-79. EXCLUDE ON PAPERS SUBJECT. • Madsen et al. Linking health education and sustainability education in schools: local transformations of international policy, p.81-109. EXCLUDE ON PAPERS SUBJECT. • Senior et al. Becoming a health promoting school: using a 'change agent' to influence school structure, ethos and ensure sustainability. P.131-153. EXCLUDED ON PAPERS SUBJECT – FOCUSES ON IMPLEMENTATION. • Oddrun & Rowling. Implementation strategies to promote and sustain health and learning in school. P.233-252. EXCLUDED ON EVIDENCE – NOT EMPIRICAL. <p>Through this page Home - where evidence meets experience > Handbook Sections (HS) > Local Mechanisms in Implementation (HS) – http://www.schools-for-all.org/page/Local+Mechanisms+in+Implementation+%28HS%29 – identified and screened on title and abstract:</p> <p>August, G.J., Winters, K.C., Realmuto, G.M., Tarter, R., Perry, C., & Hektner, J.M. (2004). Moving evidence-based drug abuse prevention programs from basic science to practice: Bridging the efficacy-effectiveness interface. <i>Substance Use & Misuse</i>, 39(10-12), 2017-2053. EXCLUDE ON PAPERS SUBJECT.</p> <p>Adelman, H.S., & Taylor, L. (2003). Creating school and community partnerships for substance abuse prevention programs. <i>The Journal of Primary Prevention</i>, 23(3). EXCLUDE ON EVIDENCE – NOT EMPIRICAL.</p> <p>Brounstein, P.J., Gardner, S.E., & Backer, T.E. (2006). Research to practice: Efforts to bring effective prevention to every community. <i>The Journal of Primary Prevention</i>, 27(1). EXCLUDE ON PAPERS SUBJECT.</p> <p>Petrosino, A. (2003). Standards for Evidence and Evidence for Standards: The Case</p>	
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		<p>of School-Based Drug Prevention. <i>The Annals of the American Academy of Political and Social Science</i>, 587(1), 180-207. EXCLUDE ON PAPERS SUBJECT.</p> <p>Rohrbach, L.A., Ringwalt, C.L., Ennett, S.T., & Vincus, A.A. (2005). Factors associated with adoption of evidence-based substance use prevention curricula in US school districts. <i>Health Education Research</i>, 20(5), 514-526. EXCLUDE ON PAPERS SUBJECT.</p> <p>Han, S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. <i>Journal of Abnormal Child Psychology</i>, 33(6), 665-679. EXCLUDE ON DUPLICATION.</p> <p>Sobeck, J.L., Abbey, A., & Agius, E. (2006). Lessons learned from implementing school-based substance abuse prevention curriculums. <i>Children and Schools</i>, 28(2), 77-85. EXCLUDE ON PAPERS SUBJECT.</p> <p>Johnson, K., Hays, C., Daley, C., & Hayden Center. (2004). Building capacity and sustainable prevention innovations: A sustainability planning model. <i>Evaluation and Program Planning</i>, 27, 135-149. EXCLUDE ON EVIDENCE – NOT EMPIRICAL.</p> <p>Berryhill, J.C., & Prinz, R.J. (2003). Environmental interventions to enhance student adjustment: Implications for prevention. <i>Prevention Science</i>, 4(2). EXCLUDE ON PAPERS SUBJECT.</p> <p>Pentz, M.A., Jasuja, G.K., Rohrbach, L.A., Sussman, S., & Bardo, M.T. (2006). Translation in tobacco and drug abuse prevention research. <i>Evaluation & the Health Professions</i>, 29(2), 246-271. EXCLUDE ON PAPERS SUBJECT.</p> <p>Murnane, A., Snow, P., Farringdon, F., Munro, G., Midford, R., & Rowland, B. (2002). <i>National school drug education strategy. Effective implementation practice in relation to school drug education</i>. Perth, Australia: National Drug Research Institute, Curtin University. EXCLUDE ON PAPERS SUBJECT.</p> <p>Swisher, J.D. (2000). Sustainability of prevention. <i>Addictive Behaviors</i>, 25, 965-973. EXCLUDE ON EVIDENCE – NOT EMPIRICAL.</p> <p>Payne, A.A., Gottfredson, D.C., & Gottfredson, G.D. (2006). School predictors of the intensity of implementation of school-based prevention programs: Results from a national study. <i>Prevention Science</i>, 7(2), 225-237. EXCLUDE ON PAPERS SUBJECT.</p> <p>Ringwalt, C.L., Ennett, S., Johnson, R., Rohrbach, L.A., Simons-Rudolph, A., Vincus, A., & Thorne, J. (2003). Factors associated with fidelity to substance use prevention. Curriculum guides in the nation's middle schools. <i>Health Education & Behavior</i>, 30(3), 375-391. EXCLUDE ON PAPERS SUBJECT.</p>	
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		<p>Baker, P.J. (2006). Developing a blueprint for evidence-based drug prevention in England. <i>Drugs: Education, Prevention and Policy</i>, 13(1), 17-32. EXCLUDE ON PAPERS SUBJECT.</p> <p>Hawthorne, G. (2001). Drug education: Myth and reality. <i>Drug and Alcohol Review</i>, 20(1), 111-119. EXCLUDE ON PAPERS SUBJECT.</p> <p>Poulin, C., & Nicholson, J. (2005). Should harm minimization as an approach to adolescent substance use be embraced by junior and senior high schools? Empirical evidence from an integrated school and community-based demonstration intervention addressing drug use among adolescents. <i>International Journal of Drug Policy</i>, 16, EXCLUDE ON PAPERS SUBJECT.</p> <p>Ennett, S.T., Ringwalt, C. L., Thorne, J., Rohrbach, L.A., Vincus, A., Simons-Rudolph, A., & Jones, S. (2003). A comparison of current practice in school-based substance use prevention programs with meta-analysis findings. <i>Prevention Science</i>, 4(1), 1-14. EXCLUDE ON PAPERS SUBJECT.</p> <p>Bishop, D., Bryant, K.S., Giles, S.M., Hansen, W.B., & Dusenbury, L. (2006). Simplifying the delivery of a prevention program with web-based enhancements. <i>Journal of Primary Prevention</i>, 27(4), 433-444. EXCLUDE ON PAPERS SUBJECT.</p> <p>Roche, A.M. (2002). <i>Workforce development issues in the AOD field: A briefing paper for the inter-governmental committee on drugs</i>. Retrieved September 30, 2007, from http://www.nceta.flinders.edu.au/pdf/issues.pdf EXCLUDE ON PAPERS SUBJECT.</p> <p>Toumbourou, J.W., Rowland, B., Jefferies, A., Butler, H., & Bond, L. (2004). <i>Preventing drug-related harm through school re-organisation and behavior management</i> [Prevention research evaluation report No. 12]. Melbourne, Australia: Australia Drug Foundation. Retrieved September 30, 2007, from http://www.druginfo.adf.org.au/downloads/Prevention_Research_Quarterly/PRQ_04No_v_Early_intervention_in_schools.pdf EXCLUDE ON PAPERS SUBJECT.</p> <p>Greenberg, M.T., Weissberg, R.P., O'Brien, M.U., Zins, J.E., Fredricks, L., Resnik, H., et al. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. <i>American Psychologist</i>, 58, 466–474. EXCLUDE ON PAPERS SUBJECT.</p> <p>Bond, L., Glover, S., Godfrey, C., Butler, H., & Patton, G.C. (2001). Building capacity for system-level change in schools: Lessons from the gatehouse project. <i>Health Education and Behavior</i>, 28(3), 368-383. EXCLUDE ON PAPERS SUBJECT (FOCUSES ON IMPLEMENTATION).</p>	
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		<p>Stormshak, E.A., Dishion, T.J., Light, J., & Yasui, M. (2005). Implementing family-centered interventions within the public middle school: Linking service delivery to change in student problem behavior. <i>Journal of Abnormal Child Psychology</i>, 33(6), 723-733. EXCLUDE ON PAPERS SUBJECT.</p> <p>Inchley, J., Muldoon, J., & Currie, C. (2007). Becoming a health promoting school: Evaluating the process of effective implementation in Scotland. <i>Health Promotion International</i>, 22(1), 65-71. EXCLUDE ON PAPERS SUBJECT (FOCUSES ON IMPLEMENTATION)</p> <p>Abrams, D. B., & Clayton, R. R. (2001). Transdisciplinary research to improve brief interventions for addictive behaviors. In P. M. Monti, S. M. Colby & T. A. O'Leary (Eds.), <i>Adolescents, alcohol, and substance abuse: Reaching teens through brief interventions</i>. Retrieved September 30, 2007, from http://ajp.psychiatryonline.org/cgi/reprint/159/11/1958 EXCLUDE ON PAPERS SUBJECT.</p> <p>Midford, R., Wilkes, D., & Young, D. (2005). Evaluation of the in touch training program for the management of alcohol and other drug use issues in schools. <i>Journal of Drug Education</i>, 35(1), 1-14. EXCLUDE ON PAPERS SUBJECT.</p> <p>Berryhill, J.C., & Prinz, R.J. (2003). Environmental interventions to enhance student adjustment: Implications for prevention. <i>Prevention Science</i>, 4(2), 65-87. EXCLUDE ON PAPERS SUBJECT.</p> <p>Checked references on Home - where evidence meets experience > Handbook Sections (HS) > Using Evidence-based Implementation Models in School Health, Safety & Social Development (HS) - http://www.schools-for-all.org/page/Using+Evidence-based+Implementation+Models+in+School+Health%2C+Safety+%26+Social+Development+%28HS%29 but none were new and relevant.</p> <p>Checked reference on Home - where evidence meets experience > Bibliographies & Toolboxes (BT) > Sun Safety/Skin Cancer Prevention (BT).. http://www.schools-for-all.org/page/Sun+Safety%2FSkin+Cancer+Prevention+%28BT%29</p> <ul style="list-style-type: none"> • Screened one on abstract Milne E, Jacoby P, Giles-Corti B, Cross D, Johnston R, English DR.(2006) The impact of the kidskin sun protection intervention on summer sun exposure: was it sustained? <i>Prev Med</i>. 	
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		<p>Jan;42(1):14-20. Epub 2005 Dec 5. EXCLUDED – FOCUSED ON YPS OUTCOMES.</p> <p>Checked references Home - where evidence meets experience > Handbook Sections (HS) > Ministry, Agency/School Board, School & Professional Capacity in Mental Health Promotion (HS) on http://www.schools-for-all.org/page/Ministry%2C+Agency%2FSchool+Board%2C+School+%26+Professional+Capacity+in+Mental+Health+Promotion+%28HS%29</p> <ul style="list-style-type: none"> • Darcy A. Santor, Alexa L. Bagnell (2012) Maximizing the Uptake and Sustainability of School-Based Mental Health Programs: Commercializing Knowledge, Child and Adolescent Psychiatric Clinics of North America Volume 21, Issue 1, 81-92. EXCLUDE ON DUPLICATION – FOUND IN DATABASE SEARCH. • Kari M. Gloppen, Michael W. Arthur, J. David Hawkins, Valerie B. Shapiro (2012) Sustainability of the Communities That Care Prevention System by Coalitions Participating in the Community Youth Development Study Journal of Adolescent Health (In Press) EXCLUDE ON INTERVENTION – NOT SCHOOL-BASED • Russell L Gruen, Julian H Elliott, Monica L Nolan, Paul D Lawton, et al. (2008) Sustainability science: an integrated approach for health-programme planning The Lancet Vol. 372, Issue 9649, Pages 1579-1589 EXCLUDED – NOT EMPIRICAL • Mark E. Feinberg, Daniel E. Bontempo, Mark T. Greenberg (2008) Predictors and Level of Sustainability of Community Prevention Coalitions American Journal of Preventive Medicine Vol. 34, Issue 6, Pages 495-501 EXCLUDED ON INTERVENTION – NOT SCHOOL-BASED • Kurt C Stange, Meredith A Goodwin, Stephen J Zyzanski, Allen J Dietrich Sustainability of a practice-individualized preventive service delivery intervention American Journal of Preventive Medicine Vol. 25, Issue 4, Pages 296-300 EXCLUDE ON INTERVENTION – NOT SCHOOL BASED. 	
International Union for Health Promotion and Education (www.iuhpe.org)	4/07/18	Searched the 'School health' section of IUHPE thematic resources in 'Publications' tab - https://www.iuhpe.org/index.php/en/iuhpe-thematic-resources/298-on-school-health	None.

		Looked at the book by Aldinger et al (eds) (2009) "Case studies in global school health promotion". EXCLUDED AS NOT EMPIRICAL.	
		Searched the 'research' section of IUHPE thematic resources in 'Publications' tab.	
National Centre for Social Research (www.natcen.ac.uk/our-research/)	16/07/18	Searched all publications under the following sections: "Children & young people" – NONE RELEVANT ON TITLE AND ABSTRACT. "Health & wellbeing" – NONE RELEVANT ON TITLE AND ABSTRACT. "Schools, education & training". – NONE RELEVANT ON TITLE AND ABSTRACT.	None.
National Foundation for Education Research (https://www.nfer.ac.uk/)	16/7/18	Looked under "Publications & research" and the following categories: "Health and wellbeing", "Leadership and management in schools", "Other curriculum subjects", "Professional development", "Teaching and pedagogy", "Teaching and innovation" – NONE RELEVANT ON TITLE AND ABSTRACT	None.
NHS Evidence Library (https://www.evidence.nhs.uk)	18/7/18	Searched using the standard search terms and filtered results by selecting "Primary research" and "Ongoing trials" categories. 493 records identified. Screened on title. X screened on abstract: Wyatt et al (2018). Cluster randomised controlled trial and economic and process evaluation to determine the effectiveness and cost effectiveness of a novel intervention [Healthy Lifestyles Programme (HeLP)] to prevent obesity in school children. EXCLUDE ON PAPER'S SUBJECT. LOOKS AT YPS OUTCOMES.	None.
NHS Health Scotland library (http://www.healthscotland.scot/)	18/7/18	Searched the "Publications" section of the website. The search engine brings up pre-specified key words to search under. Searched the following: <ul style="list-style-type: none"> • Sustain, sustainable, sustained, sustainability – no reports. • Continued – no reports. • Maintain or maintained – 2 reports, neither relevant. • Embed – no reports. • Integration – 1 report, not relevant. • Discontinued – 1 report, not relevant. • Mainstreaming – 3 reports, none relevant. • Persistence – 1 report, not relevant. 	None.
School Health Education Unit (www.sheu.org.uk)	18/7/18	Searched the "Publications" section of the website. The search engine does not allow Boolean terms. <u>Education and Health Journal Archive</u> – searched using the following search terms: <ul style="list-style-type: none"> • Sustain – 1 report identified, screened on full text: Grant,S 2005. Tipu Ka Rea/ to 	

		<p>grow, expand and multiply: an operational model for developing sustainable health-promoting schools in Aotearoa/New Zealand. <i>Education and Health</i> 23(3),44-46. EXCLUDED ON EVIDENCE – NOT EMPIRICAL.</p> <ul style="list-style-type: none"> • Sustainability/sustained – no reports. • Continued/continuation – no reports. • Maintenance/maintained/maintain – 1 report, excluded on title. • Institutionalisation/institutionalization – no reports. • Routinisation/routinization – no reports. • Embed/embedded – no reports. • Incorporation – no reports. • Integration – no reports. • Normalisation/normalization – no reports. • Stabilization – no reports. • Durability – no reports. • Long-term implementation/long term implementation – no reports. • Discontinuation/discontinued – no reports. • Mainstreaming – no reports. • Scale up/scale-up/scaling up/scaling-up – no reports. • Endurance – no reports. • Persistence – no reports. 	
Schools for Health in Europe (http://www.schools-for-health.eu/she-network)	18/7/18	<p>Searched under “Resources”, no relevant reports found.</p> <p>Searched under “Publications and reports” under “Research Group”.</p> <p>One book identified, “Schools for Health and Sustainability: Theory, research and Practice” was EXCLUDED ON DUPLICATION as identified through another website, the International School Health Network.</p> <p>Two journals promoted Health Promotion International and Health Education, both of which already included in the database search.</p>	
WHO (http://www.who.int/)	19/7/18	<p>Searched the WHO library catalogue. http://kohahq.searo.who.int/ using the standard search terms, filtered by date range 1996-2018 and English only. 255 records. Screened on title.</p>	None.

Appendix 9: Contact with subject experts (additional file 3 in published paper)

A number of experts were contacted for this review by email on 24th July 2018. The names of the experts contacted and their institutions, and template of the email sent are detailed below.

Alyssa Lederer	Assistant Professor, Tulane University, Louisiana, USA
Bahr Weiss	Associate Professor of Psychology and Human Development, Vanderbilt University, Nashville, USA
Brian Flay	Professor, School of Social and Behavioral Health Sciences, Oregon State University, USA
Bruce Taylor	Senior Fellow, Public Health, University of Chicago, USA
Carl May	Professor, University of Southampton, UK
Carolyn C. Johnson	Endowed Professor, School of Public Health and Tropical Medicine, Tulane University, Louisiana, USA
Cate Egan	Assistant Professor, University of Idaho, USA
Claire V. Crooks	Associate Professor, Western Education, USA
Collin Webster	Associate Dean for Research and Innovation Professor, College of Education, University of South Carolina, USA
Danny Wight	Professor, Institute of Health & Wellbeing, University of Glasgow, UK
David Foxcroft	Professor of Community Psychology and Public Health, Oxford Brookes, UK
Deanna M. Hoelscher	Director, Michael & Susan Dell Center for Healthy Living, USA
Douglas Luke	Director, Center for Public Health Systems Science, Washington University in St Louis, USA
Elling Bere	Professor, Universitetet Agder, Norway
Emily Ozer	Professor, Community Health Sciences, University of California, Berkeley, USA
Erum Nadeem	Assistant Professor, Department of Child and Adolescent Psychiatry, New York University, USA
George Patton	Professor of Population Health Studies of Adolescents, University of Melbourne, Australia
Graham Moore	Senior Lecturer, School of Social Sciences, University of Cardiff, UK
Helen Weiss	Professor of Epidemiology and Director of the MRC Tropical Epidemiology Group, LSHTM, UK
Honor Young	Lecturer in quantitative research methods, School of Social Sciences, University of Cardiff, UK
J. David Hawkins	Endowed Professor in Prevention, University of Washington, USA
Jeremy Segrott	Lecturer, University of Cardiff, UK

John E. Lochman	Professor and Doddridge Saxon Chair in Clinical Psychology, University of Alabama, USA
John P. Elder	Distinguished Professor, San Diego State University, USA
John Santelli	Professor, Population and Family Health and Pediatrics, University of Columbia, USA
Judi Kidger	Senior Research Fellow in Public Health, University of Bristol, UK
Judy Hutchings	Professor in Psychology, University of Bangor, UK
Karen Devries	Associate Professor in Social Epidemiology, LSHTM, UK
Karen E. Schetzina	Department of Pediatrics, East Tennessee State University, USA
Karin Coyle	Chief Science Officer, ETR Associates, USA
Kimberly J. Rauscher	Associate Professor, West Virginia University, USA
Larry Aber	Willner Family Professor of Psychology and Public Policy, NYU Steinhardt, USA
Laurence Moore	Professor, Director of the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, UK
Leslie A. Lytle	Professor, Department of Health Behavior, Gillings School of Global Public Health, USA
Lyndal Bond	Professor of Population Health & Evaluation, Victoria University, Melbourne, Australia
Marion Henderson	Senior Investigator Scientist, MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, UK
Mark Greenberg	Edna Bennett Chair and Professor, Human Development & Psychology, Penn State, USA
Maurice J Elias	Professor, Rutgers School of Arts and Sciences, USA
Neil Humphrey	Professor of Psychology of Education, University of Manchester, UK
Penelope Hawe	Professor, University of Sydney, Australia
Pierre Pluye	Professor, Department of Family Medicine, McGill University, USA
Rebecca Muckelbauer	Berlin School of Public Health, Charite University Medical Center Berlin
Ricardo Catalano	Professor, University of Washington, USA
Rona Campbell	Professor of Public Health Research, University of Bristol, UK
Russell E Glasgow	Professor, University of Colorado Denver, USA
Sachin Shinde	LSHTM, UK
Sarah Friend	Evaluation Director, School of Nursing, University of Minnesota, USA
Sheldon L. Loman	Professor, Graduate School of Education, Portland State University, USA
Stavroula K. Osganian	Co-Chief, Clinical Research Center, Boston Children's Hospital, USA
Steven H. Kelder	Distinguished Professor in Spirituality and Healing, Michael & Susan Dell Center for Healthy Living, USA
Suzanne Audrey	Senior Research Fellow, University of Bristol, UK
Tamsin Ford	Professor of Child and Adolescent Psychiatry, University of Exeter, UK

Tan Leng Goh	Assistant Professor of Physical Education & Human Performance Central Connecticut State University, USA
Tena L. St Pierre	Penn State, USA
Thomas L. McKenzie	Professor Emeritus, School of Exercise and Nutritional Sciences, San Diego State University, USA
Trish Gorely	Senior Lecturer, University of Stirling, UK
Vikram Patel	The Pershing Square Professor of Global Health, Harvard University, USA

NB: email delivery failed to Susan S. Han, Marieke Dijkman and Marthe Deschesnes. No alternative contact addresses could be found.

Email sent to experts

Dear all,

I am a researcher from the London School of Hygiene & Tropical Medicine
(<https://www.lshtm.ac.uk/>)

We are currently undertaking a systematic review entitled “**The barriers and facilitators to sustaining public health interventions in schools in OECD countries**”. Please find the protocol

here: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=76320

I am writing to you today as an expert in the implementation and sustainability of health-related interventions in schools. I would like you to inform me of **any research of which you are aware that may be relevant to this review**. The table below summarises the types of study in which we are interested.

Definition of sustainability for the review	Studies focused on the continuation or discontinuation of a school-based public health intervention once external funding/resources have come to an end.
Participants	Delivered to children aged 5 to 18 years and conducted in an OECD country.
Intervention	Delivered partly or wholly within school hours. Included health outcomes among its primary outcomes. Universal or targeted approach, encompassing one or more of the following: A formal health curriculum, Ethos or environment of the school Engagement with families or communities or both
Outcomes targeted by the intervention	Obesity or overweight or body size, physical activity or sedentary behaviours, nutrition, tobacco use, alcohol use, other drug use, sexual health, mental health or emotional well-being, bullying, infectious diseases, safety or accident prevention, body image or eating disorders,

	skin or sun safety, oral
Study design	Empirical - qualitative or quantitative. Fieldwork must have been carried out after original external funding/resources to adopt and implement the intervention had ended.

At the end of this email is a list of relevant studies of which we are already aware (of which many of you are the authors).

Ideally I would be very grateful if you could let me know of additional relevant studies by email by 20th August 2018. However, if this is not possible, please could you indicate if and by when you would be able to respond?

If there are other experts you would recommend we contact, please do let me know.

If you have any questions, please do not hesitate to get in touch.

Thank you in advance for your assistance on this matter.

Best regards,

Lauren Herlitz

Appendix 10: Data extraction and quality appraisal form (additional file 4 in published paper)

<p><i>Consider if the study has reported the following. Provide justifications for your response wherever necessary.</i></p> <p><i>If not reported, write 'Not stated'. If not applicable, write 'NA'. Do not leave blank.</i></p>	
Completed by:	Date:
1. IDENTIFICATION OF DOCUMENT OR ARTICLE	
1.1 Citation	
2. STUDENT CHARACTERISTICS - STUDY SAMPLE FOR TRIAL PHASE	
2.1 Age/grades	
2.2 Sex (<i>boys, girls, mixed</i>)	
2.3 SES	
2.4 Ethnicity	
3. SCHOOLS - STUDY POPULATION FOR TRIAL PHASE	
3.1 Education phase (<i>Primary/Elementary 5-10 yrs; Secondary/Middle School 11-13 yrs or High School 14-18 yrs</i>)	
3.2 School type (<i>State; Private; Not stated</i>)	
3.3 Single sex/mixed sex	
3.4 Geographic location (<i>Country; area(s) of country</i>)	
4. DESCRIPTION OF THE INTERVENTION	
4.1 NAME: Intervention name (<i>explain any abbreviations</i>)	
4.2 AIM: Overall aim(s) of the intervention	
4.3 TARGETED or UNIVERSAL?	
4.4 MATERIALS: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention provider	

4.5 METHOD AND MODE: Describe each of the procedures, activities, and/or processes used in the intervention, and include the mode of delivery (e.g. face-to-face, internet) and whether it was provided individually or in a group.	
4.6 PROVIDER: Person(s) providing the intervention (e.g. <i>teachers, counsellors, external facilitators</i>). For each type of provider, describe whether they were external to the school, their expertise, background and any specific training given.	
4.7 LOCATION: Describe the location of the intervention (e.g. classroom, playground)	
4.8 DOSE AND SCHEDULE: Describe the number of times the intervention was delivered and over what period of time and include the number of sessions, their schedule, and their duration	
4.9 TAILORING: If the intervention was intended to be adaptable, describe how.	
4.10 MODIFICATIONS: If the intervention was modified during the course of the study, describe the changes	
5. KEY DATES	
5.1 Trial phase baseline evaluation data collection date (MM/YYYY)	
5.2 Start of intervention trial phase implementation (MM/YYYY)	
5.3 End of intervention trial phase implementation (MM/YYYY) (i.e. externally funded materials or providers are no longer given to schools. Provide details of any uncertainty)	
5.4 Trial phase post-intervention evaluation data collection date	

(MM/YYYY)	
5.5 Sustainability phase evaluation data collection date(s) (MM/YYYY) (nb, may be called follow-up data collection)	
6. TRIAL PHASE - STUDY DESIGN/METHODOLOGY	
6.1 Citation for the effectiveness evaluation	
6.2 Overall study design (e.g RCT; matched comparison; uncontrolled before/after; cross-sectional)	
6.3 Number of schools (<i>state how many were intervention and control</i>)	
6.4 Number of student participants (<i>state how many were intervention and control</i>)	
6.5 Any indication from this evaluation of significant effects on primary and secondary outcomes post-intervention?	
6.6 Any details about how successfully the intervention was implemented	
6.7 Was the study of sustainability a long-term follow-up for this effectiveness evaluation? [Yes/No]	
7. SUSTAINABILITY PHASE – STUDY DESIGN/METHODOLOGY	
7.1 Research questions or hypotheses	
7.2 Definition of sustainability used (if there is one)	
7.3 Rationale for the sustainability of the intervention (<i>include name of conceptual framework/model if used</i>)	
7.4 Overall study design	
7.5 Describe what schools were selected for study and rationale	
7.6 School sample size, response rate, and characteristics	
7.7 Describe what practitioner/stakeholder participants were selected for	

study and rationale (<i>if applicable</i>)	
7.8 Practitioner participant sample size, response rate, and characteristics.	
7.9 Describe what student participants were selected for study and rationale (<i>if applicable</i>)	
7.10 Student participant sample size, response rate, and characteristics (<i>if applicable</i>).	
7.11 Methods of data collection (<i>when was data collected, from whom, what data collection method was used</i>)	
7.12 Methods of data analysis (<i>include unit of analysis</i>)	
8. SUSTAINABILITY STUDY FINDINGS	
<p>8.1 Give details on how many schools sustained the intervention or various components of the intervention (if relevant to study).</p> <p><i>Summarise in a format similar to:</i></p> <ul style="list-style-type: none"> • <i>X/Y (%) intervention schools sustained Z component.</i> • <i>X/Y (%) control schools sustained Z component.</i> 	
<p>8.2 Give details of sustained health outcomes for students (if applicable).</p> <p><i>Summarise</i></p>	
<p>8.3 Provide any results which examine the relationship between intervention (dis)continuation and outcome sustainability (if applicable)</p> <p><i>Summarise</i></p>	
<p>8.4 Give details of all results relating to barriers and facilitators of sustainability.</p> <p><i>Verbatim (include page numbers).</i></p>	
8.5 Give details of any adaptations to the intervention after	

intervention period. <i>Verbatim (include page numbers)</i>	
8.6 Additional insights from the authors' discussion section. <i>Verbatim (include page numbers).</i>	
9. QUALITY APPRAISAL	
<i>C1: Justification:</i> Was there an explicit account of the theoretical framework and/or inclusion of a literature review? Did the report provide an explanation of, and justification for, the focus of the study and the methods used? [No/Partial/Yes]	
<i>C2: Clearly stated aims/objectives:</i> Did the report explicitly and clearly state the aims of the study? [No/Partial/Yes]	
<i>C3: Clear description of context:</i> Did the report adequately describe the specific circumstances under which the research was developed, carried out and completed? [No/Partial/Yes]	
<i>C4: Clear description of sample:</i> Did the report provide adequate details of the sample including details of sampling and recruitment? [No/Partial/Yes]	
<i>C5: Clear description of methodology:</i> Did the report provide an adequate description of the methods used to collect and analyse the data? [No/Partial/Yes]	
<i>C6: Establishing reliability and validity of the data:</i> Have the researcher demonstrated some attempt to assess the reliability and validity of the data? [No/Partial/Yes]	
<i>C7: Inclusion of original data:</i> Did the report present sufficient data in the form of, for example, data tables, direct quotations from interviews or focus groups, or data from observations, to enable the reader to see that the	

<p>results and conclusions were grounded in the data? [No/Partial/Yes]</p>	
<p>W1: How reliable or trustworthy overall are the findings? (i.e. the extent to which the methods employed were rigorous/could minimise bias and error in the findings) [Low/Medium/High] plus free text explaining the decision</p>	
<p>W2: How useful, overall, were the findings for shedding light on factors relating to the research questions for this review? [Low/Medium/High] plus free text explaining the decision</p>	

Appendix 11: Quality appraisal guidance and ratings (additional file 5 in published paper)

Guidance on determining reliability (weight of evidence 1)

- For a judgement of 'high' reliability, studies need to have taken steps to ensure rigour – a clear 'Yes' – in at least five of the seven criteria.
- For a judgement of 'medium' reliability, studies will have been rated as 'Partial' or 'Yes' in at least four of the seven criteria.
- All others should be judged as 'low' reliability.

Guidance on determining usefulness (weight of evidence 2)

- For a judgement of 'high' on usefulness, studies need to have described, with both breadth and depth, the factors affecting the sustainability or discontinuation of the intervention, and will have privileged the perspectives of participants.
- For a judgement of 'medium' on usefulness, studies need to have described, with some breadth and/or depth, the factors affecting the sustainability or discontinuation of the intervention, and will have partially drawn on the views and experiences of participants.
- 'Low' usefulness will have some findings of interest regarding the intervention's sustainability with a minimal amount of depth and will minimally have privileged the views of participants, if at all.

Criteria 1 – 7 rated No, Partial or Yes; Weight of evidence 1 and 2 rated Low, Medium or High.

Study #	Intervention; author(s) and year;	C1: Justification	C2: Clearly stated aims/ objectives	C3: Clear description of context	C4: Clear description of sample	C5: Clear description of method- ology	C6: Establish- ing reliability and validity of the data	C7: Inclusion of original data	Weight of evidence 1: Reliability	Weight of evidence 2: Relevance
1	<i>Project Salsa</i> ; Elder et al. 1998	Partial	Yes	No	No	No	No	No	Low	Low
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; Kalafat and Ryerson 1999	Partial	Yes	Yes	No	Partial	No	Partial	Low	Medium

3	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH) – health education curriculum;</i> Johnson et al. 2003	Partial	Partial	Yes	Yes	Yes	Partial	Yes	High	Low
4	<i>CATCH – PE component;</i> Kelder et al. 2003	Partial	Yes	Yes	Yes	Yes	Partial	Partial	Medium	Medium
5	<i>CATCH – all components;</i> Lytle et al. 2003	Partial	Yes	Partial	Yes	Yes	Yes	Yes	Medium	High
6	<i>CATCH – PE component;</i> McKenzie et al. 2003	Yes	Yes	Yes	No	No	Partial	Partial	Low	Low
7	<i>CATCH – food service component;</i> Osganian et al. 2003	Partial	Yes	Yes	Partial	Yes	Yes	Yes	High	Medium
8	<i>CATCH – school climate;</i> Parcel et al. 2003	Partial	Yes	Yes	Partial	Yes	Yes	Yes	High	Low
9	<i>CATCH – all components;</i> Hoelscher 2004	Yes	High	Low						
10	<i>Project ALERT;</i> St Pierre and Kaltreider 2004	Partial	Yes	Yes	Partial	Partial	Partial	No	Low	Low
11	<i>School Fruit Programme and the Fruit and Vegetables Make the Marks (FVMM);</i> Bere 2006	No	Yes	Yes	Partial	Yes	Yes	Yes	High	Low

12	<i>Untitled - intervention focused on water consumption;</i> Muckelbauer, Libuda, Clausen, and Kersting 2009	Partial	Yes	Yes	Partial	Partial	Partial	Yes	Medium	Low
13	<i>European Network of Health-Promoting Schools;</i> Tjomsland et al. 2009	Partial	Yes	Partial	Partial	Yes	Partial	Yes	Medium	High
14	<i>First Step to Success (FSS);</i> Loman, Rodriguez, and Horner 2010	Partial	Yes	Yes	Partial	Partial	Partial	Partial	Low	Low
15	<i>GreatFun2Run;</i> Gorely et al. 2011	Yes	Yes	Partial	Partial	Yes	Yes	Yes	High	Medium
16	<i>Winning with Wellness;</i> Schetzina et al. 2009	Partial	Yes	Yes	Partial	Yes	Partial	Yes	Medium	Low
17	<i>Fourth R program;</i> Crooks et al. 2013	Partial	Yes	Yes	Partial	Partial	No	Yes	Low	Medium
18	<i>New Moves;</i> Friend et al. 2014	Partial	Yes	Yes	Partial	Partial	Partial	No	Medium	Medium
19	<i>Youth@work: Talking Safety;</i> Rauscher et al. 2015	Partial	Yes	Yes	Yes	Yes	Partial	Yes	Low	Low
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS);</i> Nadeem and Ringle 2016	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	High

21	<i>Good Behavior Game (GBG);</i> Dijkman et al. 2017	Yes	Yes	Partial	Partial	Yes	Partial	Yes	Medium	High
22	<i>TAKE 10!;</i> Goh et al. 2017	Yes	Yes	Yes	Partial	Partial	Partial	Yes	Medium	Medium
23	<i>School outdoor smoking ban;</i> Rozema et al. 2018	Partial	Yes	Yes	Partial	Partial	Partial	Partial	Low	Medium
24	<i>Health Optimizing PE (HOPE);</i> Egan et al. 2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	Medium

Appendix 12: PRISMA 2009 checklist (additional file 6 in published paper)

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1-2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3-4
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	7
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	4
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	5
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	5
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	5-6

Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	6
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	6
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	6
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	n/a
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7

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Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	n/a
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	n/a
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	8
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	8
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	9
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	n/a
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of	n/a

		consistency.	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	n/a
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	n/a
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	20
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	20
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	19
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	22

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.

Appendix 13: Additional details on sustainability study design participants (additional file 7 in published paper)

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
1	<i>Project Salsa</i> ; Elder et al., 1998	6 schools; 100% (implied)	N/A	Not known, no details on school-level participants.	N/A
2	<i>Adolescent Suicide Awareness Program (ASAP)</i> ; Kalafat and Ryerson, 1999	24 schools; 73%	7 schools with another youth suicide prevention programme; 54%	24 staff from FI schools, 11 of whom participated in structured interviews; 100%. 7 staff from CG schools; 100%	N/A
3	<i>Child and Adolescent Trial for Cardiovascular Health (CATCH) – health education curriculum</i> ; Johnson et al., 2003	56 schools; 100%	20 schools (CG1) who received a lower dose of CATCH at the end of the trial, and 12 schools (CG2) who did not receive the intervention; 100%.	572 teachers from FI schools; 94% 191 teachers from CG1 schools; 90% 127 teachers from CG2 schools; 93%	N/A

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
4	<i>CATCH – PE component</i> , Kelder et al., 2003	56 schools; 100%	20 schools (CG1) who received a lower dose of CATCH at the end of the trial, and 12 schools (CG2) who did not receive the intervention; 100%.	613 staff from FI schools – teachers & PE specialists; 207 staff from CG1 schools; 138 staff from CG2 schools; Exact response rates not known but between 94 and 100%	<i>Lesson observations</i> 645 PE lessons observed (401 from FI schools, 153 from FC schools, and 91 from comparison schools).
5	<i>CATCH – all intervention components</i> ; Lytle et al., 2003	56 schools; 100%	20 schools (CG1) who received a lower dose of CATCH at the end of the trial; 100%.	160 staff – teachers, PE specialists, food service staff; 91%	<i>School district personnel</i> 20 school district administrators
6	<i>CATCH – PE component</i> , McKenzie et al., 2003	56 schools; 100%	20 schools (CG1) who received a lower dose of CATCH at the end of the trial; 100%.	613 staff from FI schools – teachers & PE specialists; 207 staff from CG1 schools; Exact response rates not known but between 94 and 100%	<i>Lesson observations</i> 554 PE lessons observed (401 from FI schools and 153 from FC schools)
7	<i>CATCH – food service component</i> ,	56 schools; 100%	20 schools (CG1) who received a lower dose of	203 FI cooks/ technicians; 94%	

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
	Osganian et al., 2003		CATCH at the end of the trial; 100%.	82 FC cooks/ technicians; 99% .	
8	<i>CATCH – school climate</i> ; Parcel et al., 2003	56 schools; 100%	Not applicable	613 staff from FI schools – teachers & PE specialists; Exact response rates not known but between 94 and 100%	<i>Lesson observations</i> 401 PE lessons observed
9	<i>CATCH – all intervention components</i> ; Hoelscher et al., 2004	56 schools; 100%	20 schools (CG1) who received a lower dose of CATCH at the end of the trial, and 12 schools (CG2) who did not receive the intervention; 100%.	613 staff from FI schools – teachers & PE specialists; 207 staff from CG1 schools; 138 staff from CG2 schools; Exact response rates not known but between 94 and 100%	<i>Lesson observations</i> 645 PE lessons observed (401 from FI schools, 153 from FC schools, and 91 from comparison schools).

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
10	<i>Project ALERT</i> ; St Pierre and Kaltreider, 2004	8 schools; 100%	Not applicable	Not known	
11	<i>School Fruit Programme and the Fruit and Vegetables Make the Marks (FVMM)</i> ; Bere, 2006	9 schools; 100%	10 schools; 100%.	Not applicable	<i>Students</i> 577 students at baseline, 517 students (286 FI and 231 FC) post-trial phase and one year post-trial phase.
12	<i>Untitled - intervention focused on water consumption</i> ; Muckelbauer et al., 2009	17 schools; 100%	Not applicable	11 head teachers; 100%	
13	<i>European Network of Health-Promoting Schools</i> ; Tjomsland et al., 2009	7 schools; 70%	Not applicable	7 head teachers; 100%	
14	<i>Winning with Wellness</i> ; Schetzina et al., 2009	1 school; 100%	Not applicable	29 teachers; 98%	N/A
15	<i>First Step to Success</i> ; Loman et al., 2010	29 schools; 13/29 school districts (45%) had continued to use the intervention. District administrators nominated schools.	Not applicable	29 staff – head teachers, teachers, counsellors, psychologist, speech-language therapist, coach; 100%	

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
16	<i>GreatFun2Run</i> ; Gorely et al., 2011	4 schools; 100%	Not applicable	8 teachers; unknown	<i>Longitudinal data on students' outcomes</i> 4 FI schools, 4 FC schools, and 8 secondary schools (approx. a third of students had moved on to secondary school). <i>Students</i> 589 students at baseline, 507 students post-trial phase, 421 students 20 months post-trial phase (206 FI and 215 FC) – outcome data. 72 FI students – focus groups on views and experiences.
17	<i>Fourth R program</i> ; Crooks et al., 2013	Not applicable	Not applicable	197 teachers; 47%	N/A
18	<i>New Moves</i> ; Friend et al. 2014	6 schools; 100%	6 schools; 100% Teachers from CG school received a lower dose of New Moves at the end of the trial.	5 teachers from FI schools; 100% 5 teachers from CG schools; 100%	<i>Lesson observation</i> 10 PE lessons (one per school).

Study #	Intervention; author(s) and year	No. of former intervention (FI) schools; response rate	No. of schools in comparison group (CG); response rate	No. of school personnel; response rate	No. other participants or observations
19	<i>Youth@work: Talking Safety</i> ; Rauscher et al., 2015	Not applicable	Not applicable	104 teachers; 45%	N/A
20	<i>Cognitive Behavioral Intervention for Trauma in Schools (CBITS)</i> ; Nadeem and Ringle, 2016	Not known	Not applicable	14 clinicians; 70%	<i>School district personnel</i> 2 school district staff.
21	<i>Good Behavior Game</i> ; Dijkman et al., 2017	16 schools; 94%	Not applicable	16 teachers/ GBG co-ordinators; 94%	N/A
22	<i>TAKE 10!</i> Goh et al., 2017	2 schools; Opportunity sample	Not applicable	15 teachers; Not known	N/A
23	<i>School outdoor smoking ban</i> ; Rozema et al., 2018	438 schools; Not known – 919 schools, of which 438 currently had the intervention,	Not applicable	438 head teachers; 100%. A sub-sample of 15 participated in interviews.	N/A
24	<i>Health Optimizing PE (HOPE)</i> ; Egan et al., 2019	1 school; 100%	Not applicable	7 teachers; 100%	<i>Students</i> 5 students, focus group. <i>Research team</i> 5 research team members, interviews

*Estimated as the time between the last year of the trial phase evaluation and the last year of the sustainability phase evaluation.

Appendix 14: Characteristics of schools in the intervention arm of the INCLUSIVE trial

<i>Year 3 implementation (based on fidelity data dated October 2017)</i>	<i>School ID</i>	<i>Single/mixed</i>	<i>No of students</i>	<i>% FSM (past 6 years)</i>	<i>Best 8 Value Added (2014) (GT=greater than; LT=less than)</i>
<i>A: Schools that fully implemented the i/vn with AGs</i>	AS	Girls	>1250	10 – 25%	GT 1000
	AU [^]	Girls	1000 – 1250	<10%	GT 1000
	AE	Mixed	<750	25 – 50%	GT 1000
<i>B: Schools that full implemented the i/vn, replacing the AGs</i>	AW	Mixed	750 – 1000	10 – 25%	GT 1000
	AD	Girls	>1250	25 – 50%	GT 1000
	AT	Girls	<750	25 – 50%	GT 1000
	BC	Mixed	750 – 1000	>50%	GT 1000
	AL	Mixed	1000 – 1250	10 – 25%	GT 1000
<i>C: Schools that partially implemented the i/vn, with AGs</i>	BD [^]	Mixed	>1250	>50%	GT 1000
	AH	Mixed	1000 – 1250	>50%	GT 1000
	BK	Mixed	<750	25 – 50%	LT 1000
<i>D: Schools that partially implemented the i/vn, without AGs</i>	AO [^]	Mixed	>1250	>50%	LT 1000
	AZ	Mixed	1000 – 1250	10 – 25%	LT 1000
	AX	Mixed	1000 – 1250	>50%	GT 1000
	AK	Mixed	>1250	25 – 50%	GT 1000
<i>E: Schools that discontinued the i/vn</i>	BE [^]	Mixed	<750	>50%	GT 1000
	AF	Mixed	>1250	<10%	GT 1000
	AM [^]	Mixed	750 – 1000	>50%	LT 1000
	BI	Boys	<750	>50%	LT 1000
	BM [^]	Mixed	>1250	<10%	GT 1000

[^]Case study school for the LT evaluation

Appendix 15: Interview guides for interviews conducted in the first year post-trial

School staff interview guide

<p>NOTES</p> <p><i>Previously interviewed?</i></p> <p><i>Facilitator was...</i></p>	
<p>INTRODUCTION</p> <p>The interview should take about 30-40 minutes. We will ask you questions about your views on the sustainability of the Learning Together intervention. Everything we talk about will be completely confidential. You will not be identified at any point nor will your school. Also, if you don't want to answer a particular question, you don't have to and if you feel uncomfortable or find it difficult to talk about things we can stop the interview at any point.</p> <p>Do you agree to take part? <u>We need you to fill in and sign a consent form. Is that OK?</u> Have you got any questions before we start?</p>	
<p>BACKGROUND INFORMATION</p> <p>What is your role at the school now?</p> <p>(If not clear), are you a member of the SLT?</p> <p>Do you have teaching responsibilities?</p> <p>How long have you been at the school?</p>	
<p>ACTIVITIES IN YEAR 3 AND 4</p> <p>1. Last year, we spoke to you about how LT had developed within the school.</p> <p>Does that seem right to you?</p>	<p><i>[insert synopsis]</i></p>

<p>2. Did you go on the in-depth restorative practice training?</p> <p>3. Were you an action group member from the beginning?</p>	
<p>RESTORATIVE PRACTICE</p> <p>4. Has the school continued to use restorative practice this school year?</p>	<p><i>Can you tell me about what has happened?</i></p> <p>If YES:</p> <p>a) How has the school used RP this year?</p> <p>b) What led the school to continue using RP? <i>Prompt on whether views shared by other staff members and SLT</i></p> <p>c) Has anything helped the school to carry on with RP?</p> <p>d) Have there been any barriers to using RP?</p> <p>e) How do you know whether RP is being used? (i.e. data collection?)</p> <p>If NO:</p> <p>a) What do you think lead the school to move away from RP? <i>Prompt on whether views shared by other staff members and SLT</i></p> <p>b) What would you have changed about how RP was implemented?</p> <p>c) What discipline approaches are the school currently using?</p>
<p>5. [If applicable] Did you gain anything as a teacher from using <i>restorative practice</i> in your work?</p> <p>6. Were there any negative impacts on your work from using the <i>approach</i>?</p>	<p>Impact on attitudes?</p> <p>Impact on skills/knowledge?</p> <p>Impact on relationships?</p>
<p>ACTION GROUPS</p> <p>7. Have there been any action groups (or similar groups) this year?</p>	<p>If YES:</p> <p>a) When? Who attended? New staff/student members?</p> <p>b) What happened in the group? What is the aim of the group(s) this year?</p> <p>c) What led the school to continue the groups? <i>Prompt on whether views shared by other staff members and SLT</i></p>

	<p>d) Has anything helped the groups to continue? e) Have there been any barriers to continuing the groups?</p> <p>If an adapted form of the AG group held:</p> <p>a) What factors lead to the school moving away from the AGs to group X? b) Who attended group X? What happened at group X? c) How have other staff responded to group X? d) How similar is group X to the AGs?</p> <p>If NO:</p> <p>a) What factors lead to the school stopping the AGs? <i>Prompt on whether views shared by other staff members and SLT</i></p> <p>b) What would you have changed about the AGs? c) Are there other forums for student voice currently in the school? d) How did the AGs fit with the other forums for student voice?</p>
<p>8. [If applicable] Did you gain anything as a teacher from taking part in the action groups?</p> <p>9. Were there any negative impacts on your work from being part of the action groups?</p>	<p>Impact on attitudes? Impact on skills/knowledge? Impact on relationships?</p>
<p>CURRICULUM</p> <p>10. Were the any of the curriculum materials used by the school last year or this year?</p>	<p>If YES:</p> <p>a) How are the materials currently being used? b) What led the school to continue using the materials?</p> <p>If NO:</p> <p>a) When was the last time that the curriculum materials were used? (e.g. what year, and when - in tutorials or lesson time?) b) What would you have changed about the curriculum materials? c) Why do you think the materials stopped being used?</p>
<p>11. [If applicable] Were the social and emotional learning curriculum materials useful for your work?</p>	<p>Impact on attitudes? Impact on skills/knowledge? Impact on relationships?</p>
<p>OTHER INTERVENTIONS AT THE SCHOOL</p>	

<p>12. In the last five years, has the school been involved in any other intervention projects?</p> <p>13. [If applicable] What do you think has helped Project X to continue after the funding stopped?</p> <p>14. [If applicable] What do you think stopped Project Y from continuing after the funding ended?</p>	<p><i>Ask for details on their purpose and activities, when they started, whether continuing to receive external funding, and whether still continuing.</i></p>
<p>CLOSURE</p> <p>15. Are there any other staff members at the school you would suggest I speak to about the sustainability of Learning Together?</p> <p>16. [If applicable] Would you be willing to speak to me again in the summer term to tell me how the action groups/restorative practice have been going this year?</p>	
<p>17. Is there anything else you would like to tell me about your experiences of the intervention that you think is important, and we haven't covered already?</p>	

Student interview guide

<p>NOTES</p>
<p>INTRODUCTION</p> <p>The interview should take about 30 minutes. We will ask you questions about your views on the student-staff groups you took part in and the group you are involved with now. Everything we talk about will be completely confidential. You will not be identified at any point nor will your school. Also, if you don't want to answer a particular question, you don't have to and if you feel uncomfortable or find it difficult to talk about things we can stop the interview at any point.</p> <p>Do you agree to take part? <u>We need you to fill in and sign a consent form. Is that OK?</u> Have you got any questions before we start?</p>

<p>BACKGROUND INFORMATION</p> <p>1. What year are you in?</p> <p>2. Have you been at the school since year 7?</p> <p>3. Are you missing any lessons to speak to me today?</p>	<p><i>If not, when did they join?</i></p>
<p>ACTION GROUP</p> <p>4. How did you become involved in the action group?</p> <p>5. Were any of your friends on the group?</p> <p>6. Who else was in the group?</p>	<p><i>When did you join? (AG from the beginning?)</i></p> <p><i>Why did you join?</i></p> <p><i>Was there a mix of students in the group in terms of:</i></p> <p><i>Year groups?</i></p> <p><i>Family background?</i></p> <p><i>Ability at school?</i></p>
<p>LAST SCHOOL YEAR (2016/17)</p> <p>7. How often did you meet up?</p> <p>8. What normally happened in a meeting?</p> <p>9. Can you give me an example of something in your school that has happened as a result of the group?</p> <p>10. How did the group link with the school community committee/council?</p> <p>THIS SCHOOL YEAR (2017/18)</p> <p>11. Has the group continued this school</p>	<p><i>Describe – Aim? Who involved? What happened?</i></p> <p><i>When did it happen?</i></p> <p><i>Events?</i></p> <p><i>Changes to school rules?</i></p> <p><i>Changes to policies?</i></p> <p><i>Other?</i></p>

<p>year?</p> <p>12. How often have you met?</p> <p>13. Have there been any changes in the way the meeting has been run in comparison to last year?</p> <p>14. Can you give me an example of any actions that have happened at the school this year as a result of the group?</p> <p>15. What do you enjoy about the group?</p> <p>16. What could be improved?</p> <p>17. Do other people at school know about the group?</p> <p>18. Has being part of the group changed your view of your school?</p> <p>CLOSURE AND THANKS!</p>	<p><i>Has anything helped the groups to continue?</i></p> <p><i>Have there been any difficulties in continuing the groups?</i></p> <p><i>Describe – Aim? Who involved? What happened?</i></p> <p><i>When did it happen?</i></p> <p><i>Events?</i></p> <p><i>Changes to school rules?</i></p> <p><i>Changes to policies?</i></p> <p><i>Other?</i></p> <p><i>Response from teachers?</i></p> <p><i>Response from students?</i></p>
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Facilitator interview guide

NOTES	
<i>Schools?</i>	
INTRODUCTION	
<p>The interview should take about 40 minutes. I will ask you questions about your views on the sustainability of the Learning Together intervention. Everything we talk about will be completely confidential. You will not be identified at any point nor will the schools that you worked at. If you don't want to answer a particular question, you don't have to and if you feel uncomfortable or find it difficult to talk about things we can stop the interview at any point.</p> <p>Do you agree to take part? <u>We need you to fill in and sign a consent form. Is that OK?</u> Have you got any questions before we start?</p>	
BACKGROUND INFORMATION	
How did you become involved in Learning Together?	
SCHOOL 1	
<p>ACTIVITIES AT THE END OF YEAR 2</p> <p>18. This is a brief summary of where things seem to stand with the school towards the end of year 2.</p> <p>Does that seem right to you?</p> <p>19. Did you have any contact with the school at all once you left?</p>	<i>[insert synopsis]</i>
RESTORATIVE PRACTICE	
20. How was the school using restorative practice during the second year?	
21. What factors affected the degree to	

<p>which restorative practice was embedded at [School 1]?</p> <p>ACTION GROUPS</p> <p>22. What factors affected the embedding of the action groups at [School 1]?</p> <p>CURRICULUM</p> <p>23. What factors affected the embedding of the curriculum at [School 1]?</p> <p>24. Was the head teacher involved in the intervention?</p>	<p>The involvement of the SLT? Staff who were involved? Staff relationships? School culture towards discipline? School climate, i.e. pressures on staff?</p> <p>The involvement of the SLT? Staff who were involved? Students who were involved? Existing student voice? School culture? School climate?</p> <p>The involvement of the SLT? Staff who were involved? Existing PSHE education? School culture? School climate?</p>
<p>SCHOOL 2</p> <p>ACTIVITIES AT THE END OF YEAR 2</p> <p>25. This is a brief summary of where things seem to stand with the school towards the end of year 2.</p> <p>Does that seem right to you?</p> <p>26. Did you have any contact with the school at all once you left?</p> <p>RESTORATIVE PRACTICE</p>	<p><i>[insert synopsis]</i></p>

<p>27. How was the school using restorative practice towards the end of the second year?</p> <p>28. What factors affected the degree to which restorative practice was embedded at [School 2]?</p> <p>ACTION GROUPS</p> <p>29. What factors affected the embedding of the action groups at [School 2]?</p> <p>CURRICULUM</p> <p>30. What factors affected the embedding of the curriculum at [School 2]?</p> <p>31. Was the head teacher involved in the intervention?</p>	<p>The involvement of the SLT? Staff who were involved? Staff relationships? School culture towards discipline? School climate, i.e. pressures on staff?</p> <p>The involvement of the SLT? Staff who were involved? Students who were involved? Existing student voice? School culture? School climate?</p> <p>The involvement of the SLT? Staff who were involved? Existing PSHE education? School culture? School climate?</p>
<p>INTERVENTION AS A WHOLE</p> <p>32. If you were re-doing the project, is there anything you would have changed about the intervention that you think would have helped it to integrate better into schools' practices and systems?</p> <p>33. Do think the components of the intervention worked together to make a coherent whole?</p>	
<p>ROLE OF THE FACILITATOR</p> <p>34. How would you describe your role as the facilitator of the intervention?</p> <p>35. How much influence do you think you had over how schools implemented the intervention?</p>	<p>Was two years needed?</p>

CLOSURE

Is there anything else you would like to tell me about your experiences of the intervention that you think is important, and we haven't covered already?

Appendix 16: Study information sheet

Sustainable School Health Interventions

A study exploring the sustainability of
public health interventions in schools

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



Project summary

This study is about how and why schools continue to use new health and wellbeing projects or discontinue them, once external funding for such projects comes to an end.

Significant investment has been made in testing out new school-based health interventions and schools commit a large amount of time and effort to taking part in such evaluations. These experiences should be useful and valuable for schools and students should continue to benefit from effective health interventions.

The study will be based on the experiences of *five* schools who took part in the Learning Together (LT) intervention, which was designed to reduce bullying and aggression in schools and become embedded within school practices and systems.

The study will compare the experiences of five schools – two schools which continued to use restorative practice, a staff-student action group, and curriculum materials in the third year of the trial; two schools which continued some parts, but not all, of the intervention; and one school which discontinued the intervention in the third year of the trial. It will also explore the ongoing development and sustainment or abandonment of the intervention in the year following the trial.

For more information, please contact : lauren.herlitz@lshtm.ac.uk.

15-17 Tavistock Place, London. WC1H 9SH.

Appendix 17: Information sheet and consent form

Information sheet for school staff

My name is Lauren Herlitz and I am a researcher from the London School of Hygiene & Tropical Medicine, working with your school to learn about how new health and wellbeing projects in schools can continue in the longer-term once funding from outside of the school comes to an end.

As part of my study, I would like to interview you and other staff who took part in 'Learning Together', a project that started in your school three years ago to combat bullying and aggression. The interview should take about 30-40 minutes and will take place during the school day in a private room at the school.

You have been chosen to participate based on your involvement in the intervention, either because you took part in the action groups, its actions, or were involved in restorative practice.

Do I have to do the interview?

No. You can decide whether or not to take part in the interview. If you do choose to take part, you may stop the interview at any time – it is completely up to you. We can also skip any questions that make you feel at all nervous or uncomfortable.

What will I be asked about in the interview?

You will be asked about what it was like to take part in the project, your views on whether it was useful, and the impact it had. There are no right or wrong answers, I am just interested in your opinions. I have no vested interest in the project or its effectiveness.

Will anyone else know what I have said in the interview?

No, the interview is completely anonymous and confidential. This means that your name will not be connected to your interview and everything you have said will be kept private. I will not tell other staff members what you said in the interview.

What will you do with the answers from my interview?

I would like to audio record the interview, with your permission. I will keep your interview securely stored in my office in a computer file that only I can access. The file will not include and cannot be linked to your name or any way of identifying you.

When I write reports or articles based on your answers in the interview, you and your school will not be named or identified in any way.

Your school will receive a report about the experiences of five schools who took part in 'Learning Together'. The reports will bring together information from lots of different people, including students, teachers and other people at the school, and the facilitators

who helped with the action groups in the first two years. There will be no way for the school to know what any individual teacher said in their interview. A pseudonym will be used for quotes and I will not use any quotes where you could personally be identified.

I have made my decision about taking part, what do I do now?

Please email me at lauren.herlitz@lshtm.ac.uk or call or message me on 07590021703 to let me know whether you would be happy to take part. I am also happy to answer any questions that you have.

If you are happy to take part, I will arrange with you a time and date when we can meet.

Thank you!

Consent form for school staff

If you are happy to take part in the study, please fill in the box below.

Full name.....	
	Please tick
I have read the information sheet.	<input type="checkbox"/>
I understand that I can choose to take part or not.	<input type="checkbox"/>
I understand that I can stop taking part at any time.	<input type="checkbox"/>
I agree to take part in this interview.	<input type="checkbox"/>
I agree that you can include anonymised quotes in reports and articles about the study.	<input type="checkbox"/>
Signed.....	
Date.....	

**Information sheet and consent procedure for parents/guardians of children
invited to take part in an interview**

My name is Lauren Herlitz and I am a researcher from the London School of Hygiene & Tropical Medicine University, working with your child's school to learn about how new health and wellbeing projects in schools can continue once external funding comes to an end.

As part of this study, we are interviewing students at the school who have participated in a staff-student action group to combat bullying and aggression, a new project called 'Learning Together' that was tried out in your child's school over the last three years.

The interview will last about 30 minutes and will take place during the school day. Students will be asked about what it was like to take part in the actions groups, their views on whether it was useful, and the impact it had. Your child will only be interviewed if she or he agrees. Your child will receive written and verbal information about the interview and be able to ask questions before they decide whether or not to take part. What your child tells us in the interview will be completely confidential.

When we write reports based on the research, your child will not be named or in any way identified. The school will also not be identifiable in any reports.

I hope you are happy for your child to be interviewed. If you are happy, you do not need to do anything. If you are not happy for your child to take part, please let me know by telephone 07590021703 or by email at lauren.herlitz@lshtm.ac.uk by Friday 23rd February. You can also contact me if you have any questions. If you prefer, you can tell the school directly that you do not want your child to participate by contacting [appropriate staff member] by telephone [insert phone number] or by email at [insert email].

Many thanks for your time,

Lauren Herlitz

London School of Hygiene & Tropical Medicine, 15-17 Tavistock Place, London. WC1H 9SH.

Information sheet for students

My name is Lauren Herlitz and I am a researcher working with your school to learn about how new health and wellbeing projects in schools can continue for more than just a couple of years.

As part of my study, I would like to interview you and other students who took part in a teacher-student action group as part of a project called 'Learning Together'. The interview should take about 30 minutes and will take place during the school day in a private room at the school.

Do I have to do the interview?

No. You can decide whether or not to take part in the interview. If you do choose to take part, you may stop the interview at any time – it is completely up to you. We can also skip any questions that make you feel at all nervous or uncomfortable.

Your parents will also be told about the interview. If they tell us they do not wish you to take part, you will not be asked to do the interview.

What will I be asked about in the interview?

An interview is a one-to-one conversation with me. You will be asked about what it was like to take part in the action group, your views on whether it was useful, and the impact it had. The interview is not a test - there are no right or wrong answers, I just want to hear your views.

Will anyone else know what I have said in the interview?

No, the interview is completely anonymous and confidential. This means that your name will not be connected to your interview and everything you have said will be kept private. I will not tell your parents or teachers what you said in the interview. If you want to tell your parents or friends what you said in your interview, it is your decision.

The only time where I would tell someone something you have said is if you tell me that you are at risk of serious harm. If that happens, I will discuss it with you first and then tell the safeguarding teacher at the school.

What will you do with my answers from my interview?

I would like to audio record the interview, with your permission. I will keep your interview securely stored in my office in a computer file that only I can access. The file will not include and cannot be linked to your name or any way of identifying you.

When I write reports based on your answers in the interview, you and your school will not be named or identified in any way.

Your school will receive a report about five schools who took part in 'Learning Together'. The reports will bring together information from lots of different people, including students, teachers and other people at the school, and the people who helped with the action groups in the first two years.

There will be no way for the school to know what any individual student said in their interview. If I use quotes from students, I will use a pretend name next to the quotes and I will make sure there is no way that you could be identified.

I have made my decision about taking part, what do I do now?

Please tell the teacher who gave you this information sheet whether you would be happy to take part in the interview. If you are happy to take part, I will arrange with the school a time and date when we can meet and talk.

If you are not sure and have some more questions, let your teacher know. I am happy to answer any questions that you have, big or small.

Thank you!

Assent form for students

If you are happy to take part in an interview, please fill in the box below.

Full name.....	
	Please tick
I have read the information sheet.	<input type="checkbox"/>
I understand that I can choose to take part or not.	<input type="checkbox"/>
I understand that I can stop taking part at any time.	<input type="checkbox"/>
I agree to take part in this interview.	<input type="checkbox"/>
I agree that you can use anonymised quotes (quotes without my name) from my interview in reports or articles about the study.	<input type="checkbox"/>
Signed.....	
Date.....	

Information sheet for facilitators

My name is Lauren Herlitz and I am a researcher from the London School of Hygiene & Tropical Medicine, studying how new health and wellbeing projects in schools can continue in the longer-term once funding from outside of the school comes to an end.

As part of my study, I would like to interview you about your involvement in 'Learning Together' two years ago. The interview should take about 30-45 minutes and will take place at a private location convenient to you.

Do I have to do the interview?

No. You can decide whether or not to take part in the interview. If you do choose to take part, you may stop the interview at any time – it is completely up to you. We can also skip any questions that make you feel at all nervous or uncomfortable.

What will I be asked about in the interview?

You will be asked about what it was like to take part in the project, your views on whether it was useful, and the impact it had. There are no right or wrong answers, I am just interested in your opinions. I have no vested interest in the project or its effectiveness.

Will anyone else know what I have said in the interview?

No, the interview is completely anonymous and confidential. This means that your name will not be connected to your interview and everything you have said will be kept private.

What will you do with the answers from my interview?

I would like to audio record the interview, with your permission. I will keep your interview securely stored in my office in a computer file that only I can access. The file will not include and cannot be linked to your name or any way of identifying you.

When I write reports or articles based on your answers in the interview, you and the schools you worked in will not be named or identified in any way.

You will receive a report about the experiences of five schools who took part in 'Learning Together'. The reports will bring together information from lots of different people, including students, teachers and other people at the school, and facilitators. There will be no way to tell what any individual facilitator said in their interview. A pseudonym will be used for quotes and I will not use any quotes where you could personally be identified.

I have made my decision about taking part, what do I do now?

Please email me at lauren.herlitz@lshtm.ac.uk or call or message me on 07590021703 to let me know whether you would be willing to take part. I am also happy to answer any questions that you have.

If you are happy to take part, I will arrange with you a time and date when we can meet.

Thank you!

Consent form for facilitators

If you are happy to take part in an interview for the study, please fill in the box below.

Full name.....	
	Please tick
I have read the information sheet.	<input type="checkbox"/>
I understand that I can choose to take part or not.	<input type="checkbox"/>
I understand that I can stop taking part at any time.	<input type="checkbox"/>
I agree to take part in this interview.	<input type="checkbox"/>
I agree that you can include anonymised quotes in reports and articles about the study.	<input type="checkbox"/>
Signed.....	
Date.....	

Appendix 18: Interview guide for school staff, second year post-trial

<p>Notes</p> <p>Interviewed before?</p>	
<p>Introduction</p> <p>The interview should take about 20 minutes. I'm going to ask you about how the activities that started through Learning Together have developed over the last year (2018/19). Everything we talk about will be completely confidential. You will not be identified at any point nor will your school. Also, if you don't want to answer a particular question, you don't have to and if you feel uncomfortable or find it difficult to talk about things we can stop the interview at any point.</p> <p>Do you agree to take part? <u>We need you to fill in and sign a consent form. Is that OK?</u> Have you got any questions before we start?</p>	
<p>Background information</p> <p>What your role at the school?</p>	<p><i>Same as last year?</i></p>
<p>Activities in year 5</p>	
<p>1. Last year, I spoke to you about how LT had continued within the school.</p> <p>Does that seem right to you?</p> <p>2. Last year, I spoke to [Person A, B, and C] about their involvement in RP and running the groups... are they still working at the school?</p> <p>3. Has there been a turnover in school head teacher since last year?</p> <p>4. Have any other members of staff – new</p>	<p><i>[insert synopsis]</i></p> <p>IF YES:</p> <ul style="list-style-type: none"> • Has [Person A] continued to lead the student groups? • Has [Person B] continued to be involved in RP? • Has [Person C] continued to be involved in RP?

<p>or old – become more involved in the groups or RP, or school health and wellbeing more generally, over the last year?</p>	
<p>5. Has the school continued to use restorative practice this school year?</p>	<p><i>Can you tell me about what has happened?</i></p> <p>If YES:</p> <ul style="list-style-type: none"> • How well do you think the system is working? • Has there been any more training – internal or external – on RP? • What have been the facilitators to the system working this year? • What have been the barriers? • Do you formally monitor the system? <p>If NO:</p> <ul style="list-style-type: none"> • What do you think lead the school to move away from restorative system? • What discipline approaches are the school currently using?
<p>6. [if applicable] Have the action groups continued this year?</p>	<p>If YES:</p> <ul style="list-style-type: none"> • New staff/student members? • What happened in the group this last year? • Has anything helped the groups to continue? • Have there been any barriers to continuing the groups? <p>If NO:</p> <ul style="list-style-type: none"> • What factors lead to the school stopping the groups? • Are there other forums for student voice currently in the school?
<p>7. Have any other staff-student forums started in the last year?</p>	
<p>8. Over the last year, has the school been involved in any other intervention projects related to health and wellbeing?</p>	<p>Ask for details on their purpose and activities, when they started, whether continuing to receive external funding, and whether still continuing.</p>
<p>9. Is there anything else you would like to tell me about that you think is important, and we haven't covered already?</p>	

Appendix 19: Information sheet and consent form for school staff, second year post-trial

Information sheet for school staff – follow-up interview

My name is Lauren Herlitz and I am a researcher from the London School of Hygiene & Tropical Medicine, working with your school to learn about how new health and wellbeing projects in schools can continue in the longer-term once funding from outside of the school comes to an end. I would like to interview you again about ‘Learning Together’, a project that started in your school four years ago to combat bullying and aggression. The interview should take about 20-25 minutes.

Do I have to do the interview?

No. You can decide whether or not to take part in the interview. If you do choose to take part, you may stop the interview at any time – it is completely up to you. We can also skip any questions that make you feel at all nervous or uncomfortable.

What will I be asked about in the interview?

You will be asked about how the activities that started through Learning Together have developed over the last school year and your views about them. There are no right or wrong answers, I am just interested in your opinions. I have no vested interest in the project or its effectiveness.

Will anyone else know what I have said in the interview?

No, the interview is completely anonymous and confidential. This means that your name will not be connected to your interview and everything you have said will be kept private.

What will you do with the answers from my interview?

I would like to audio record the interview, with your permission. I will keep your interview securely stored in my office in a computer file that only I can access. The file will not include and cannot be linked to your name or any way of identifying you.

When I write reports or articles based on your answers in the interview, you and your school will not be named or identified in any way.

Your school will receive a report about the experiences of five schools who took part in ‘Learning Together’. The reports will bring together information from lots of different people, including students, teachers and other people at the school, and the facilitators who helped with the action groups in the first two years. There will be no way for the school to know what any individual teacher said in their interview. A pseudonym will be used for quotes and I will not use any quotes where you could personally be identified.

Thank you!

Consent form for school staff

If you are happy to take part in the study, please fill in the box below.

Full name.....	
	Please tick
I have read the information sheet.	<input type="checkbox"/>
I understand that I can choose to take part or not.	<input type="checkbox"/>
I understand that I can stop taking part at any time.	<input type="checkbox"/>
I agree to take part in this interview.	<input type="checkbox"/>
I agree that you can include anonymised quotes in reports and articles about the study.	<input type="checkbox"/>
Signed.....	
Date.....	

Appendix 20: Fidelity scores for Learning Together’s implementation in each school during the trial (years 1 – 3)

School	Years 1 – 2								Year 3					
	AGs					Curriculum	RP		Overall Score/8	AGs		Curriculum	RP	Overall score/4
	Minutes/diaries indicated minimum of six meetings in years 1 and 2	Minutes/diaries indicated review of policies/rules in year 1 or 2	Minutes/diaries indicated implementation of locally decided actions in years 1 and 2	Survey of members indicated good range of students and staff members	Survey of members indicated well led	Survey or interviews indicated five hours/> 1 unit delivered in years 1 and 2	Attendance logs indicated at least five staff received in-depth training	Staff survey indicated at least 85% of staff report that if there is trouble at this school, staff respond by talking to those involved to help them get on better		Interviews indicated minimum of six meetings in year 3	Interviews indicated implementation of locally decided actions in year 3	Survey or interviews indicated five hours/> 1 unit delivered in year 3	Staff survey indicated at least 85% of staff report that if there is trouble at this school, staff respond by talking to those involved to help them get on better	
Downton Park	1	0	0	1	1	1	1 ⁸	1	6	1	1	1	1	4
Franklyn	1	1	1	1	1	0	1	1	7	1	1	1	1	4
Fern Grove	1	1	0	1	1	1	1	0	6	0	1	0	1	2
Bletchford	1	0 ⁹	1	1	1	0	1	0	5	0	1	0	1	2
Greenthorne	0	0	1	1	1	1	1	0	5	0	0	0	1	1

⁸ This score differs from data in Bonell et al. 2019 but is consistent with trial process evaluation data.

⁹ This score differs from data in Bonell et al. 2019 but is consistent with trial process evaluation data.

Appendix 21: Fidelity scores for Learning Together’s implementation in each school after the trial (years 4 and 5)

School	Year 4							Year 5						
	AG		Curriculum	RP			Overall score/6	AG		Curriculum	RP			Overall score/6
	Participant interviews indicated continuation of one or more of the original action groups	Participant interviews indicated continuation of actions derived from the action groups	Participant interviews indicated continuation of the curriculum	All staff interviewed indicated, with concrete examples, that they continued to practiced RP	Participant interviews indicated most staff in the school practiced RP	School behaviour and/or anti-bullying policy 2017/18 refers to restorative practice procedures		Participant Interview indicated continuation of one or more of the original action groups	Participant Interview indicated continuation of actions derived from the action groups	Participant Interview indicated continuation of the curriculum	Participant Interview indicated, with concrete examples, that s/he continued to practiced RP	Participant Interview indicated most staff in the school practiced RP	School behaviour and/or anti-bullying policy 2018/19 refers to restorative practice procedures	
Downton Park	0	0	0.5	1	0.5	1	3	0	0	0	1	0.5	1	2.5
Franklyn	0	1	0	1	0	0.5	2.5	0	1	0	1	0	1	3
Fern Grove	0	1	0	1	0.5	0.5	3	0	1	0	1	0	0.5	2.5
Bletchford	0	0	0	1	0.5	1	2.5	0	0	0	1	1	1	3
Greenthorne	0	0	0	1	0	1	2	0	0	0	1	0	1	2