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UNDERSTANDING THE 'PULL' OF PEER-LED SEX EDUCATION: A MODEL FOR THE PRODUCTION AND EVALUATION OF PROGRAMME THEORY

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A MODEL FOR THE PRODUCTION AND EVALUATION OF PROGRAMME THEORY

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Understanding the Pull of Peer-led Sex Education
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DECLARATION

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ABSTRACT

In the face of mixed evidence of effectiveness, research of peer-led sex education needs to consider the theory at the beginning, and mechanisms in the middle of an intervention, to better understand its outcomes. In making this recommendation, this thesis set out to appraise the utility of undertaking such an approach when researching peer-led sex education. Its research objectives were to: identify mechanisms underlying peer-led sex education, specify and refine programme theory, and test resultant theory via pattern-matching. This led to the production of five separate research studies. Study I, a review of existing theoretical literature to identify claims made to support peer-led sex education. Study II, a systematic review of empirical literature to ascertain whether identified claims were supported by research evidence. Study III, a series of interviews with practitioners to create programme theory. Study IV, an ethnographic case study to illustrate contextual features present in settings utilising participatory practices identified by practitioners as empowering youth volunteering as peer educators. Study V, a feasibility trial of peer-led sex education was not possible, inhibiting the thesis aim to test programme theory. The thesis proposes that efforts to identify programme theory and its constituent parts is a useful focus of inquiry to apply in a field where there is uneven evidence of effectiveness. Undertaking such an approach led to the categorisation and subsequent evaluation of the provenance and empirical basis for claims used to promote peer-led sex education; pinpointing areas of empirical or theoretical weakness worthy of further investigation. Successful operationalisation of this investigative intent is, however, much more difficult to realise. This issue can be attributed to the intuitive appeal of peer education, as well as wider debates about the utility and purpose of evaluation amongst practitioners. As a result, the thesis concludes by considering ways to overcome some of these evaluative obstacles and suggests a model of evaluation through which theory testing may be achieved in future.

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INTRODUCTION

This thesis seeks to explore the utilisation of peer education as an approach with which to deliver Sex and Relationships Education (SRE) to adolescents in the United Kingdom. Existent literature currently suffers from a lack of theorisation and an absence of investigation into the mechanisms believed to produce intervention outcomes. Consequently, it is difficult to isolate features which may influence intervention success, hindering efforts to understand why the field is characterised by uneven evidence of effectiveness. The introduction to this thesis makes a case to support a focus on mechanism identification and investigation within the context of peer-led SRE and defines key terminology associated with this approach. It also justifies the positioning of Theory-Driven Evaluation as its theoretical framework, combining Realist Evaluation and Theories of Change to gain greater understanding of peer education as a phenomenon in its entirety.

INTRODUCTION

1. Setting the Scene

1.1. Sex Education

Importance

Improving young people's sexual health and wellbeing is one of the biggest public health challenges worldwide (Bailey et al., 2010). The United Kingdom (UK) has often recorded above average rates of teenage pregnancy when compared to international figures for similarly developed countries (Avery & Lazdane, 2008; United Nations Statistics Division, 2005). Young people aged 16-24 experience the highest rates of STIs (Public Health England, 2018); the highest percentage of conceptions leading to abortion (Office for National Statistics, 2018); and are the largest group of non-contraceptive users (Lader, 2009). There is an association between receipt of school-based sex education and lower reporting of negative sexual health outcomes (Macdowall et al., 2015; Oringanje et al., 2009; Becasen, Ford, & Hogben, 2015). Combined with the rise of antibiotic-resistant STIs and public debate on issues such as sexual consent, gender identity, and pornography use, the necessity of sex education is undeniable.

Current Provision

In England, efforts to educate adolescents about sexual health and wellbeing are referred to as 'Sex and Relationship Education' (SRE). Currently there is no specific sex education curriculum: educators can refer to published guidelines, but these are non-statutory (DfEE, 2000). As a result, the consistency, quantity and quality of provision is highly variable (OFSTED, 2013). In 2017, the UK government announced statutory sex education under the new title of 'Relationship and Sex Education' (RSE). Making SRE

compulsory may not be a sufficient solution in itself however without also addressing wider problems hindering the delivery and communication of information about sexual health and sexuality to young people (Knight, 2009). Research concerning sex education spans roughly three decades, with persistent findings that interventions fail to meet adolescents' needs (Elley, 2013; OFSTED, 2013; Sex Education Forum, 2011; Terrence Higgins Trust, 2016; UK Youth Parliament & United Kingdom Youth Parliament, 2007). This has led to the conclusion that 'unless we get the delivery right, young people will continue to disengage with SRE' (Pound et al., 2016, p. 12). A key challenge therefore is how to encourage young people to participate in this educative process. Thus, there is a need to not only deliver comprehensive SRE through a compulsory curriculum, but also to improve upon delivery itself on a pedagogic level. Deciding which practitioners are best placed to teach the variety of topics falling under the remit of SRE is subject to debate.

1.2. Peer-led Sex Education
Definition
One intervention that may offer a potential solution to pedagogical problems within SRE is peer education. A popular definition of peer education is that given by Sciacca (1987, p. 4): 'the teaching or sharing of information, values and behaviours by members of a similar age or status group'. Peer education is an 'umbrella term' (Shiner, 1999) as it can encompass a wide variety of educators and educational techniques. This has implications for defining both the process of 'peer education' and its participant 'peer educators'; with the word 'peer' encompassing various relationships and different educative roles. Throughout this thesis, the terms 'peer education' and 'peer educators' are used. This is because, whilst acknowledging that peer education can be a specific definition that differs from other methods such as peer tutoring, it is also an over-arching label for peer-led

approaches. Furthermore, underlying each peer-led approach is an attempt to educate, thus it was felt the 'peer education' could encompass the other approaches 'under the umbrella'. The appropriateness of this is open to debate, with some suggesting the use of 'peer-delivered' rather than 'peer education'.

> *Whilst many peer-delivered health promotion interventions may be primarily 'educational', use of the term peer education, does not fully capture the diverse range of peer-delivered interventions which could or have been used to promote health. This particularly applies to the 'diffusional' and 'community mobilisation' approaches described above in which young people do not only 'educate' others but are encouraged to become pro-active members of their community.*

(Harden, Oakley, & Weston, 1999, p. 13)

This is a valid critique. As the purpose of this thesis is to explore the utilisation of peers specifically in an educational context however, peer education was thought to be the most suitable term.

Current Position

Peer education draws upon numerous theories from across the fields of Psychology, Education, Sociology and Health. Theoretical richness is used to legitimise peer-led SRE, but it can also be interpreted as a weakness, with Turner & Shepherd (1999) arguing that peer education is a 'method without a theory' (p.235). Evidence for the effectiveness of peer-led SRE may seem obvious in the form of positive feedback from young people themselves – either on behalf of the peer educators or their students (Harden, Oakley, & Weston, 1999) but evidence of effectiveness in the form of a reduction in rates of STI and unintended pregnancy is highly variable (Tolli & Tolli, 2012). Evaluation of peer-led SRE seeks to establish either intervention effectiveness or examine participant experience. Both goals are important, but solely focussing on these aims limits evidence to an end-product. This leaves unresolved questions regarding how underlying mechanisms and/or the contextual setting may influence intervention outcomes, furthering understanding of why an intervention may succeed or fail.

1.3. Mechanism-Focussed Investigation

The importance of mechanisms

Marchal et al., (2012) propose that it is not the intervention itself but its underlying mechanism(s) that produce outcomes. In replication, it is not the programme but the mechanism that is transferred between different populations and settings. Therefore, programme mechanisms should be the target/focus of evaluation. The current evaluative focus of peer-led SRE sheds little light on which mechanisms specifically affect intervention effectiveness or acceptability; the process by which they do this; and how contextual issues influence this process.

Black-box evaluation

The practice of evaluating effects, rather than how those effects are produced, is referred to as 'black box' evaluation. 'Much of the existing literature on peer education closely aligns with the black box approach' (Southgate & Aggleton, 2017, p. 6). It rarely examines what peer educators do, or how their activities are experienced and interpreted by participants. There is nothing wrong with black box approaches to evaluation if the evaluation aim is to judge effectiveness. Difficulties arise when products from the black box are inconsistent. Consequently, when studies of peer-led SRE are 'contradictory' (Borgia, Marinacci, Schifano, & Perucci, 2005, p. 514), 'black box' research evidence doesn't suggest which factors may be responsible for this (Cornish & Campbell, 2009) as an absence of mechanism-focussed investigation means that 'it is generally impossible for those reading the resultant evidence… to develop a clear sense of the mechanisms of change through which effects occur' (Bonell, Fletcher, Morton, Lorenc, & Moore, 2012, p.2301).

2. Thesis Purpose

In the face of mixed evidence of effectiveness, research on peer-led SRE needs to consider the theory at the beginning, and mechanisms in the middle of an intervention, to better understand outcomes at the end. As research of peer-led SRE is largely in the form of 'black box' evaluation, 'we need to adopt an approach to evaluation that implicitly acknowledges the need for outcome data but explicitly concentrates on process or illuminative data that helps us understand the nature of that relationship' (MacDonald & Davies, 1998, p. 6). Subsequently, this thesis engages in 'white box' evaluation (Scriven, 1994); attempting to unpack peer education's black box by systematically identifying and critically examining the logic and core components of peer-led SRE interventions.

Aims and Objectives

On this basis, the overarching aim of the thesis was to identify and understand how different contexts/mechanisms may influence intervention outcomes. This aim was to be achieved by completing the research objectives to: identify contexts/mechanisms that may influence peer-led SRE, specify and refine programme theory and test resultant theory via pattern-matching. These objectives were used to structure and guide the compilation of the PhD thesis.

Research Questions

The thesis addresses the following general research questions:

1. What causal mechanisms and/or contextual factors are thought to support peer-led SRE?
2. Which mechanisms and/or contextual factors have been subject to investigation?
3. How do these influence programme outcomes?
4. Can the effects of identified mechanisms/contextual factors be observed in practice?

Each chapter of the thesis corresponds to a different study of peer-led SRE designed to answer the research questions. Studies can be read together as a cumulative whole or independently, each including its own summary, contextual overview and more focussed research questions.

3. Thesis Framework

3.1. Theory Driven Evaluation

The conceptual framework for the thesis is drawn from Theory Driven Evaluation (TDE). The purpose of TDE is to assess the robustness of a programme's underlying assumptions (Astbury & Leeuw, 2010); focussing on intervention implementation, effectiveness, and the causal mechanisms and contextual factors that facilitate or inhibit change (Chen, 1990). TDE is recommended when:

> *RCTs have produced inconsistent estimates of efficacy and there is no consensus on when, how and with whom to use these interventions… or when the existing research on a particular intervention is made up of mainly disparate studies and grey literature which do not lend themselves to statistical analysis but provide a rich source of qualitative data*

(Wong, Greenhalgh, Westhorp, & Pawson, 2012, 94).

These are precisely the problems identified with the existing evidence base for peer-led SRE, making TDE a useful framework with which to guide the PhD study. Theory-Driven Evaluation tests whether theory works or fails to work in practice, leading to the reformulation and refinement of the original theoretical framework (Astbury & Leeuw, 2010). The key aim of TDE is to 'unpack programmatic black boxes and explain how and why programmes work' (or fail to work) in different contexts and for different programme stakeholders' (Astbury & Leeuw, 2010, p.364), echoing the stated thesis aim.

Definition

TDE has been used to describe an array of different evaluative approaches (Donaldson & Lipsey, 2006); 'Theories of Change' (Weiss, 1995) and 'Realist Evaluation' (Pawson & Tilley, 1997a) being most prevalent. These terms refer to similar, yet conceptually different approaches but are used inconsistently and interchangeably (Blamey & Mackenzie, 2007; Marchal et al., 2012; Rogers, 2007). As a result, they are sometimes grouped together using the more general label 'Theory-Driven Evaluation' (Coryn, Noakes, Westine, & Schröter, 2011). TDE is used to describe the conceptual framework

of this thesis as it incorporates aspects of both approaches. It is hoped that by using the general term TDE, the epistemological foundations of either approach was prevented from dictating research design and process. The researcher tried not to align or ally themselves with any one perspective, instead embracing whichever methods of data collection and analysis best suited their research questions (McEvoy & Richards, 2006).

Realist Evaluation

It could be argued that this 'pragmatic' vantage point indicates that the thesis aligns more with Realist Evaluation. It is true perhaps that Realist Evaluation exerts a stronger influence on the thesis. This is for three reasons: 1) the increased emphasis on Middle Range Theory (MRT) specification, 2) the focus on Context-Mechanism-Outcome (CMO) configuration, and 3) the decreased emphasis on stakeholder involvement (in comparison to other TDE approaches). Firstly, the thesis aim is to identify programmatic theory. This bears similarity to the aim of Realist Evaluation, which is to specify a Middle Range Theory. Secondly, Realist Evaluation was developed to explore the underlying causal processes by which programmes achieve their outcomes (Pawson, 2006). As Astbury & Leeuw (2010 p. 366) argue: 'it is not enough to simply cite programmes as a cause of outcomes, the mechanism connecting causes and their effects must also be identified'. This is another stated aim of the thesis. Realist Evaluation is 'concerned less with the overall programme and more with the most promising CMO configuration' (Blamey & Mackenzie, 2007, p. 451). CMO refers to Context, Mechanism, and Outcome. In Realist Evaluation 'mechanisms matter a great deal because they generate outcomes, and context matters a great deal because it changes (sometimes very dramatically) the processes by which an intervention produces an outcome. Both context and mechanism must therefore be systematically researched along with intervention and outcome' (Wong et al., 2012, 9). Realist Evaluation therefore promotes the identification, modification, testing, and refinement of CMO configurations (Pommier, Guével, & Jourdan, 2010). The

lack of investigation of mechanism and context is an identified weakness of existing literature on peer-led SRE that this thesis wishes to address. Finally, Realist Evaluation doesn't solely rely on stakeholders as the single source of MRT creation. This enables consideration of a range of different perspectives within the thesis, allowing a more objective approach to data collection and theory generation. Despite this, Realist Evaluation is not explicitly identified as the framework for the thesis. There are many varieties and versions of realism which are not entirely consistent with each other (Yeung, 1997, 2). Realism has been described as 'an academic chameleon' (Pawson, 2000, 293) and includes different schools of thought such as Critical Realism (Bhaskar, 1978; Maxwell, 2004) and Pragmatic Realism (Putnam, 1990). These different labels are loaded with methodological connotation, leading to stereotyping or prescriptiveness.

Theories of Change

Whilst this thesis does draw on some aspects of Theories of Change, this approach was not identified as its primary framework. This was for two reasons: 1) the inappropriateness of logic models in addressing the thesis aim and 2) the inappropriateness of a singular focus on stakeholders in the research process. Like Realist Evaluation, Theories of Change also seeks to establish links between intervention, context and outcome through the development and testing of logic models (Barnes, Matka, & Sullivan, 2003; Mason & Barnes, 2007). Logic models describe the target population, indicators used to monitor change, thresholds to pass to indicate change and timeline of expected change. Contrary to the thesis aim, the focus is more on theory generation for a specific intervention rather than producing generalisable theory. Theories of Change emphasises the involvement of practitioners at every stage of the research process. The thesis departed from this goal as it drew on a wide range of sources and did not accord any source primary status to increase objectivity.

3.2. Key Terminology

The overarching aim of this thesis is to develop programme theory for peer-led SRE, identify associated CMO configurations and test whether these processes can be observed in practice. As such, the terms 'programme theory' and 'CMO' are used throughout. The following section outlines how this thesis defined these terms and where they sit within the wider theoretical tradition.

Current Definition

Typically, programme theory is defined as a system of assumptions with action-mechanisms leading to expected outcomes (Pommier et al., 2010). As such, programme theory should contain CMOc's (Context, Mechanism, Outcome combinations). 'A CMOc is a hypothesis that the programme works (O) because of the action of some underlying mechanism (M), which only comes into operation in particular contexts (C)' (Pawson, 2013, p. 22). If a CMOc within the programme theory can be observed in its theorised application, it remains part of the programme theory. If it cannot be observed, it may have to be refined or removed from the programme theory. If a CMO within the programme theory can be replicated in a wider application than that theorised, the CMO is no longer restricted to its specific programme theory. It can be exported to other interventions, making it a Middle Range Theory (MRT). Coined by Merton & Merton (1968), MRTs can be generalised to a wider population, application or setting, than a specific programme theory. They cannot be generalised as true for all populations, applications or settings however (this being true of Theory); so they remain between programme theory (with a small t) and Theory (with a large T). Whilst the notion that MRT is about range has been contested (Hassan & Lowry, 2015), Merton's (1968) description does suggest a continuum of theoretical scope (Hedstrom & Udehn, 2009; Geels, 2007; Bluedorn & Evered, 1980).

Thesis Definition

Merton's conceptualization of MRT has been critiqued as vague, unclear and ambiguous (Hedstrom & Udehn, 2011; Weber, 2012). Thus, for this thesis the researcher created their own definitional schema. This was made up of 4 components: Grand Theory, Middle-Range Theory (MRT), Programme Theory and Project Theory. Each of these terms are conceptualised as describing different parts of an inter-linked process (see Figure 1), increasing in explanatory power and generalisability. According to Hedstrom & Udehn (2009), the larger the phenomena a theory explains, the more general it is. This thesis uses this definition of theory to in proposing that Grand Theory is more generalizable and therefore stronger than MRT, with the scope of Grand Theory being almost universal (Siponen & Klaavuniemi, 2018). MRT 'refers to theory that has a limited scope of application and can lead to testable hypotheses in specific application contexts' (Clemons, Kauffman, & Weber, 2011, p. 10). This is indicated in Figure 1 by the number of 'people' within each level of theory. The more people icons present within the level of the theory, the more generalisable the theory.
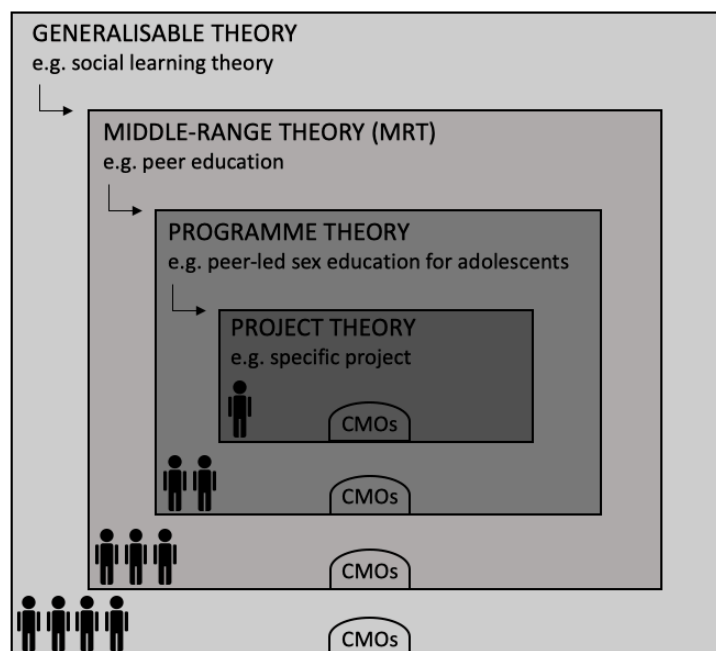
Figure 1. Theory definition diagram

The common definition of programme theory was adapted slightly for the purposes of this thesis. Instead of 'a plausible and sensible model of how a programme is supposed to work' (Bickman, 1987, p. 5) - which suggests a singular project - in this thesis, Programme Theory was used to refer to the family of interventions utilising the same underlying theory. It does not refer to a specific intervention. This is because the 'same programme theories repeat themselves from initiative to initiative and jump from domain to domain' (Pawson, 2002, p. 357). A theory that is specific to a singular intervention is referred to as 'Project Theory' as 'interventions are theories… always based on a hypothesis' (Pawson, 2006, p. 26). In this model, CMOc's are nested within each theory, rather than being specific to programme theory. If a mechanism is 'the process by which a cause brings about an effect… it explains how one event causes another' (Koslowski, 1996, p. 6), then each level of theory should suggest CMOc's of some kind. In an educational context, CMO refers to 'what kinds of educational interventions will tend to work, for what kinds of learners, in what kinds of contexts, to what degree and what explains such patterns' (Wong et al., 2012). This is theorising, and takes place at both general and specific levels. This means that 'lower-level theories do not have to be in line with high-level theories' (Siponen & Klaavuniemi, 2018, p. 11). Some CMOs may be true for a specific group in a specific setting, but may lose their explanatory power when tested against a larger, more general population. As Pinder & Moore, (1980) argue: theories can change status, moving from MRT to general theory as wider abstractions appear. Keeping with the current definition, CMOc's can remain static or move upwards or downwards through the different levels of theory depending on their generalisability and scope.

4. Thesis Structure

Outline

Theory-Driven Evaluation is:

> *an interactive explanation-building process and can combine: designing evaluation to take account of hypothetical CMOs; collecting data from practitioners on how intervention is intended to produce outcomes; collecting data from participants to identify additional mechanisms, unintended by designers which support or interfere with outcomes; writing and refining an overarching explanatory account; and repeating the process in different settings or with different populations to support comparison across contexts*

(Wong et al., 2012, 92)

Following a TDE approach, the thesis was divided into two distinct phases: theory development and theory testing.

Phase One: utilising an inductive theoretical perspective, Studies I, II and III examine theoretical and empirical literature, and explore individual and collective practices and experiences of peer educators, education/health professionals and other stakeholders involved in the delivery of peer-led SRE to identify programme mechanisms and thereby develop a more specified and refined programme theory for the approach.

Phase Two: utilising a deductive theoretical approach, Studies IV and V focus on observing the presence of, and measuring changes arising from, programme mechanisms and testing these against programme effects as suggested by programme theory.

This structure, as depicted in Figure 2, represents a retroductive narrowing of focus as the thesis progressed; moving from the level of observation and lived experience to postulate about the underlying structures and mechanisms that account for the phenomena involved (Mingers, 2003). It was hoped that individual studies would create a feedback loop to assist this endeavour (Figure 3).
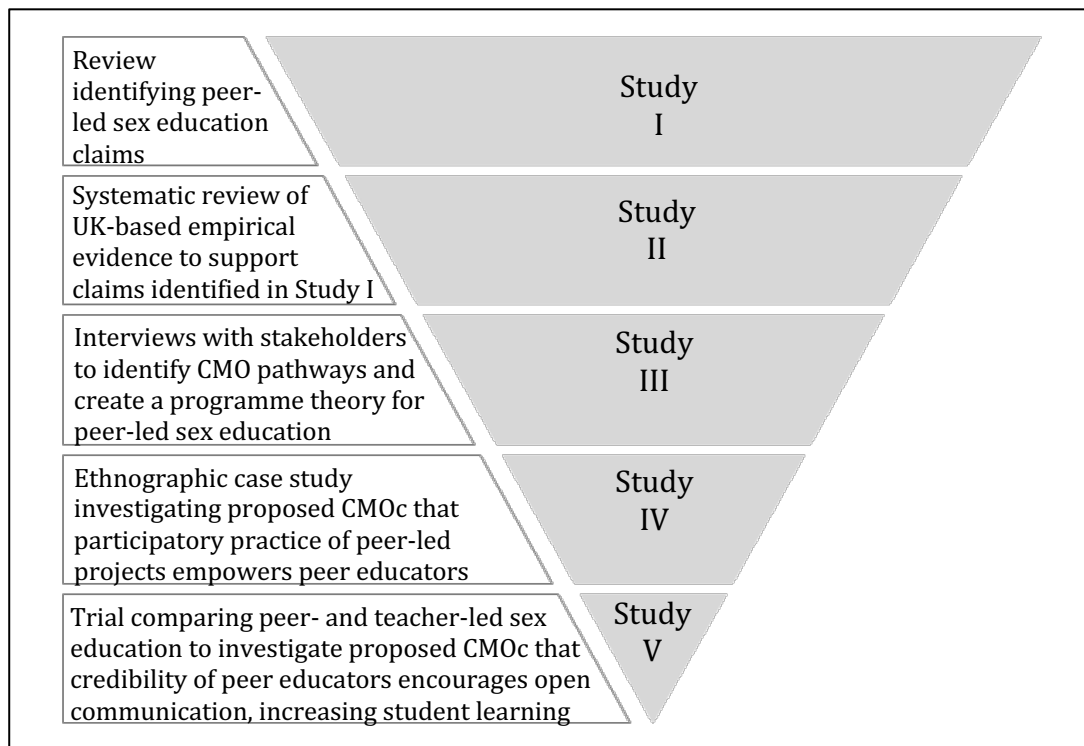
Figure 2. Thesis structure diagram
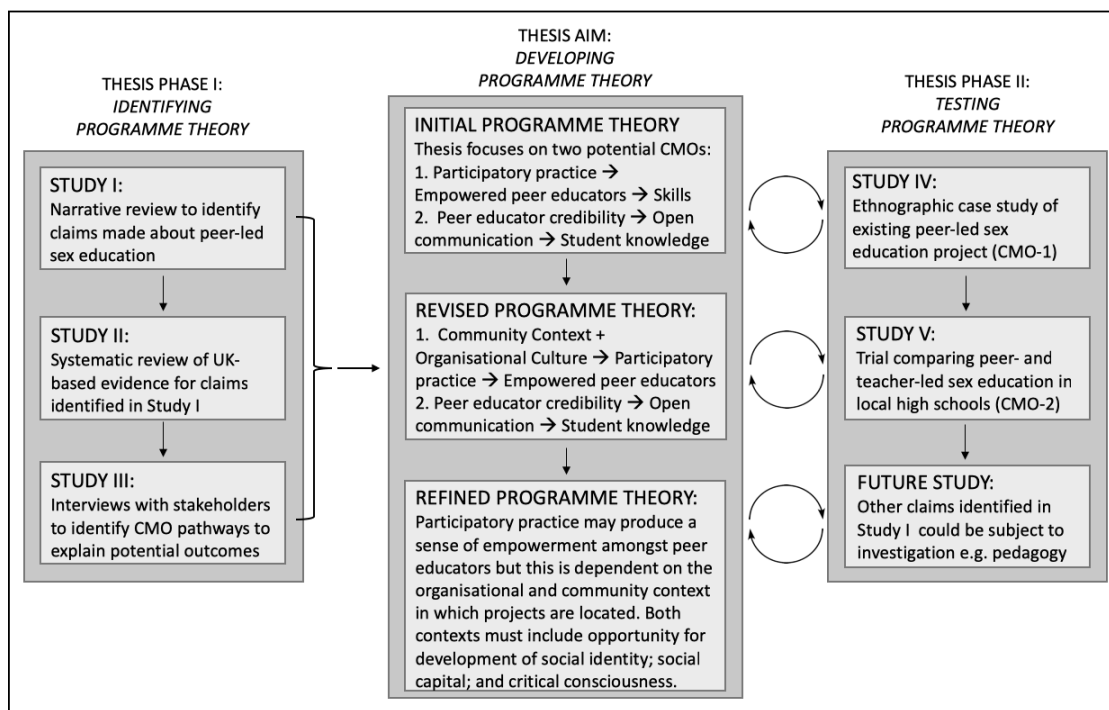
Figure 3. Theory Refinement Process

Content

This introduction to the thesis has: provided background information about sex education in UK; outlined the need for further study of peer-led SRE; introduced the theoretical framework on which the study is based, and indicated how the studies contained within this thesis will achieve its stated aims and objectives. Following this short introduction, the thesis will first present the reader with a more comprehensive history of peer-led SRE and sex education. It will then divide into two main parts: with Studies I, II and III developing a programme theory for peer-led sex education, and Studies IV and V which aimed to test the theory's associated mechanisms.

Background

This chapter begins with a brief overview of sex education policy in the United Kingdom. The histories of both sex education and peer education are discussed; alongside the theoretical justification for combining these approaches within health promotion. A short review of existing literature on peer-led sex education is included to situate the current research and identify the literature gap addressed by this thesis. The chapter concludes by drawing these preliminary findings together to make some exploratory observations about the research field and reiterates the research questions this thesis aims to address.

Study I

Study I is an analysis of theoretical literature to identify common assumptions about peer-led sex education and contextualise this as an educational approach with which to educate adolescents about sexual health and wellbeing.

Study II

The thesis moves on to systematically synthesize research that has been conducted in the field of UK-based peer-led sex education and summarise methods previously used to research the field. A number of studies with different designs are reviewed with to evaluate the extent to which research has been conducted in the UK and whether there is any evidence of effectiveness for the claims identified in Study I.

Study III

Study III explores how proposed contextual features and mechanisms may influence intervention outcomes by exploring practitioner and participants' experiences of peer-led sex education via interviews. These are thematically analysed and used to build a concept map, generating programme theory.

Study IV

Study IV is an ethnographic case study of a peer education project, conducted to ascertain whether its practices were perceived as being participatory by participants, and the effect of these. In doing so, it explores how organisational and contextual conditions can support or prohibit implementation of participatory practices in a peer-led sex education project.

Study V

The final study of the thesis planned to examine claims that open communication in peer-led sex education leads to increased knowledge and attitudinal change. The purpose of Study V was to test this assumption by comparing teacher- and peer-led classrooms. This aim could not be achieved however as schools unanimously expressed a preference for allocation to the peer-led condition. As a result, all schools in the teacher-led arm of the trial withdrew from the study.

Reflection: On researching peer-led sex education

Bringing together findings from the different studies of the thesis, the final chapter of the thesis combines and synthesises results to present a more comprehensive picture of the current status of peer-led sex education. It also includes an autobiographical reflection; outlining the strengths and limitations of the chosen methodology, and proposing suggestions for future study alongside recommendations for practice.

BACKGROUND

This chapter begins with a brief overview of sex education policy in the United Kingdom, focussing more specifically on provision for adolescents studying in English secondary schools. The histories of both sex education and peer education are discussed; alongside the theoretical justification for combining these approaches within health promotion. A short review of the existing literature on peer-led sex education gathered in systematic reviews is included to situate the current research and identify the literature gap addressed by this thesis. The chapter concludes by drawing these preliminary findings together to make some exploratory observations about the research field and reiterates the research questions this thesis aims to address.

BACKGROUND

1. Contextual Overview

1.1. Sex Education

The right to sex education is enshrined within the United Nations (UN) *Convention on the Rights of the Child*, with family planning education specifically referred to in Article 24 (United Nations, 1990). This convention is applicable to anyone under the age of 18 and was ratified in the UK in 1991. In the context of this thesis, sex education refers to school-based efforts to educate young people about sexual health and wellbeing.

Existing Provision

In the UK, sex education programmes vary by country. In England, efforts to educate adolescents about sexual health and wellbeing are referred to as Sex and Relationship Education (SRE); part of Personal, Social, Health and Economic Education (PSHE). Currently, SRE is compulsory in maintained secondary schools for children aged 11 upwards. Private schools and academies do not have to teach SRE as they do not follow the National Curriculum. Parents may withdraw their children from SRE if they wish to do so, as long as it does not fall under the remit of the National Curriculum e.g. biological aspects of human growth and reproduction, HIV/AIDS, and STI transmission as taught in Science (Section 405 of Education Act, 1996). To support provision, a guidance document entitled '*Sex and Relationship Education Guidance*' (DfEE, 2000) was published in 2000. This has been criticised as being out of date, with almost twenty years having passed since its publication. As it is not compulsory, it does not offer a prescribed programme of study; additional content is non-statutory and remains at the discretion of individual teachers, in line with policy determined by school governors. Thus it may come as no surprise that the last OFSTED inspection of SRE in 2012 reported that the

consistency, quantity, and quality of provision was highly variable; with SRE requiring improvement in a third of schools (OFSTED, 2013). This led to the pronouncement and subsequent title of OFSTED's (2013) report, that PSHE (and the SRE taught under its remit) was '*Not Yet Good Enough*'.

Future Provision

Following such critique, the House of Commons Education Select Committee launched an inquiry in 2014, recommending that SRE be made compulsory (House of Commons Education Committee, 2015). Not long after, following an inquiry into sexual harassment and sexual violence in schools, the Commons Women and Equalities Select Committee also recommended compulsory SRE (House of Commons Women and Equalities Committee, 2016). In March 2017, Education Secretary Justine Greening announced her intention to legislate for statutory SRE. Section 34 of the *Children and Social Work Act* (2017) provides for SRE to be taught in all schools in England, under the new title 'RSE' or 'Relationships and Sex Education'. From 2020, Relationship Education will be compulsory in primary schools (ages 5-11), with RSE compulsory in all secondary schools (ages 11-16). It is questionable whether legislative change will be enough to improve SRE. A review of sex education reported that students' negative reviews of sex education are consistent over a 25-year period (Pound, Langford & Campbell, 2015), suggesting that changes in policy have not had an impact on students' assessment of sex education. Consequently, research must look elsewhere to identify factors that may influence the quality of provision. One such factor is the educator responsible for delivering subject material (Pound, Langford & Campbell, 2016).

Teacher Perspective

Difficulties inherent in teaching sex education have been widely documented (Abbott et al., 2016). Teachers face a number of barriers in their delivery of sex education (Atkinson, 2002), due in large part to its uniqueness when compared to other curriculum subjects

(Elley, 2013). Pupil satisfaction with sex education is typically higher when 'educators show a sensitive, empathetic, and positive attitude towards sexual behaviour in a safe environment which deals openly and honestly with their questions and concerns' (Elley, 2013, p. 71). This can be a difficult approach for teachers to adopt. Discussing sexualised issues is thought to 'disrupt the teacher-pupil binary' (Allen, 2005; Allen, 2009; Langille et al., 2001; Lester & Allan, 2006), as this relationship is usually de-sexualised (Lupton & Tulloch, 1996). Moreover, teachers are traditionally positioned as 'holders of knowledge' and 'in control' of the classroom, encouraging the use of formal teaching methods (Kehily, 2002; Nayak & Kehily, 1996); whereas students report a preference for informal pedagogies (Measor et al., 2000; Strange, Oakley, Forrest, & The RIPPLE Study Team, 2003). In combination, these various conflicts create difficulties within the sex education classroom as 'the two worlds of adolescent sexuality and the authority of school culture come into open confrontation' (Thomson & Scott, 1991, 12).

Student Perspective

Participating in sex education is also difficult for students (Elley, 2013). Students report discomfort, embarrassment and concerns about teacher confidentiality as impeding their engagement with subject matter (Buston et al., 2002; Hilton, 2003; Strange et al., 2003). They can identify when their teachers are uncomfortable, and this serves to increase dissatisfaction with provision.

> *'The classroom should be safe. You should feel comfortable to talk and be able to ask questions effectively. Teachers should allow pupils to contribute... Students can tell when a teacher wants to be there... and it only makes sense that if students want to learn they should have teachers that want to teach'*
> (Lonsdale, Helliwell, & Durant, 2009, p. 19).

Students complain that teachers' responses to questions are unsatisfactory (Forrest et al., 2002; Langille et al., 2001; Measor et al., 2000) and give the impression that sex cannot be discussed straightforwardly (MacDonald et al., 2011; McKee et al., 2014). The Terrence Higgins Trust, a HIV support and awareness charity, conducted an online survey

in 2016 with 914 young people aged 16-25, and found that half of survey respondents rated SRE as either 'Poor' or 'Terrible' (Terrence Higgins Trust, 2016). Similar findings have occurred elsewhere. For example, The UK Youth Parliament (2007) reported that 40% of 20,000 young people surveyed felt the sex education they had received in school was either 'Poor' or 'Very Poor'. Whilst teachers are regarded as the most sustainable delivery method for sex education, since they are already embedded within schools (Pound et al., 2016), they are also the provider most critiqued by students (Allen, 2009). Students often state a preference for external educators in sex education (Alldred & David, 2007; Forrest et al., 2002a; Mellanby et al., 1996; Parker, 2014).

External Educators

These issues suggest that educators that are external to schools may be best placed to deliver sex education (Elley, 2013). This has been acknowledged by OFSTED (2013), with inspectors noting that most programmes benefitted from the contributions of outside speakers. This perspective is also supported by findings from the SHARE trial[1] (Wight & Abraham, 2000). Outcomes from SHARE suggest that whilst students enjoyed experiencing a novel intervention, their knowledge was not significantly improved when compared to existing provision. This lead Wight et al., (2002) to conclude that the potential for teacher-delivered sex education had been reached by conventional provision, and that in future, other means of delivery should be evaluated. Students position external educators as being more knowledgeable, less judgemental and better deliverers of sex education than teachers (Allen, 2009; Formby, 2011). This delivery method has also been subject to criticism however, as most forms of adult provision are based on educators being placed in an authoritative role, similar to that of teachers. Such an approach may

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[1] SHARE was a Scottish teacher training programme for sex education, intended to reduce unsafe sexual behaviours, unwanted pregnancies and improve the quality of sexual relationships.

limit effectiveness, as young people experience difficulty discussing sex and relationships in any context where there is an imbalance of social power (Hawkes, 1996).

Peer Educators

A solution to this issue may lie within the peer group itself as young people often cite their friends as being the most usual and useful source of information about sex (Walker, 1997). Peer education has been presented as a promising method of sex education in schools (Fletcher et al., 2015). 'Peerness' denotes 'sameness', and with this a belief that peer educators inhabit the same social world as the students they teach. This not only lessens the degree to which sex education is a battle between adolescence and authority, but also suggests that peer educators possess a better understanding of the problems facing their peer group, and how these problems should be addressed.

1.2. Peer Education

Practice in Health Promotion

In the context of adolescent health promotion, peer education is thought to be an effective way to overcome difficulties within teacher-pupil relationships (Finn, 1981) as peers are more credible, ergo acceptable sources of information about risky behaviour than adults (Perry, 1989). This is particularly important for the delivery of school-based sex education, as the preceding section identified that comfort and trust were essential for successful sex education. Peers are thought to establish trust by moving 'closer together as they consensually validate one another's worth. Solidarity and mutual respect result because two friends subjugate themselves to the same norms of relationship' (Youniss, 1980, p. 51). This is in contrast to adult-led, authoritative forms of education where the relationship between educator and student is imbalanced.

History in Health Promotion

Peer education is a longstanding teaching method. An early form of peer education is thought to be the monitorial system utilised in Victorian schools in 19th century England, where older pupils taught literacy and numeracy to younger pupils (Miller & MacGilchrist, 1996). Peer education re-emerged during the 1950s and 1960s to support health promotion efforts at American university campuses (Sloane & Zimmer, 1993). There is disagreement in the literature regarding when and where the first health promotion peer educators appeared, but one of the earliest recorded instances was at the University of Nebraska in 1957 in response to the Asian flu epidemic (Gould & Lomax, 1993; Helm, Knipmeyer, & Martin, 1972). Since the 1960s, the popularity of peer education has flourished. It has become a well-established educative technique used across health, school, community and youth work settings (Shiner, 1999).

Application within Sexual Health Promotion

Although peer education has been applied to tackle different areas of health promotion, the importance of its role in HIV prevention and sexual health education is underscored by the number of implemented programmes, and the enthusiasm with which the method has been adopted, in this field (Tolli & Tolli, 2012). By the 1990s, peer education was one of the most widely used approaches in HIV prevention initiatives targeting youth (Maticka-Tyndale & Barnett, 2010). During the implementation of the AIDS Control and Prevention Program (AIDSCAP) by Family Health International/USAID, 116 out of 195 behaviour change projects employed peer education (UNAIDS, 2000). Peer education is still one of the most popular international approaches used to deliver sex education to young people (Price & Knibbs, 2009; Sun et al., 2018). In 1995, Milburn noted that peer education was particularly popular in North America and Canada, but had also attracted increasing attention in the UK (1995). This was supported by Frankham, who, in 1998 wrote that:

'It is not possible to ascertain precisely how many peer education projects are currently underway in the UK, but coverage in the health education press, in-house magazines, and the popularity of conferences focussing on peer education suggest many hundreds of initiatives are in process or in the planning stage... The National HIV Prevention Information Service reported knowledge of 80 projects alone in the area of HIV/AIDS work'

(Frankham, 1998, pp. 180–181).

In 2002, a rapid mapping exercise revealed over 70 sex education-related projects in England (Teenage Pregnancy Unit, 2002). This popularity continues to the present day with:

- Dedicated journals such as the Peer Facilitator Quarterly (US) and Xcellent: Journal of Peer Education in Scotland
- A £100 million initiative funded by the Department for International Development (UK) to support the design, development and delivery of peer-led health promotion initiatives in Nigeria and South Africa
- EUROPEER, a peer education network active across 14 European countries
- YPEER, a peer education network active across 27 countries in Eastern Europe, Central Asia, the Arab States and Africa.
- SPEN, a peer education network dedicated to increasing and supporting peer education efforts in Scotland.

Application within Secondary Schools

According to McDermott & McBride (1993), part of the appeal of peer education approaches arises from the clear dissatisfaction many young people feel when information is provided by more traditional, authoritative figures. Supporting this argument, when sexual health charity Brook asked young people how to improve sex education, part of the response included requests to 'enable young people to educate and influence their peers through becoming peer educators and teaching others about relationships' (Blake, 2008, p. 38). SRE Guidance (2000) also recommends that schools should use young people as peer educators. The concept of what is considered 'normal' is an important determinant of health behaviour; as a result, the provision of normative data is an important tool in health promotion (Baric, 1977). Peer educators can provide this data in peer-led sex education by discussing their own experiences from a standpoint that is more credible than that of their teachers. This is beneficial because young people's

perceptions are often misperceptions: the healthy majority believe they are in the minority and the unhealthy minority believe they are in the majority (Perkins, 2003). An illustrative example of this phenomenon is described by Evans & Tripp (2006) in an observation of a 'myth-debunking' session held at a secondary school in the APAUSE study (Wade, Benton, Gnaldi, & Schagen, 2004), a peer- and teacher-led sex education programme. Participants believed that most teenagers had had sex by age 16. 'In the UK, not a single study has demonstrated that level of sexual activity. Thus, there is considerable pressure in the minds of young people to be part of the majority or 'normal' group' (Evans & Tripp, 2006, 97). Teachers and health professionals attempted to correct this belief but had little impact. Only when the same piece of information was presented by peer educators did students accept this information as fact. This implies that 'it is not just what is being taught that is important, but how and by whom' (Evans & Tripp, 2006, 97).

Practical Limitations

Peer-led sex education has been subject to critique. When discussing sex educators with students, Allen (2009) found that although peer educators were named more frequently as being most appropriate, young people suggested that it was the characteristics of the educator, more than their identity, that was important for successful sex education. From this, Allen (2009) surmised that specific characteristics such as being fun, were not necessarily intrinsic to any one particular educator identity, but could be displayed by any educator. In addition, those implementing peer-led initiatives need to ensure that peer educators, as members of the target population, are not distributing misinformation, perpetuating myths, or colluding with the same problematic attitudes held by the peer group that the intervention is seeking to change. The following section looks to theories of peer education to provide a more detailed explanation of how, and justification for why, peer-led sex education may achieve its outcomes.

2. Theoretical Evidence

Whilst the theoretical foundations of peer education can be located in various theories across the fields of Psychology, Education, Sociology, and Health; there is no one theory that explains how peer-led sex education can be utilised to improve adolescent sexual health and wellbeing. Literature on peer-led health interventions has been described as largely 'atheoretical' (Simoni, Nelson, Franks, Yard, & Lehavot, 2011). As such, this section presents and evaluates a number of different theories, and their relevance in explaining why peer-led sex education may be successful. Theories have been divided into two broad categories: learning-focussed theories (those theories focussing on an educative process to encourage change at the individual level by attempting to modify a person's knowledge, attitudes, beliefs or behaviour) and health-focussed theories (those theories focussing on processes to effect changes in health knowledge, attitudes, beliefs or behaviour at an individual, group or societal level by modifying social norms and encouraging collective action).

2.1. Learning-Focussed Theories
Social Learning Theory

In a review of peer-led health promotion interventions targeting adolescents, Harden et al., (1999) identified that the most common theory cited to support peer education was Social Learning Theory. Social Learning Theory proposes that to change behaviour, individuals need to observe the behaviour and practice it until they are confident in their ability to perform the behaviour correctly (Bandura, 1977, 1986). This process is referred to as 'modelling'. The use of attractive role models with whom the target population can identify is essential. Depending on the characteristics of the model, and the observed consequences of their behaviour, models can elicit behavioural change within students (Bandura, 1986). If the model's behaviour is seen to have positive consequences, students

will imitate the behaviour without reinforcement. This is based on the value systems of the individual student however, and as such, the model must be similar to the student. If an observer sees two models doing two different things, the observer usually learns more from the model who is similar to the observer (Koelen & van den Ban, 2004).

Constructivism

The writings of Piaget (1932, 1965) suggest that peer interaction between students stimulates development by creating critical 'cognitive conflict'. 'Cognitive conflict is a perceived sense of contradiction between what the child believes and what the world is telling the child… instigating the child to question his or her beliefs and to try out new ones' (Damon, 1984, p. 332). In Piagetian theory, peer interaction is an important impetus for change. Piaget (1950) believed that for a child, peer interactions were superior to those with an adult. When the relationship between students is 'socially symmetrical', discussion is improved. Students should feel that they are the equal of their tutor, but are also unlikely to 'enter into a true negotiation of reasoning with partners who are not seen as holding positions of authority or as experts' (DeVries, 1997; Tudge & Rogoff, 1989).

Social Constructivism

Social Constructivism also emphasises the importance of peer interaction in encouraging critical thinking (Bruner, 1978; Vygotsky, 1987). By interacting with peers, students are introduced to and adopt new patterns of thought by internalizing the cognitive processes underpinning their collaborative interactions. Collaboration has to embody 'an active give-and-take of ideas between persons rather than one person's passively learning from the other' (Damon, 1984, p. 334). In a similar vein to Piaget (1950), Vygotsky (1987) believed that this process was only beneficial if both student and tutor possessed similar levels of authority. Equality between student and tutor is essential because peers can more easily engage in dialogue that is inclusive of their social context and worldview than adults (Donaldson, 1978).

Self-Determination Theory

Self-Determination Theory posits that peer education is successful because interactions between peers are based on free will, fostering a more tranquil relationship between tutor and student (Ryan & Deci, 2000). This is contrasted with teacher-student relationships based on control. The authority of teachers can inhibit learners as it is the teacher that determines the learning process; limiting learners' enjoyment. Interaction with a peer is non-competitive and less authoritative; increasing learners' enjoyment. The notion of reduced authority between tutor and student producing an interaction process that is more beneficial to learning and development is similar to that proposed by Piaget (1950) and Vygotsky (1987).

Role Theory

Role Theory (Sarbin, 1976) stresses the benefits associated with the adoption or assignment of roles. It suggests that peer interactions are different to those between teachers and students as peers possess inter-related characteristics. Within peer education, roles may be confused at the start of the process as students may feel that they have to take on the role of a teacher (Sarbin, 1976). Eventually the student's ascribed role of peer tutor should take over, increasing engagement. Reinforcement or feedback in the form of non-verbal or affective communication is used, further encouraging student engagement and progress. Sarbin (1976) does caution however that using peers to educate does not always guarantee that interactions between tutors and students will be beneficial or agreeable.

2.2. Health-Focussed Theories

Diffusion of Innovations Theory

Diffusion of Innovations proposes that certain individuals (opinion leaders) can encourage behavioural change by disseminating information to modify social norms

within their community (Rogers, 1983). Diffusion of Innovations is an extension of Communication of Innovations Theory (Rogers & Shoemaker, 1971) which posits that behaviour is more likely to be adopted if it can be easily assimilated into existing social norms. This process is more likely to succeed if the behaviour can be tried out, tested and positive consequences observed. Of central importance to this process is the principle of homophily (Lazarsfeld & Merton, 1964), the degree to which individuals are similar. Communication is more effective when individuals are homophilous (Tones, Tilford, & Robinson, 1990). Behaviour, attitudes or beliefs are unlikely to change unless the communication source is perceived to be trustworthy and knowledgeable (Rogers & Shoemaker, 1971).

Theory of Reasoned Action

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) emphasises the importance of significant others in influencing an individual's intention to participate in a specific behaviour. An individual's behaviour is closely linked to their perception of 'acceptable' social norms. Deciding what is an acceptable social norm is influenced by the actions or beliefs of people who are important to the individual (Fishbein & Ajzen, 1975).

2.3. Relevance for Peer-led Sex Education

Strengths

The range of theories which can be utilised to support peer-led sex education has been construed as a strength of the approach, with the argument being made that 'one sure sign of any robust phenomenon in any science is where there is concurrence among theorists who normally disagree about almost anything else' (Damon, 1984, p. 332). Most of the theories presented above do not directly contradict each other. Each of the learning-focussed theories report that knowledge or behavioural change can be facilitated by a means of sharing information and advice that is unique to peer interaction. For example,

the Piagetian perspective stresses socio-cognitive conflict through peer discourse and debate. The Vygotskian view emphasises internalisation of cognitive processes through peer communication. The health-focussed theories emphasise the importance of 'important others' in influencing social norms which can directly affect health behaviours. The link to peer-led sex education is the notion that health behaviours are specific to certain social groups and it is from within this group that behaviour change must be advocated. Perhaps the greatest overlap between all of the theories presented above is the emphasis on the importance of similar status between the target population and the individual(s) responsible for distributing information. The target population must identify educators as a peer. This necessity is based on the premise that peers speak to each other in a way that is credible and easily understood, that takes account of their social context, acknowledges shared social norms, and is less threatening than pronouncements from authoritative figures.

Limitations

Whilst this theoretical diversity has been used to legitimise peer-led sex education, it can also be interpreted as a weakness. Turner & Shepherd (1999) for example, argue that peer education is 'a method without a theory'. It is true that none of these theories (particularly those focussing on processes of learning in a purely Educational context) were developed to support peer-led sex education. As such, 'this theoretical pedigree may also be viewed as simply providing a very generalized framework of justification' (Milburn, 1995, p. 408). Upon further examination it is questionable to what extent the theories outlined above can be applied to justify, develop or understand peer educative efforts in the context of adolescent school-based sex education. Learning-focussed theories are most frequently cited to support peer-led sex education, yet these theories focus on academic attainment. It is unlikely that the process of increasing academic attainment is in any way similar to changing pre-established attitudes towards sexual health and wellbeing. Taking Social

Constructivism as a specific example, peer education is proposed as a way to improve children's cognitive ability through collaborative problem solving in length, number, and mass. Can the same processes be re-enacted in the sex education classroom? Students may be offered opportunities to provide a solution to a health-based problem, such as increasing STI rates, but it could be argued this is a less creative or collaborative process than trying to solve a maths problem as a group. In this instance there is the potential for development and mastery, as students are introduced to new or challenging material they can learn to successfully complete. Arguably the provision of sex education is not contributing towards a cognitive developmental process in the same way. When learning to become sexually healthy there is no *cognitive* conflict to be resolved through debate; rather the conflict is between different *social* values. These are less easily rectified with students' existing beliefs as there is no way to 'prove' one particular perspective is correct. Students may already know that there are different types of contraception and understand how to use them, the issue is how to encourage students to engage in this behaviour. This is more in line with the change processes presented in health-focussed theories. Here too there are significant flaws in the application of these theories to support peer-led sex education. The majority of health-focussed theories include some form of social-norms based approach. When undertaking a social norms-based approach, a range of local data sources will need to be consulted to identify the social norms of the target population and determine appropriate educative messages to promote change. This is time and resource intensive, and researchers have questioned the extent to which those responsible for implementing peer-led adolescent health interventions engage in this process (Frankham, 1998). The selection of peers to engage in work around social norms is more difficult in practice than theory would suggest. Young people are a heterogeneous group; their attitudes and social norms surrounding sexual health and wellbeing will vary according to a multitude of factors. For example, more affluent young people tend to

engage in sexual activity at a later age, whereas those from lower social classes use sexual experience and sexuality at an earlier age (Thomson, 2000). This has implications for peer selection. Even if peer educators are successful in creating a normative environment, Hart (1998) hypothesises that participants will provide socially acceptable responses to peer educators rather than their own thoughts or opinions. Furthermore, using peers from within the same friendship group as the target population may be problematic as 'people's expectations and experiences of friendships are such that they do not expect their friends to impose views or values upon them' (Frankham, 1998, p. 190). Both learning- and health-focussed theories suggest that peer interaction is beneficial. It is debatable whether the outcomes that result from social interaction with a peer can always be presented as positive or uniform. There are recorded cases where peer education has been detrimental (Tudge, 1992; Tudge & Rogoff, 1989). In sum, one can concur with Turner & Shepherd (1999) in concluding that claims for effectiveness have little basis in existing theories.

3. Empirical Evidence

3.1. Large-Scale Studies

Whilst the majority of research findings concur that compared to teacher-led provision, peer-led sex education is more enjoyable for students, the largest studies of peer-led sex education conducted in the UK to date, The RIPPLE Study and the APAUSE Project, report a minimal effect on behaviour (Stephenson et al., 2008; Wade et al., 2004).

RIPPLE

The RIPPLE Study is a programme of three one-hour sessions delivered by Year 13 pupils (17-18 years) to pupils in Year 9 (13-14 years). The study began in 1995 in South England with 27 secondary schools and over 9,000 pupils participating. The programme aimed to improve the quality of young people's sexual relationships and reduce their engagement in unsafe sexual behaviours. Schools were randomised to receive a peer-led intervention or continue with teacher-led provision as usual. Outcomes were assessed by questionnaires completed at 6, 12, and 24 months post-intervention. Participants' NHS data was tracked in a follow-up study to determine effect on conception and termination rates. The study reported that effects were limited to reducing girls' reported sex by age 16 (Stephenson et al., 2008). There was no effect on other behavioural outcomes, such as contraceptive use, and no longitudinal effects on conception or termination by age 20 (Stephenson et al., 2008). The intervention may have led to fewer births and authors acknowledged that the peer-led approach was very popular with students (Stephenson et al., 2008). There was a positive impact on knowledge and an increase in the confidence of peer educators. When compared to recipients of teacher-led sex education, a greater proportion of peer-led pupils described sex education as enjoyable, engaging and useful. In their positive reviews of peer-led sex education, students identified the delivery method, lesson content, and perceived sense of empathy/similarity with peer educators as

improving their educative experience (Forrest et al., 2002). Some students also remarked that at times peer educators struggled to control the class which could hinder engagement and participation. It is difficult to ascertain whether these effects can be attributed to an educator effect however as students in the different arms of the RIPPLE Study did not receive the same curriculum. Peer-led students received a set curriculum, whereas teacher-led students continued with their provision as normal. As there is no set curriculum for sex education in English schools, there is no way to ascertain what content had been delivered to teacher-led students or determine the quality of this provision. As such, it may be the case that lesson content and/or pedagogy is being tested rather than the educator.

APAUSE

APAUSE is an acronym for 'Added Power and Understanding in Sex Education'. The APAUSE Project employed a combination of teachers, health professionals, and peer educators to deliver a sex education programme to students. The project was first delivered in schools in 1991, and by 2003 had been delivered in over 140 secondary schools throughout England and Wales. The APAUSE Project aimed to enhance young peoples' knowledge of sexual risks, improve their ability to resist pressure to have sex or unprotected sex until ready, increase tolerance towards different sexualities, enhance teachers' professional skills in teaching via collaborative learning, and to develop peer educators' inter-personal skills. Teachers and health professionals delivered lessons to pupils in Year 9 and 10 (ages 13-14 and 14-15), which were supplemented with lessons from Year 12 peer educators (16-17 years). Findings suggest that the programme changed pupils' normative beliefs about time of first sexual intercourse; subsequently reducing self-reports of intended risk taking and increasing self-reports of intended contraceptive use. Pupils demonstrated increased knowledge and improved attitudes to relationships. There was no significant change in beliefs about how to negotiate sexual desires in

relationships or tolerance towards different sexualities. Echoing results of the RIPPLE Study, compared to participants receiving sex education 'as-usual', APAUSE students rated their experience more positively and described provision as more useful. Again, it is questionable to what extent these comparisons can be used as evidence of the advantages of utilising peer educators when compared to teachers. This is because, despite pupils in both interventions receiving the same curriculum, the APAUSE project uses a combination of peer educators, teachers and health professionals. Therefore it is difficult to identify and isolate the 'peer educator effect' from other intervention components.

3.2. Reviews

Synopsis of Systematic Reviews

There have been several systematic reviews of empirical evidence for peer-led sex education. These reviews can be of sex education or peer education more generally, or may specifically focus on peer-led sex education. A summary of these reviews and their key findings is presented in Table 1. This identifies whether the review was conducted to focus on peer-led health interventions or peer-led sex education and whether included studies have a geographical focus. Reviews typically focus on changes in the knowledge, attitudes, beliefs or behaviour of the target population. Typically, primary outcomes of interest are: occurrence of pregnancies, STIs, age at first sex, number and types of sexual partnerships, condom and contraceptive use (Kim & Free, 2008; Tolli & Tolli, 2012). Secondary outcomes include measures of knowledge of sexual health or contraceptive services, behavioural intentions regarding sex or contraceptive use, and attitudes about sex, sexual health or contraception (Kim & Free, 2008). The focus of most reviews is firstly on recording behavioural change, followed by knowledge and/or attitudinal change as a measure of intervention effect. These are presented as quantitative outcome measures which are frequently combined to estimate the overall effectiveness of peer-led sex

education. These will be referred to as 'direct effects' because they describe the over-arching goal of most health education interventions; to change the target populations' knowledge or response in relation to a specific set of health-risk behaviours. An appraisal of the evidence accumulated from reviews featured in Table 1 suggests that whilst peer education may be a popular approach with which to deliver sexual education to adolescents, the effectiveness of the approach in achieving its 'direct effects' is questionable. This finding appears to be consistent across over almost twenty years worth of systematic reviews, with Harden et al.,'s conclusion in 1999 that 'the current evidence base… is therefore limited' (p3), echoed by Kim & Free (2008) and re-iterated by Sun et al., in the most recent review of peer-led sex education published in 2018. Evidence tends to suggest that there are moderate effects on knowledge and attitudes, whist data on behavioural change is less certain (Kim & Free, 2008; Tolli, 2012; Sun et al., 2018). One review of the effect in developing countries by Medley at al., (2009) suggested that there was a significant effect on condom use but no effect on other behaviours. These findings have not been recorded in other reviews of the approach. Review findings should be treated cautiously as they are subject to a number of limitations which limits their usefulness in trying to evaluate the effectiveness of peer education as a delivery method for UK-based adolescent sex education. Firstly, many of the reviews focus on peer education in a more general sense (targeting health-risk behaviours such as drug-use and smoking) rather than specifically investigating effects within sex education. Thus it is hard to determine the success of peer education when it is specifically applied in the context of sex education. In addition, the majority of reviews examine interventions practised in countries outside the UK, with particular emphasis on the US and developing countries (Simoni et al., 2011). It is questionable to what extent these findings would be applicable in the context of UK-based peer-led sex education.

<u>Timeline of reviews examining empirical evidence for peer-led sex education</u>

Review	*Key Findings*
Milburn (1995) *Narrative Review*	<u>Evidence of Effect</u> • Results were contradictory • Review found that evidence of effect was drawn from experience rather than the results of evaluation <u>Methodological Findings</u> • Projects particularly diverse in terms of aims, objectives, methods, findings and evaluation • Lack of long-term follow-up and good evaluation
Harden, Weston & Oakley (1999) *Systematic Review* *- International Studies* *- General health focus*	<u>Evidence of Effect</u> • Some evidence that peer-led health education for young people should be supported <u>Methodological Findings</u> • 68% of studies from USA, 15% from UK (UK studies less likely to report outcomes) • Of 49 identified outcome evaluations, 12 were methodologically sound • Sound outcome evaluations 'disappointingly scarce' p3 • Only 3 outcome evaluations included a process evaluation, with 2 of 15 studies meeting qualitative quality criteria • Lack of any sound evaluation from UK
Mellanby, Rees & Tripp (2000) *Systematic Review* *- International Studies* *- General health focus*	<u>Evidence of Effect</u> • Peer leaders were at least as or more effective than adults <u>Methodological Findings</u> • Identified 13 comparative studies of peer vs. teacher-led health education • Majority of studies from North America (n=10), only one focussing on sexual health, none of which were based in UK • Lots of studies with peer-led component, very little with a comparative element
Harden, Oakley & Oliver (2001) *Systematic Review* *- International Studies* *- General health focus*	<u>Evidence of Effect</u> • Evidence for the effectiveness of peer-led health promotion is unclear <u>Methodological Findings</u> • Majority of studies from USA or Canada • Of 49 outcome evaluations, only 12 judged to be methodologically sound • Common problem was employment of non-equivalent comparative groups

Kim & Free (2008) *Systematic Review* *- International Studies* *- Sex Education Focus*	<u>Evidence of Effect</u> • Positive effects on measures of knowledge, attitudes and intentions • No clear evidence that peer-led sex education promotes condom use or reduces the odds of pregnancy or having a new partner • Results highly heterogenous <u>Methodological Findings</u> • 8 studies from UK or North America, 3 in Africa • Only 3 studies met quality criteria • Methodological quality of studies generally poor
Medley et al., (2009) *Systematic Review* *Meta-Analysis* *- Developing Countries* *- Sex Education Focus*	<u>Evidence of Effect</u> • Overall positive effect on knowledge and behaviour. This was statistically significant but made up of small effect sizes. <u>Methodological Findings</u> • Broad range of countries and populations included in studies
Maticka-Tyndale & Barnett (2010) *Systematic Review* *- Low Income Countries* *- Sex Education Focus*	<u>Evidence of Effect</u> • Overall positive effect on changes in HIV-related knowledge, community norms and condom use • Mixed results for changing sexual behaviour <u>Methodological Findings</u> • High quality evaluation rare • Greatest success reported by studies with weakest designs
Harrison et al., (2010) *Systematic Review* *- South Africa* *- Sex Education Focus*	<u>Evidence of Effect</u> • Little evidence to support claim that peer education can increase the impact of an intervention
Sriranganathan et al., (2010) *Systematic Review*	<u>Methodological Findings</u> • Rigorous evaluation rare • Predominant methods for evaluation are questionnaires, surveys and interviews • Need for validated evaluation tools for youth sexual health peer education • Creation of a single evaluation method may be impossible
Simoni et al., (2011) *Systematic Review* *- International Studies* *- Sex Education Focus*	<u>Evidence of Effect</u> • Some evidence to support peer education, but results limited by methodological quality of included studies <u>Methodological Findings</u> • US vastly over-represented, new studies have led to greater representation of developing countries • Minority of studies use RCT design, majority are quasi-experimental
Tolli (2012) *Systematic Review* *- EU Countries* *- Sex Education Focus*	<u>Evidence of Effect</u> • No clear evidence to suggest that peer education effectively prevents HIV transmission or adolescent pregnancy, or that it promotes sexually healthy behaviour when compared to standard practice or no intervention <u>Methodological Findings</u> • Methodological quality of studies generally acceptable

Sun et al., (2018) *Systematic Review Meta Analysis* *- MDCs* *- Sex Education Focus*	Evidence of Effect • Strong, moderate effect on knowledge and attitudes • Non-significant effect on behaviour change Methodological Findings • Large variation in methodologies, data and evaluation methods • Overall research quality 'moderate' using rating of 'Strong', 'Moderate' or 'Weak' • Not all studies employ adequate control, 7 of 15 studies compared peer with adult-led provision

Table 1. Systematic Review Timeline

For example, 'peer education' is the predominant label used to describe peer approaches in the UK, whereas 'peer counselling' is more common in North America (Svenson & Bertinato, 1998). Milburn (1995) proposes that this terminological difference has arisen due to regions' differing educational approaches. In North America, peer counselling is part of student pastoral care, co-ordinated by full-time staff. In contrast, these efforts take place on a more informal, voluntary basis in the UK. These differences have been attributed to cultural variations (Harden et al., 1999). The importance of context is emphasised through researchers' justifying their focus on developing countries by arguing that, as the HIV epidemic is most severe in these regions, this is where there are the greatest resource challenges for programme delivery (Medley et al., 2009; Maticka-Tyndale & Barnett, 2010). These examples highlight that interventions are taking place in very different geographical, political, social, economic and educative climates when compared to that of the UK. Accordingly, the design and delivery of peer-led sex education will vary significantly due to contextual differences (Story & Gorski, 2013; Sun et al., 2018). The emphasis on the reporting of 'direct effects' such as rates of teenage pregnancies, STIs and contraceptive use, may be another limitation of included reviews. The preceding section, outlining the theoretical arguments for peer-led sex education, identified that theory suggests peer education is successful in facilitating a cognitive development process through communication with peers. This is difficult to assess within

the parameters of a systematic review, as these typically include outcome over process-based data. This has resulted in 'little detailed understanding of the processes involved' in peer-led sex education interventions (Milburn, 1995, p. 418). Furthermore, review findings often include interventions utilising non-equivalent comparative groups (Harden et al., 2001; Sun et al., 2018). Studies typically compare the effect of a peer-led intervention versus a pure control that receives no intervention, or a teacher-led intervention where content is not controlled to ensure similarity with that delivered in the intervention condition. As a result, interventions are either comparing the effect of sex education versus no provision at all, or are they comparing the effect of two different programmes, rather than the educator. Consequently, accumulated evidence from systematic reviews suggest that there is no definitive answer as to whether peer-led approaches to sex education are more successful than alternatives (Mellanby, 2000; Tolli 2012; Sun et al., 2018). As such, 'the intuitive appeal of the idea is not matched by much hard evidence' (Harden et al., 1999, p3).

4. Exploratory Observations

The preceding sections have summarised existing theoretical and empirical evidence used to support the application of peer education in the delivery of sex education to adolescents in the UK. A number of limitations hinder present understanding of peer-led sex education. These are outlined below and are identified as key areas of concern that this thesis wishes to address.

4.1. Problematising Peer-led Sex Education

Present understanding of peer-led SRE is subject to the following limitations:

1) <u>No theory of peer-led SRE</u>

   There is a lack of clear theoretical foundation/theorising used to justify peer-led SRE as an educational method with which to teach adolescents about sexual health/wellbeing.

2) <u>No programme theory for peer-led SRE</u>

   Instead, a diverse and contradictory assortment of theories is combined to legitimise the approach. This muddled mix prevents a consensual definition of, and unified programme theory for, peer-led SRE and factors that may influence outcomes.

3) <u>Lack of empirical validation of theory supporting peer-led SRE</u>

   Objective investigation to critically examine the assumptions underpinning theories that support peer-led SRE is non-existent.

4) <u>Lack of process-based evaluation of peer-led SRE</u>

   Empirical research of peer-led SRE evaluates effectiveness, acceptability, or feasibility. It neglects to identify or verify the process thought to have produced outcomes.

Peer-led sex education remains popular, despite over 20 years of reviews concluding that there is limited and highly variable evidence of effectiveness for the approach. Its greater advantage over alternative forms of provision, such as teacher-led sex education, is even less clear. From a theoretical perspective, a key issue is that there is no specific theory to explain the process by which peer-led sex education may achieve its aims. There is a lack of clear theorising that can be used to justify the utilisation of peer education as an educational method with which to teach adolescents about sexual health/wellbeing.

Whilst this may 'facilitate its appeal to organisations and professionals with a variety of perspectives (Price & Knibbs, 2009, p. 299), it also serves to obfuscate the process by which peer-led sex education is effective. A diverse and contradictory assortment of theories from across a number of different fields is combined to legitimise the approach. This prevents a consensual definition of, and unified programme theory for, peer-led sex education; making it difficult for those responsible for programme implementation to identify and assess elements of provision that may increase programme success/failure. Despite findings that peer-led sex education may have a positive impact on participants' enjoyment of sex education, studies do not employ an equivalent comparator to determine whether these effects can be solely attributed to the peer educator. Furthermore, the research base includes evidence for countries and contexts other than that of the UK. Findings are largely context dependent, and as such one could suggest that current evidence for the effects of UK-based peer-led sex education is limited. Research currently places most emphasis on evaluating the effectiveness, acceptability, or feasibility of peer-led sex education. Trials and systematic reviews for example, immediately look to outcomes and do not fully scrutinise the intervention process. A noteworthy absence from these reports is investigation of the context and/or mechanisms that have produced these outcomes. For example, UK-based trials suggest the greater enjoyment of students in peer-led sex education may increase intervention success. These effects are currently reported more as an aside, rather than being investigated as an important mediator in its own right. Why has one type of provision created such a response in the target population? Can this process be replicated? And if so, what are the necessary conditions required to initiate this response? Understanding the process of peer education may improve interventions' effectiveness. As Harden et al., (1999, p.129) entreat: 'Much more work is needed in trying to gain a clearer understanding of the different processes involved… and how these relate to the success or otherwise of these interventions, and to assess the extent

to which success in one context is highly specific or could be generalised to other contexts'. By neglecting to explore these aspects of provision, when empirical studies of direct effects are contradictory, neither research nor theoretical evidence can adequately explain why these results have occurred. As Tolli (2012) identifies, there is a need to evaluate the fundamental assumptions underpinning peer-led sex education. It is the intervention born of the theory, and not the theory itself, which is currently subject to scrutiny. Yet if the theory underlying an intervention is incorrect, the intervention is less likely to succeed. Subsequently, objective investigation to critically examine assumptions underpinning peer-led sex education is required.

4.2. Aims and Objectives

To address these issues, this thesis aims to delve 'beneath the surface' of peer-led SRE (Pawson & Tilley, 1997a) to identify and understand how different contexts and mechanisms may influence intervention outcomes. The research aim will be realised through the successful completion of the research objectives to: identify contexts/mechanisms underlying peer-led SRE; specify and refine programme theory; and test resultant theory via pattern-matching.

4.3. Research Questions

In achieving these, the thesis addresses the following research questions:

1. What causal mechanisms and/or contextual factors are thought to support peer-led SRE?
2. Which of these have been subject to investigation?
3. How do these influence programme outcomes?
4. Can the effects of identified mechanisms/contextual factors be observed in practice?

STUDY I

PROMOTING THE PEER-LED APPROACH

Study I is a scoping review, undertaken to identify literature discussing peer-led sex education, examine language used to describe the approach, and categorise claims made to support or critique its implementation. From an initial 8594 results, 301 sources spanning a period of 45 years, from 1971-2016, were included in the analysis. Literature was subject to a number of analytical techniques: quantitative content analysis to measure claim frequency; trend analysis to illustrate periodic discussion in the field; and qualitative content analysis to depict the tone and nature of discourse surrounding the approach. Study findings suggest that discourse surrounding peer-led sex education is overwhelmingly positive. 15 claims were identified as either positively or negatively presenting the effects of peer-led sex education. Research evidence was very rarely cited to support these claims. Instead sources typically include anecdotes from service users and peer educators.

STUDY I: PROMOTING THE PEER-LED APPROACH

1. Context

Peer education is a popular approach with which to educate adolescents about sexual health and wellbeing, despite little evidence of effectiveness in reducing health-risk behaviour. There is a need to understand what claims are being made to perpetuate the use of peer education methods within this context.

1.1. Previous Review of Claims

A method in search of a theory

The last review to identify claims supporting peer education was conducted by Turner & Shepherd in 1999 (Table 2). The review examined each claim in terms of its theoretical foundation and whether there was empirical evidence to support it. Identified claims were found to be 'cursory, lacking in analysis or investigation', leading to the conclusion that 'peer education rests on lay principles and assumptions' (Turner & Shepherd, 1999, 235). One must be cautious when applying Turner and Shepherd's critique to current usage of the approach however as a substantial amount of time has passed since the review's publication in 1999. Moreover, the authors do not state which sources were examined or how these were subject to review, merely '…the intention is to consider those theories which have been mentioned in the peer education literature' (235). Consequently, the reader cannot determine which claims were most prevalent or those *specifically* lacking in analysis and investigation. Finally, whilst the review is useful to understand the movement for peer-led approaches within health promotion more generally, there is no focus on the use of adolescent peer educators within sex education.

Peer education: the unauthorised version

Analysis of claims made to support peer-led sex education was also undertaken by Frankham (1998). Documentation including research proposals, newsletters, and evaluations were found to contain 'remarkably similar' rationales to justify the use of peer education (p.180). These were that young people could easily discuss taboo topics such as sex, were easily influenced by peers and by employing teaching techniques more appealing to their peer group, could make education a participatory and empowering process. Each of these claims were subject to theoretical and empirical scrutiny, with Frankham (1998) reporting a discrepancy between the positive appraisals of practitioners when compared with findings of evaluative literature. Pre-echoing Turner and Shepherd (1999), Frankham (1998) suggested that practitioners were repeating claims without 'evaluation or reflection on the educational and social premises on which the approach is based' (p. 179). Frankham's suggestions are based on personal experience. Whilst these should therefore be treated with caution, it is true that evidence for peer education is limited. As such one could hypothesise that research is not being utilised by this community. Such critique is still pertinent to health promotion efforts today. Relatively little research is thought to have been disseminated and applied within working practice (Kerner & Hall, 2009). This may be due to the differing perspectives on how to define a successful intervention and what forms of evidence are necessary to 'prove' this. Practitioners may assess programme feasibility within their particular setting; target populations may focus on processes of participation; whilst academic researchers may prioritise methodological issues (Nutbeam, 2000). This is useful in understanding the kinds of evidence that are valued by the different stakeholders drawn together in intervention implementation, but does little to explain *where* these communities find such evidence. If research evidence is being under-utilised, one can surmise that practitioners must be accessing alternative sources to learn about peer-led sex education.

Table 2. Peer education claims

Ten claims used to support the adoption of peer education

1. Cost effectiveness
2. Credibility
3. Empowerment
4. Communication
5. Peers are more successful in passing on information than professionals
6. Peer educators are positive role models
7. Peer education is beneficial to the peer educators
8. Education presented by peer educators is more acceptable
9. Peer education can include those populations typically hard to reach
10. Peers reinforce learning through ongoing contact

Turner & Shepherd, 1999, pp. 236-7

1.2. Health promoting media

The media is a particularly apt vehicle for the dissemination of health-related information as it enables communication through several different channels such as television, radio, print and the internet. Traditionally, the general public and many healthcare professionals obtained information from reports written by journalists (Oxman *et al.,* 1993). Newspapers are still a major source of factual information, opinion and analysis today (Bartlett, Sterne, & Egger, 2002), but this has changed somewhat with the advent of the internet. Internet access has been credited with revolutionising health promotion by making information easily accessible to the public, becoming one of the main sources of health information throughout the world (Lu, 2009).

Sex education and the media

Issues relating to the sexual health status and instruction of young people consistently capture newspaper headlines in the UK. Sex education is clearly a subject of interest to the media (Epstein & Johnson, 1998; Furedi, 1997) as there has been an 'explosion of discourse' around this topic in recent years (Thorogood, 2000, 427). The potential for the media to influence public attitudes towards sexual health has been recognised by the UK government, with targeted media campaigns identified as 'a vital component' of the

Teenage Pregnancy Strategy (Kingori, Wellings, & French, 2004). A series of studies have investigated media reporting on sex education in the UK (Keller & Brown, 2002; Kingori et al., 2004; Simey & Wellings, 2008). The majority explore how the media respond to the sexual health and/or sex education of young people. A study of British newspaper reporting on sex education in relation to teenage pregnancy for example, reported 'constant if fluctuating levels of interest in SRE', with general press coverage being 'positive in tone' (Kingori et al., 2004, p121). There is little literature to provide insight into the nature of coverage regarding the application of peer education to sex education. As far as the author is aware, there are no studies specifically reporting on the portrayal of peer-led sex education and the effect of this reporting on policy or practice. Peer-led sex education has not been completely ignored by the media. In their study of media reporting on TPS in British national newspaper, Simey & Wellings (2008) described a good deal of interest surrounding peer-led approaches. The tone of articles was mixed, with opinion divided over whether peer educators should be used to complement or replace existing providers (Simey & Wellings, 2008). Articles discussing the peer-led component of the APAUSE Project provide an illustrative example of contradictory media reporting on peer-led sex education. Some of the media coverage of APAUSE praised skill development as a positive aspect of the programme. Yet these articles were 'eclipsed by explicit coverage of the belief that oral sex was being taught as the main alternative to penetrative sex' (Simey & Wellings, 2008, p362). Overall coverage of APAUSE was highly critical, with graphic headlines. This serves to demonstrate the sometimes sensationalist reporting of sex education within the media, as the exploration of oral sex as an alternative to penetrative sex was a very small component of the APAUSE programme.

Influence on Practice

There are difficulties in attributing media campaign effects to public beliefs, attitudes or behaviour. The scale of media interest surrounding sex education however suggests that newspapers and the media 'contribute greatly to establishing issues relating to the sexual health of young people and sex education on the public agenda' (Simey & Wellings, 2008, p358). If this is the case, then it would not be unreasonable to assume that the media could influence policy and practice regarding sex education. Publicising alternative delivery methods for sex education may be useful to raise awareness and encourage the adoption of new, innovative pedagogies. It is also problematic, as sensationalised, negative reporting can undermine efforts to provide sex education. For example, a large majority of newspapers in the UK were found to be reporting that abstinence-based sex education programmes were most successful, at a time when research evidence was suggesting the opposite (Simey & Wellings, 2008). This is referred to as the 'tabloidisation' of sex education, where headlines are both sensationalist and inaccurate (Kingori et al., 2004). It is difficult to understand what effect such reporting may have on public opinion, and whether this in turn influences sex education policy and practice. Nevertheless, the misreporting/misinterpretation of study findings by the media can cause considerable, long-lasting harm as 'they misrepresent and distort the moderate and pragmatic messages of those working with young people (Furedi, 1997, p. 686). If lay audiences *do* believe newspapers are a trustworthy source of information (Bartlett et al., 2002; Kingori et al., 2004), the media may serve to perpetuate common myths and mistruths about sex education. This in turn could influence the promotion or adoption of initiatives that have limited evidence of effectiveness, such as peer-led sex education. The ease by which anyone can publish and access information on the Internet may serve to further exacerbate this situation. Kerner & Hall (2009) caution that the rapid dissemination of novel 'discoveries' by new communication technologies may raise unrealistic expectations

about 'the timeliness of the return in investment' (p.520). Whilst researchers have started to investigate the potential for the Internet to influence health behaviour, and there have been several studies on the impact of web-based literature on public attitudes to smoking (Freeman & Chapman, 2007; Paek, Kim, & Hove, 2010; Vance, Howe, & Dellavalle, 2009), little research has been conducted on how the Internet presents and influences issues relating to the policy and practice of sex education. A literature search doesn't reveal any empirical studies exploring this issue. Those studies examining sex education in relation to the Internet focus on the potential for Internet-based programmes to influence attitudes towards sexual health and thereby change behaviour (Lu, 2009).

1.3. Research Purpose

Aims and objectives

The preceding section has identified a limited number of studies examining claims used to support peer education as a method with which to deliver sex education to adolescents. Those that have been conducted were completed nearly twenty years ago and typically focus on claims present within academic literature. This thesis would argue that practitioners cannot be drawing on evidence from academic literature alone to inform their practice as these sources present peer-led sex education in a neutral or negative manner. Practitioners must be accessing more positive appraisals of the approach in literature sources other than those within academia. Thus, in a similar fashion to Malone (2000), Study I aims to reveal 'how an ordinary person might find information and what information he or she would be likely to find' (p. 695). These aims will be realised through achieving the following objectives:

Expand Existing Evidence

The last reviews of claims made to support peer education were completed twenty years ago. Discourse surrounding the topic may have changed considerably, given the

innovations in technology, education, and health that have occurred during this period. For example, when the two reviews by Turner & Shepherd (1999) and Frankham (1998) were conducted, RIPPLE and APAUSE, the major studies of peer-led sex education in the UK, were in their infancy. The publication of research evidence from these trials may have affected the framing of discourse around peer-led sex education. Furthermore, Internet access in 1999 was not as popular or widespread as it is today. The near-universal use of the Internet will more than likely have changed how findings are disseminated and how peer-led approaches are publicised. Therefore, it would be useful to illustrate what conversation surrounding peer education looks like two decades on.

Explore Claims in More Depth

A limitation of previous reviews is the focus on only analysing those claims that support peer education and present the approach in a positive manner. Negative claims do not appear. This excludes voices that would paint peer education in an unfavourable light. This balance should be redressed in order to produce a more well-rounded commentary on the conversation surrounding peer education. The lack of trend analysis conducted once claims have been identified is also problematic. There is no way to know which claims are most prevalent and whether the popularity of specific claims fluctuate or remain constant over time. Categorising claims and quantifying which are most prevalent within the literature will aid identification of contextual/mechanistic features which may be worthy of further investigation.

Extend Sources of Evidence

Reviews of peer-led sex education have consistently reported limited evidence of effectiveness when compared to alternative methods. It is unlikely therefore, that practitioners are influenced by claims contained within this type of literature. Consequently, it may be useful to look to other sources of literature that are available within the public domain. This chapter has presented evidence that the media can influence perspectives on health promotion policy and practice. In light of this, any

review should include grey literature and alternative information sources such as those produced by the media.

Research Questions

The study seeks to achieve the aforementioned aims and objectives by answering the general research question: What claims are made to encourage or discourage the utilisation of peer-led sex education? The general research question is made up of a series of sub-questions:

> ➢ Which claims are most prevalent?
>
> ➢ Are claims supported by evidence?
>
> ➢ Is evidence based on research or anecdotal sources?

In answering these questions, data produced in Study I will be used to help build towards addressing thesis questions 1) What causal mechanisms and/or contextual features are thought to support peer-led SRE? and 2) Which of these have been subject to investigation?

2. Methods

Study I seeks to update previous reviews of claims made to support peer-led sex education by analysing literature to identify both positive and negative claims for the approach, and quantify how frequently these claims are cited.

2.1. Design

A narrative literature review was selected as the most appropriate design to address the research questions. A literature search of bibliographic databases, specialist registers, newspapers, and YouTube videos was conducted to form a corpus of evidence that was subject to review. Quantitative content analysis was employed to quantify the prevalence of claims about peer-led sex education. Content Analysis was used to systematically code and categorise data, facilitating the exploration of large amounts of textual information to determine trends and patterns of words used, their frequency, their relationships and the structures and discourses of communication (Gbrich, 2007; Pope, Ziebland, & Mays, 2006). Additional data such as the year of publication, publication type, and author was collected for trend analysis to illustrate periodic discussion taking place in the knowledge discipline (Erford, Miller, Duncan, & Erford, 2010). Combining these methods enabled the production of both frequency data to quantify, and thematic interpretation to qualify, research findings (Vaismoradi, Turunen, & Bondas, 2013); thereby promoting a deeper understanding of claims surrounding peer-led sex education.

2.2. Process

The review was conducted in several stages: identification of potential studies, screening potential studies for inclusion, data extraction, quantitative content analysis, qualitative content analysis.

Identification of potential studies

To address the research question, Study I proposed to identify relevant literature discussing peer-led adolescent sex education. In particular, the study aim was to find literature that anyone in the UK, be that a member of the public or a practitioner, who had an interest in the subject, could search for or encounter. 43 databases were systematically searched to identify published and grey literature discussing peer-led sex education. This included the main bibliographic databases in Education (such as ERIC), Psychology (such as PsychNet) and Health (such as CINAHL) following recommendations that searching for peer-led health promotion literature should include medically oriented databases as well as social science specific databases (Harden et al., 1999). In conducting their review of peer-led health promotion, Harden et al., (1999) noted that a third of process evaluations were written up in unpublished reports or in the form of articles for non-peer-reviewed journals. Accordingly, specialised registers, practitioner journals, conference proceedings and research depositories were also subject to searches. Due to the identified importance of the media in influencing health promotion, news repositories and YouTube were also searched and included in the review. A full list of databases searched can be found in Appendix B. According to the stages of a systematic review, keywords, titles and abstracts were searched. As searches covered a wide range of sources, a single, blanket search strategy would be insufficient as operators and key terms vary between databases. A separate search strategy for each source was developed (Appendix C). Search strategies for electronic bibliographic databases were developed surrounding the general terms 'peer*', 'adolescent', and 'sex education'[2]. When conducting searches, index/thesaurus terms were used when available. This was for two reasons: firstly, in assigning index terms, indexers check the full article and not just its

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[2] The reader may note that instead of using the acronym for sex education delivered in the UK, SRE, the author has chosen to describe programmes using the general label of 'sex education'. This was because many countries have a specialised term for sex education and it would be difficult to search for each separate term. The majority of sources however will be tagged with the general keyword of 'sex education' even if the source discusses a more specific format such as SRE.

title and abstract, thereby significantly enhancing a search that would otherwise be limited to citation and abstract only. Secondly, index terms are controlled by the database thesaurus, resulting in consistent coverage of concepts that can be expressed in numerous ways. A multiplicity of terms are used to describe both peer and sex education. There are limitations to using index terms, therefore a mix of free text and index terms were used in searches. Not all databases use the same definition of adolescence e.g. Embase includes school child (7-12 years), adolescent (13-17 years) and young adult (18-24 years). All of these terms were included in searches where available to ensure the full spread of age ranges were canvassed. Controlled vocabulary search terms differ for each database, so searches were customised for each database. Problems associated with free text terms such as different spellings and synonyms were mitigated by the use of keywords/thesaurus terms and truncation symbols. Truncation was especially useful in covering the numerous terms used to describe peer education such as peer counselling, peer helping, peer assisted, peer delivered etc. Boolean logic operators were used to combine terms and define how databases should be searched. Search functionality for news archives, YouTube and some of the smaller research repositories do not allow for the advanced searching that can be deployed in larger bibliographic databases. Instead they allow users to search for small terms, with longer strings producing less relevant results. Some studies search with a small number of keywords (Blythe & Cairns, 2009; Paay, Kjeldskov, Skov, & O'Hara, 2012). Other only analyse websites developed by reputable organisations (Bay-Cheng, 2005), or try to emulate searches of specific groups (for example mimicking keyword searches conducted by young people in Noar, Clark, Cole *et al.,* 2006; Smith, Gertz, Alvarez *et al.,* 2000). The multiplicity of terms for peer and sex education make the deployment of a single term search strategy very difficult. To follow as systematic an approach as possible, the researcher used YouTube's Autocomplete Service. Autocomplete is a technical term for the search suggestions users

see when typing in a search box. Suggestions are predictions based on the most popular search terms used by people searching for similar subject matter. Researchers can use this feature to discover the most popular searches related to a keyword. Within Autocomplete, 'peer education' is classified as a stem word. As such, any searches with 'peer education' would also capture variations of the word such as 'peer to peer' and 'peer health education'. HIV and sex education are also stem words. Using this, three search strategies were created: 'peer education AND sex education', 'peer education AND HIV' and 'peer education AND sexual health'.

Screening for Inclusion

To be included in the review, literature were subject to a number of inclusion/exclusion criteria.

Educational Approach

Literature had to discuss programmes that were delivered in part or component by an educator who was identified as a 'peer' to the target population.

Educational Programme

Literature had to discuss programmes that aimed to improve the knowledge, attitudes, beliefs, intentions or behaviour of adolescents regarding any aspect of sexual health or wellbeing (this includes HIV/AIDS, Sexually Transmitted Infections, pregnancy, relationships).

Target Population

Literature had to discuss programmes that targeted adolescents between 11 and 24 years of age. Adolescence can be defined as the ages of 15-24 (Adamchak, 2006). The age was lowered in this study to accommodate programmes focussing on those from age 11. As a consequence of the earlier onset of puberty and sexual activity amongst young people, interventions are being delivered to younger age groups. Whilst definitions of adolescence differ, the current study's focus on those between 11-24 years is consistent with other reviews of peer-led interventions (Harden, Oakley, & Oliver, 2001) and with definitions used in health promotion literature (Aggleton, 1996; Peersman, 1996). Studies that specifically focussed on a functional group, such as youth with disabilities, HIV/AIDS or sex workers, rather than adolescents more generally, were excluded.

Language

Literature had to be in the English language for its salience to the UK context which is the focus of the study. It is fair to assume that English speaking practitioners will seek and find largely English language sources.

Literature Type

Literature that was empirical in nature was excluded from the review as the focus of Study I was to identify claims for peer-led sex education. Instead, those pieces identified as being empirical in nature were used to assess the evidence base for the claims identified in Study I, by being included in a systematic review of peer-led sex education in Study II.

Date and Place of Publication

There were no restrictions placed on the date or place of publication of sources as this was subject to trend analysis. Whilst this thesis seeks to understand the utilisation of peer-led SRE within the UK, the review included literature sources from outside the UK. Other studies have excluded international sources (Kingori et al., 2004) due to the context-dependent nature of sex education. Such an approach was unnecessary in this review as it would hinder the study aim to understand how peer-led sex education is presented to practitioners and the public. As peer-led sex education is practised and publicised internationally, literature from outside the UK can be identified and accessed easily through a simple Internet search. Restricting the sample to UK-based programmes therefore would not be true to life, as it does not reflect the information about peer-led sex education that is available to practitioners and the public. An exception to this was the search for newspaper articles which only concentrated on UK-based publications. This is because it is unlikely that the British public would encounter much news from outside their domicility.

A total of 8594 sources were identified via searches conducted in July 2016. Literature was downloaded, duplicative entries (n = 3884) removed, and titles/abstracts subject to screening (n = 4710). Literature not meeting inclusion criteria was excluded (n = 4022). Inconclusive records were referred for full-text retrieval (n = 688) and included (n = 334) or excluded (n = 354) according to inclusion criteria. Figure 4 provides a visual overview of this process. A list of included sources are included in Appendix E.

Study Flow Diagram

Identification

SEARCH PROCESS 1:
YouTube

a) Query 1 = 583
b) Query 2 = 543
c) Query 3 = 544

Total 1670

SEARCH PROCESS 2:
Newspapers

a) Nexis = 877
b) Infotrac = 15

Total = 892

SEARCH PROCESS 3:
Databases

See Appendix for search result records for each source

Total = 6032

DUPLICATION:

1 = 171
2 = 126
3 = 3587

Total = 3884

Screening

SCREENING: no. of records screened after de-duplication

1 = 1499
2 = 766
3 = 2445

Total = 4710

Records excluded:

1 = 1257
2 = 485
3 = 2280 (250 empirical)

Total = 4022

Eligibility

ELIGIBILITY: no. of full-text articles assessed

1 = 242
2 = 281
3 = 165

Total = 688

Records excluded:

1 = 67 (age); 29 (topic); 39 (approach); 4 (language) = 139
2 = 3 (age); 10 (topic); 155 (approach); 0 (language) = 168
3 = 10 (age); 15 (topic); 20 (approach); 2 (language) = 47

Total = 354

Included

INCLUDED STUDIES: no. of studies included in analysis

1 = 103
2 = 113
3 = 118 (33 no access)

Total = 301

Study II

STUDY II: no. of studies that may be suitable for Study II

Total = 250

Figure 4. Study I Inclusion diagram

Data Extraction

All studies meeting the inclusion criteria underwent data extraction and analysis. Literature was downloaded, imported into Excel and assigned a random ID code. Each source was then subject to content analysis using a coding form developed by the researcher. Data from coding forms was entered into Excel to conduct quantitative content analysis and trend analysis. Text that had been coded was stored and subject to thematic analysis to produce a narrative description of the discourse surrounding each claim.

2.3. Analysis

Content Analysis

Content analysis is a 'research technique for the objective, systematic and quantitative description of the manifest content of communication' (Berelsen, 1952, 18) where the content of communication serves as the basis for inference (Holtsi, 1969). This does not simply refer to analysis of the written word. Communication can be written, spoken or printed (Fairclough, 2003). According to this definition, any item that can be textualized can be subject to content analysis (Babbie, 2010). These 'various ways of counting words, images, analogies and contexts' (Krippendorff & Bock, 2009, 2) make content analysis a particularly appropriate method of analysis for the current study. Content analysis is a general term for a number of different strategies used to analyse text (Powers & Knapp, 2006). As such the content analysis employed in this review was made up of several parts (Table 3). Each part of the content analysis, and the codes within each part, were listed in order to create a coding form which was used to enter data into Excel (Appendix F). This form utilised a 'tick-box' approach to categorisation. The approach to content analysis was semi-emergent however, with codes being tested iteratively against the corpus of literature sources (Madden, Ruthven, & McMenemy, 2013).

Breakdown of Content Analysis Procedure	
CA Part 1	Identify literature type All literature was coded by source type; whether the source was a journal article, national newspaper, local newspaper, YouTube video or 'other' (with space provided to record any that did not fit pre-established codes).
CA Part 2	Identify content creator(s) The creator of the source was coded for. These were categorised into broad groups to protect the identity of the author. Categorisation was based on that utilised by Kingori *et al.,* (2004) and included 'Government Agency', 'Academic', 'Education Professional', 'Health Professional', 'Charity', 'Peer Educator', 'Journalist', 'Local Council'. Space was provided to record authors that did not fit pre-established codes.
CA Part 3	Identify claims for and against peer-led sex education To identify claims made to support/critique peer-led sex education, pre-established codes from Turner & Shepherd (1999) were listed on the Coding Form. These were: 'Cost Effectiveness', 'Credibility', 'Empowerment', 'Naturalism', 'Efficacy', 'Role Modelling', 'Provider Benefits', 'Acceptability', 'Outreach Capability', and 'Reinforcement'. These codes did not include any negative claims. Consequently pre-existing codes were listed alongside their direct opposite to create negative codes. Space was provided to record any claims that did not fit pre-established codes.
CA Part 4	Identify whether literature cites evidence to support claims Whether literature cited an evidence source for a claim was noted as Yes/No. If N, the coder did not have to complete Part 5 of the analysis and could proceed to Parts 6 and 7.
CA Part 5	Identify evidence source(s) of claim(s) If literature cited an evidence source, the type of evidence source was recorded. This could be a 'research' or 'anecdotal' source.
CA Part 6	Identify literature tone Pre-established codes by Kingori *et al.,* (2004) were utilised to classify the tone of literature as positive or negative. Kingori *et al.,* (2004) categorised articles as either 'Positive' (generally supportive), 'Negative' (generally hostile or critical), or 'Neutral' (no opinion or conflicting views). It was noted that the greatest level of disagreement between researchers when assigning codes to literature was the categorisation of 'Neutral' articles. This might be because the definition of 'Neutral' could include those articles that expressed both 'no opinion' and 'conflicting views'. Having no opinion or a mix of opinions does not equal the same perspective, consequently for the purposes of this study the coding scheme was modified. The 'Neutral' category was split into two codes. Articles that expressed no opinion were classified as 'Neutral' but those expressing conflicting views were coded as 'Mixed'.

Table 3. Content Analysis Process

The analysis employed a deductive approach to compare categories at different periods, in this case looking at different time periods across different forms of literature compared to previous reviews (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). A key component of the analytic process was deviant case analysis, whereby if a source could not be allocated an existing code, the Coding Form was adjusted to accommodate for the

identified flaw in the schema (Silverman, 2006). New codes were incorporated into the coding form as a result of this process and after comments received from reviewers (see section on Inter-Coder Reliability); leading to the production of the final Coding Form in Appendix I. A coding form was completed for each source. The coding process began with the coder noting the date of publication of the source before assigning codes for each part of the content analysis. Narrative descriptors of each code were included in the coding form to standardise the data analysis protocol as different results may be produced if different protocols are used (Gbrich, 2007).

Quantitative Content Analysis and Trend Analysis

By using content analysis, it was possible to quantify data (Gbrich, 2007). Coding form data was entered into Excel to conduct quantitative content analysis, producing a quantitative measure of claim prevalence (Gradlyan & Baghdasaryan, 2013). Claims were mapped alongside publication date and publication type to identify trends within the literature base.

Qualitative Content Analysis

Text was coded and subject to thematic analysis to produce a narrative description of the discourse surrounding each claim.

2.4. Inter-Rater Reliability

Methods of analysis employed in Study I are susceptible to researcher bias. To mitigate this, literature was independently coded by the researcher and an independent reviewer[3] using the coding form and code descriptors. This was important as to make valid inferences from qualitative analysis, the classification procedure 'must be reliable in the sense of being consistent: different people should code in the same way' (Weber, 1990, p. 12). In the context of this study, Inter-Rater Reliability (IRR) was defined as 'the

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[3] A PhD student in the School of Education at Durham University

propensity for any two researchers to assign the same codes to any given source from the source population, chance agreement having been removed from consideration' (Gwet, 2014, p. 7). IRR was calculated for the assignment of codes using Cohen's Kappa (Cohen, 1960). To establish IRR, a random sample of 10% of literature selected for inclusion in the review (Scher, 2009) was coded (n=30). Reliability was based on the consistency of coding in this sample. Literature sources were randomly selected by allocating each entry a random number within Microsoft Excel and selecting the top 10% of records after sorting numerically. Kappa was calculated for each item on the coding form. A list of cross tabulation IRR calculations is provided in Appendix J. The level of agreement for each item is depicted in Table 4, with benchmarked Kappa scores. Interpretations from each of the three models used to benchmark kappa coefficients (Altman, 1991; Fleiss, Levin, & Paik, 1981; Landis & Koch, 1977) have been included. As a general rule, any item that receives a Kappa score of less than 0.5 should be re-defined, with items re-scored on the new scale and Kappa recalculated. Typically there was high agreement for each item on the coding form. 14 items (61%) were calculated as having 'Excellent Agreement'. For only 3 items (13%), was Kappa calculated at less than 0.5. As Table 4 depicts, rater agreement for the category 'Tone' has a low Kappa score (0.475). Conversely the percentage agreement for this category was high, with 90% agreement and a calculated p-value of .001. One of the limitations of Kappa is that it can yield a low value even when raters show high agreement (Gwet, 2014). It often yields coefficients that are unexpectedly low when compared to the percentage agreement. This has been referred to as the Kappa paradox (Gwet, 2008). Feinstein & Cicchetti (1990) report that in some cases when percent agreement is large, the correction process can convert a relatively high p value into a low kappa score. Consequently Kappa incorrectly overstates the correction due to chance agreement (DiEugenio & Glass, 2004). In this case, the Kappa score may have been negatively impacted as the 'Tone' category had 4 possible

responses (positive, negative, neutral, mixed), whereas other categories only had 2 possible responses (present or not present). As such, the code for 'Tone' was not changed based on these results. The 'Other' category also had low Kappa scores for both positive ($k = 0.286$) and negative codes ($k = 0.464$). When discussed it was found that high levels of disagreement had occurred between the reviewer and researcher because the reviewer had tried to fit all instances into existing codes, even when they felt a new code may have been useful. This was resolved by splitting the code for 'Natural Communication Process' into 'Natural' and 'Communication' and creating a new category entitled 'Pedagogy'. Disagreements regarding the application of codes were resolved by discussion post-IRR analysis and reviewing sources together alongside code descriptors. The Code Description Sheet and Coding Sheet were merged to assist code identification.

IRR Results for Study I Coding Form				
Code	Kappa	Landis & Koch	Fleiss	Altman
Tone	0.475	Moderate	Intermediate to Good	Moderate
Cost (P)	0.839	Almost Perfect	Excellent	Very Good
Cost (N)	0.651	Substantial	Intermediate to Good	Good
Credibility (P)	0.667	Substantial	Intermediate to Good	Good
Credibility (N)	0.651	Substantial	Intermediate to Good	Good
Empowerment (P)	0.830	Almost Perfect	Excellent	Very Good
Empowerment (N)	1.00	Almost Perfect	Excellent	Very Good
Natural (P)	0.814	Almost Perfect	Excellent	Very Good
Natural (N)	1.00	Almost Perfect	Excellent	Very Good
Efficacy (P)	0.533	Moderate	Intermediate to Good	Moderate
Efficacy (N)	1.00	Almost Perfect	Excellent	Very Good
Role Models (P)	0.841	Almost Perfect	Excellent	Very Good
Role Models (N)	1.00	Almost Perfect	Excellent	Very Good
Educator Benefit (P)	1.00	Almost Perfect	Excellent	Very Good
Educator Benefit (N)	1.00	Almost Perfect	Excellent	Very Good
Acceptability (P)	0.50	Moderate	Intermediate to Good	Moderate
Acceptability (N)	1.00	Almost Perfect	Excellent	Very Good
Outreach (P)	1.00	Almost Perfect	Excellent	Very Good
Outreach (N)	1.00	Almost Perfect	Excellent	Very Good
Reinforcement (P)	0.526	Moderate	Intermediate to Good	Moderate
Reinforcement (N)	1.00	Almost Perfect	Excellent	Very Good
Other (P)	0.268	Fair	Poor	Fair
Other (N)	0.464	Moderate	Intermediate to Good	Moderate

Table 4. IRR Results for Study I Coding Form

All coding was performed, compared, resolved and completed before full analysis of the corpus. A post-hoc check was conducted on newly emergent codes with the reviewer

being invited to agree/disagree with the allocation of new codes at the end of the analysis procedure.

2.5. Ethics

Methods selected for the purpose of investigating Study I research questions pose a number of ethical issues, all of which have been taken into consideration by the researcher during study design. Ethical approval for the study was granted by the School of Education Ethics Committee at Durham University on 16/03/2016 (Appendix A). Reviewing literature does not present many ethical issues as it does not require human participants. Every effort was taken to treat authors' work accurately and fairly, and all included literature was acknowledged and fully referenced. The inclusion of grey literature such as news articles and YouTube videos pose little ethical issue so long as the creator of the material was not the focus of the study; thereby making the creator a study participant. Study I analyses material that has been purposely posted in the public domain by its creator. This does not guarantee that the creator would not suffer harm from materials subsequent analysis however. Unlike published literature held in bibliographic databases, where there is an expectation of peer review, non-academic 'grey' literature is not often created for research purposes. As a result, the act of reviewing this literature creates the potential for an individual's privacy to be compromised as their opinions or behaviour may gain attention after being re-published in a different format (Nissenbaum, 2009). Whilst this is highly unlikely (Pihlaja, 2016), as a precautionary measure the names of individual authors were not used. Instead when sources were quoted directly in the research, the source anonymous ID code was used rather than the author's name.

Since the distinction between public and private is blurred online, with discussion taking place in public (open access internet sites) and private spaces (people's homes) simultaneously, there are a number of ethical considerations to take into account when

reviewing internet-based literature. Whether web-based literature can be considered public or private material is subject to debate (British Psychological Society, 2007). There is a general consensus however that if membership is required to join the community; if community membership is small; and if the norms of the community suggest a need for privacy; then the group should be considered private (King, 1996; Mayer & Till, 1996). In addition to this consideration, using quotations from online literature may threaten anonymity by being easily traceable through search engines (British Psychological Society, 2007), and extra caution is necessary when accessing materials that may have been created by young people[4] (Association of Internet Researchers, 2002). In accounting for this, exclusion criteria developed by Frith (2012) were adopted to ensure literature was being used appropriately and responsibly within the study. Only literature that could be viewed with minimal or no registration was included in the study. This restricted literature sources to those available at the more public end of the spectrum, but did not impede the study aims, as material within the public domain was the target of literature searches. Possibility for identification is a point that is especially salient to the analysis of YouTube videos as they contain visual components which may include footage of the creator. Textual content of videos was the only aspect subject to review (including written on-screen text and audio-recorded speech), thus the content-creator was not depicted within the study. As YouTube users can post content either publicly or privately, YouTube explicitly state in their user policy: 'Any videos that you submit to YouTube sites may be redistributed through the Internet and other media channels, and may be viewed by the general public' (YouTube Statistics, 2016). This statement suggests that YouTube can be utilised as an open archive or documentary resource, in a similar vein to bibliographic databases (Wilkinson & Thelwall, 2011).

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[4] There is the potential, when reviewing peer-led sex education literature, for the literature to have been created by the peer educators themselves.

3. Results

334 sources met the inclusion criteria and were subject to analysis. These were drawn from YouTube (103 sources), news databases Infotrac and Gale (113 sources), and bibliographic databases (118 sources). 33 sources could not be found to be included in the analysis. These were all sources that could be classified as grey literature, leaving 301 sources for analysis. As most sources were news articles, the most common authors of sources were journalists (n=114, 37%), followed by peer educators themselves (n=58, 19%). As depicted in Figure 5, only 4% (n=13) of sources could be classified as a piece of guidance documentation. One of these sources came from a governmental source, with the large majority being produced by charities working within the field.
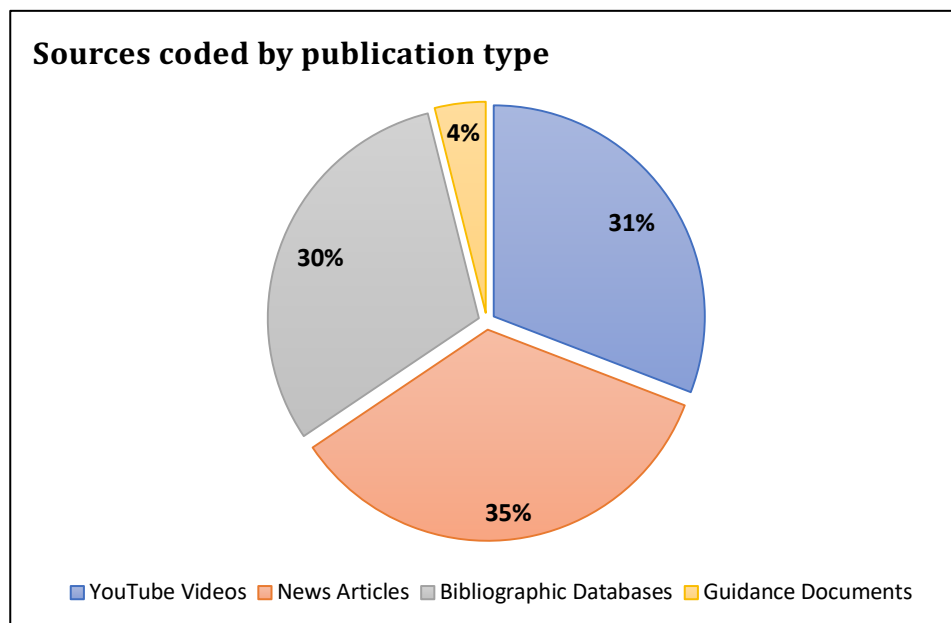
Figure 5. Graph to show sources coded by publication type

3.1. Trend Analysis

Volume of coverage

The dataset covered a period of 45 years, ranging from 1971 to 2016. Distribution of publications is illustrated in Figure 6. By plotting the number of publications published each year, it appears that the number of publications began to increase from 1990 onwards. Spikes in coverage occurred in 1993 (n=15), 1999 (n=19), 2003 (n=13), 2008 (n=19), 2012 (n=29), and 2014 (n=27). There were notable fluctuations in coverage in 1995 (n=6), 2000 (n=7), 2005 (n=6) and between the period 2009-2011 (n=17,17,16).
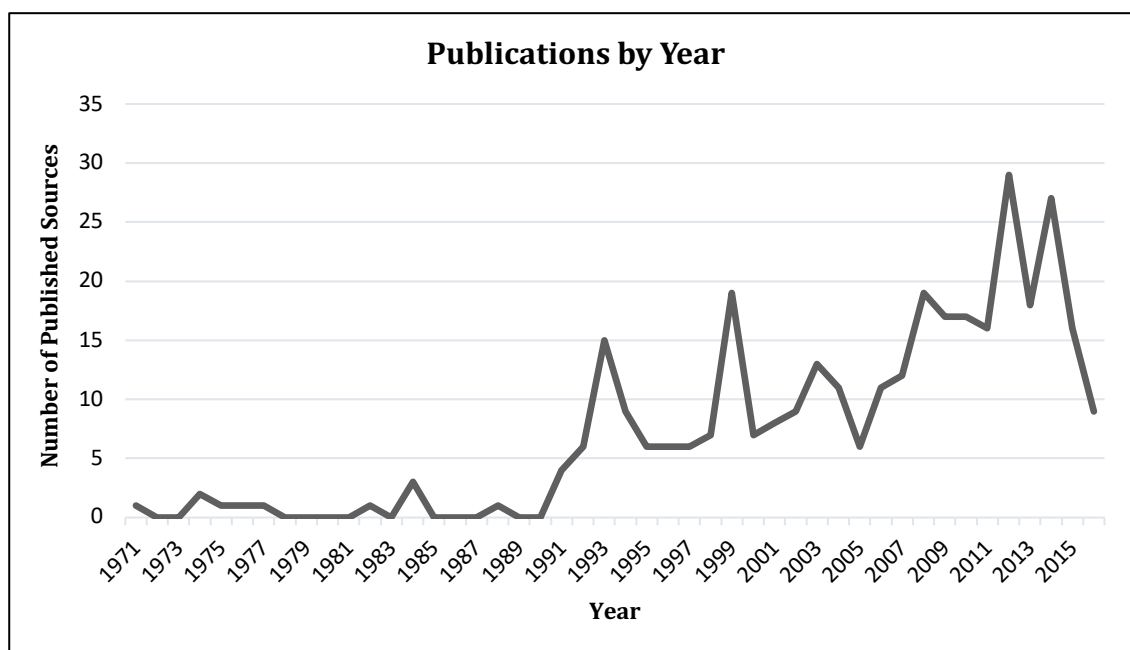
Figure 6. Line graph plotting number of relevant sources by year

When plotted across time (Figure 7) using the publication of all sources as a point of reference from Figure 6, it appears that the majority of publications were journal articles. Publication of news articles start to increase somewhat later and overtake journal publications in 1999. The level of academic publications after this period generally remains below that of news content. From 2005 the number of publications appears to be driven by content posted on YouTube.

Publications by Year and Publication Type
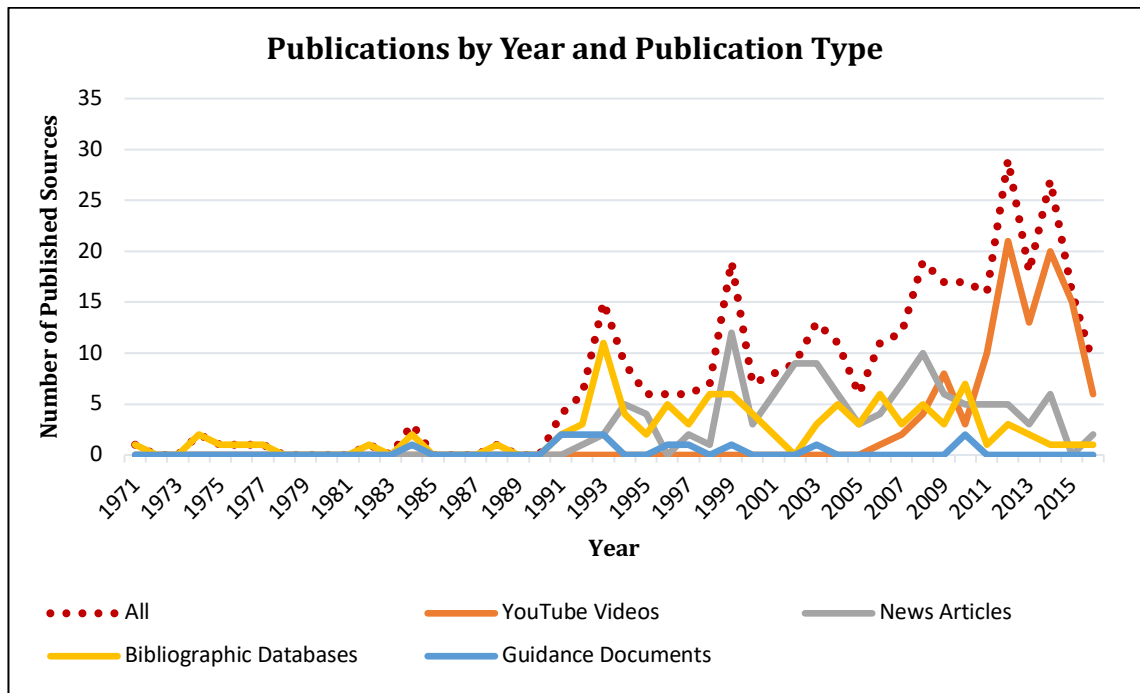
Figure 7. Line graph plotting sources by type by year

Focus

As searches were conducted to explore what literature UK-based practitioners could access, sources were expected to have a UK focus. Whilst this was the case, UK-based searches retrieved sources reporting on programmes from all over the world. Pre-1990 the majority of literature discussed peer-led sex education programmes that were conducted in North America. No sources discussed UK-based programmes prior to 1990. After 1990 there is an increase in sources describing programmes conducted in the UK with the majority of sources with a UK focus being published between 2000-2009.

Sources coded by geographical focus		
	N	*%*
UK	138	46%
North America	96	32%
Africa	34	11%
Asia	14	4%
Australia and New Zealand	9	3%
South America	6	2%
Rest of Europe	5	2%
Total	302	

*NB: Total does not match study flow diagram as some sources had none or multiple geographical focus

Table 5. Sources coded by geographical focus

Tone

The tone of sources was almost universally positive (84%). Over the period, 281 sources discussed peer-led sex education for young people in a positive tone. 8 sources negatively described the approach, 32 sources were neutral in their description of the approach, and 13 sources were mixed in opinion.
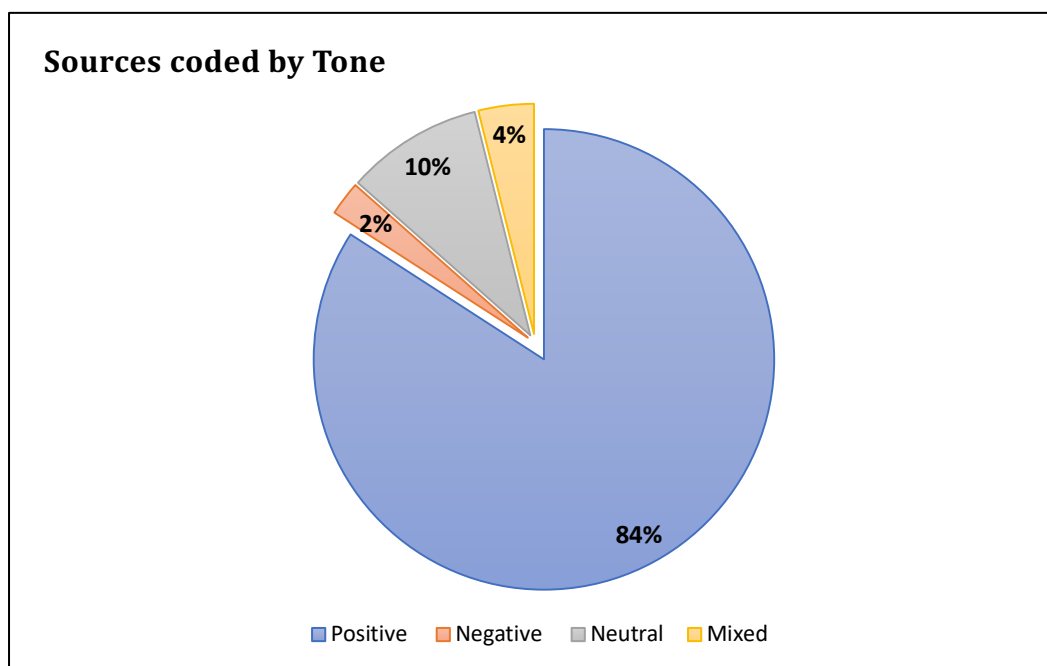
Figure 8. Graph to show sources coded by tone

Publication of sources that were negative in tone increased between 1998-2000 and in 2002, 2004 and 2008. The amount of published sources that were negative in tone however never exceeded those classified as positive in tone. Publication type and author did not appear to be related to whether a source was more positive or negative in tone.

Claims

From the original coding scheme of 10 codes, the final coding scheme included 15 codes. Table 6 provides a final list of allocated codes and whether these were based on positive or negative claims. A total of 958 codes were applied to sources. These were largely positive (N=885, 92%), with under 10% being classified as a claim that depicted peer-led sex education in a negative manner (N=73, 8%).

Sources coded by claim regarding peer-led sex education			
	Positive Claims	*Negative Claims*	*Total*
Effectiveness	184	27	211
Educator Benefit	129	1	130
Acceptability	126	4	130
Communication	107	7	114
Credibility	78	8	86
Pedagogy	68	3	71
Empowerment	48	4	47
Social Reinforcement	45	2	47
Modelling	33	1	34
Cost Effectiveness	16	9	25
Outreach	18	1	19
Expertise	10	1	11
Theory	9	2	11
Safety	8	3	11
Natural	6	0	6
Total	885	73	958

Table 6. Distribution of positive and negative codes

Figure 10 presents a visual depiction of the distribution of codes across sources. The most popular claims were those relating to effectiveness with over half (n=184, 55%) of all 301 sources claiming peer-led sex education was an effective way to educate adolescents about sexual health. As the most popular claim, effectiveness also had the largest recorded number of negative applications, with 27 (8%) of sources cautioning that peer-led sex education may not be effective. The benefit of peer-led sex education to educators was cited in 129 (39%) sources, with only one arguing that there were adverse consequences for peer educators such as increased responsibility leading to stress. Claims for acceptability and communication also frequently featured in sources. These were most commonly used to support the adoption of peer-led approaches to sex education. 38% (N=126) of all coded sources discussed the approach's greater acceptability to the target population and just under a third described higher quality of communication between students and educators within peer-led sex education lessons (N=107, 32%). Just under a quarter of sources (n=78, 23%) cited the increased credibility of peer educators as a reason to adopt peer-led approaches to sex education. The most contentious claim was that of cost effectiveness. 25 sources were coded as discussing the cost effectiveness of

peer-led sex education, with 64% (n=16) of mentions being positive and 46% negative (n=9). Claims did not display any general trends over time, with the popularity of claims fluctuating from one year to the next.

Evidence or Anecdote

The majority of claims published within sources were evidenced in some way, either by citing findings from a research study, anecdotal evidence or theoretical basis. Of 958 claims, over half (n=560, 58%) were supported by evidence. Anecdotal evidence (drawn from the personal experience of participants or observers) was most prevalent (73%).

Figure 9, Chart showing evidence type used to support claims
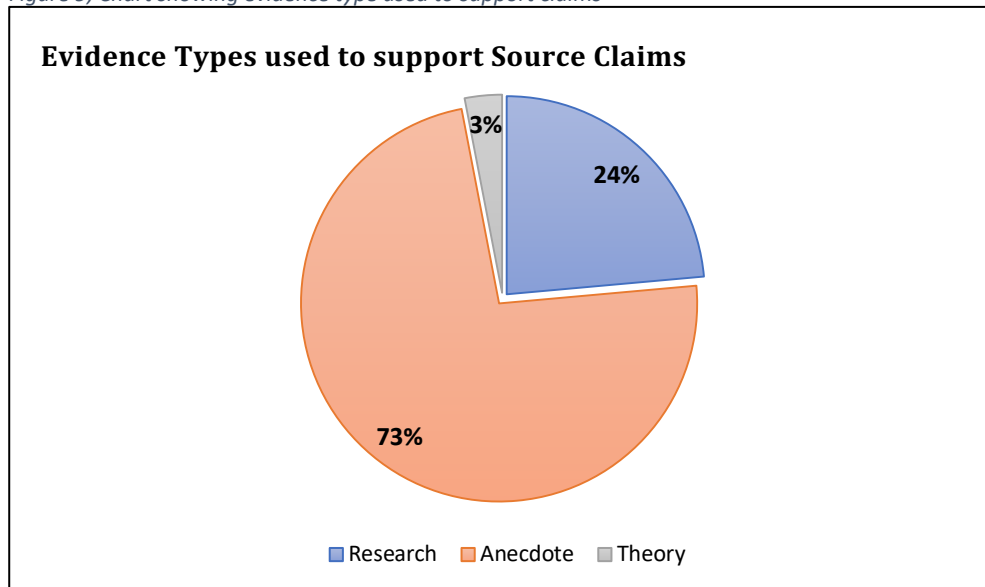
Figure 11 demonstrates that positive claims are more commonly supported with anecdotal evidence, whereas negative claims more frequently referred to research evidence. Of 885 positive claims, the majority were based on anecdotal evidence (n=395, 45%) or not evidenced at all (n=370, 42%). Only 12% of these claims were supported by research evidence (n=106). Whilst there were considerably less negative claims (n=73), those claims that were published referenced research evidence (n=26, 35%) more than anecdotal sources (n=16, 22%).
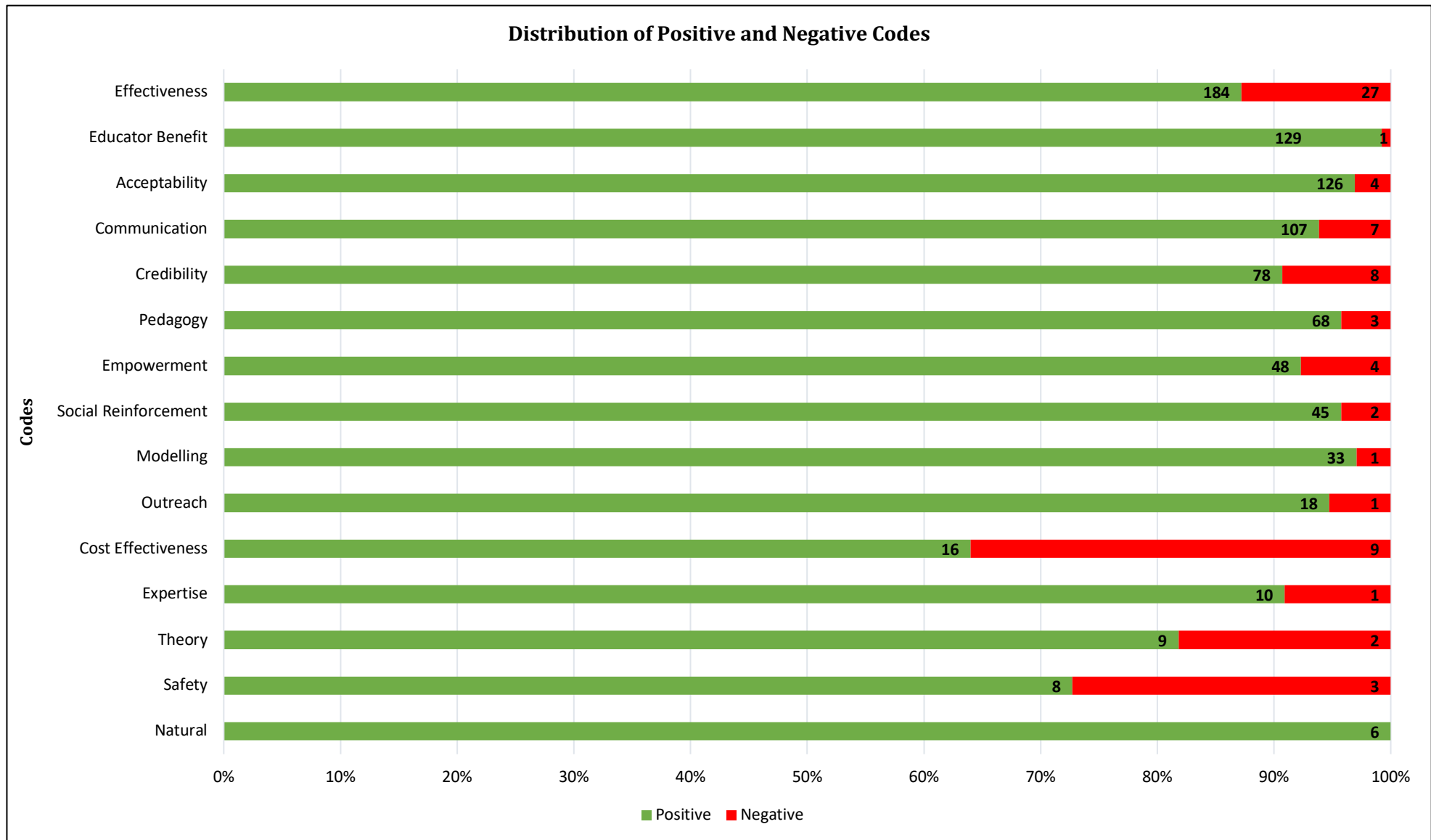
Figure 10. Distribution of positive and negative codes across sources

Figures 12 and 13 depict the top ten positive and negative claims cited within the literature and the proportion of each that cited a form of evidence to support them. Effectiveness claims most frequently referenced research evidence as support (n=49, 27%). Positive effectiveness claims were most likely to cite an evidence source, however 44% (n=81) of these claims were not evidenced. Positive claims least likely to cite an evidence source were modelling, outreach, empowerment, social reinforcement and pedagogy, each with over 50% of un-referenced claims. Very few positive claims cited research evidence, after effectiveness claims, acceptability (15%) and outreach (11%) most commonly cited research evidence. Claims most frequently citing anecodtal evidence were educator benefit (71%), acceptability (60%) and communication (51%). Negative claims were less commonly published, therefore it is not suprsing that several of these claims were unevidenced (Outreach and Educator Benefit). A large number of these claims were un-referenced, including: credibility (50%), communication (57%), and acceptability (50%). A greater number of negative claims cited research evidence, with over 50% of the claims made for Empowerment, Effectiveness and Social Reinforcement claims citing research evidence.
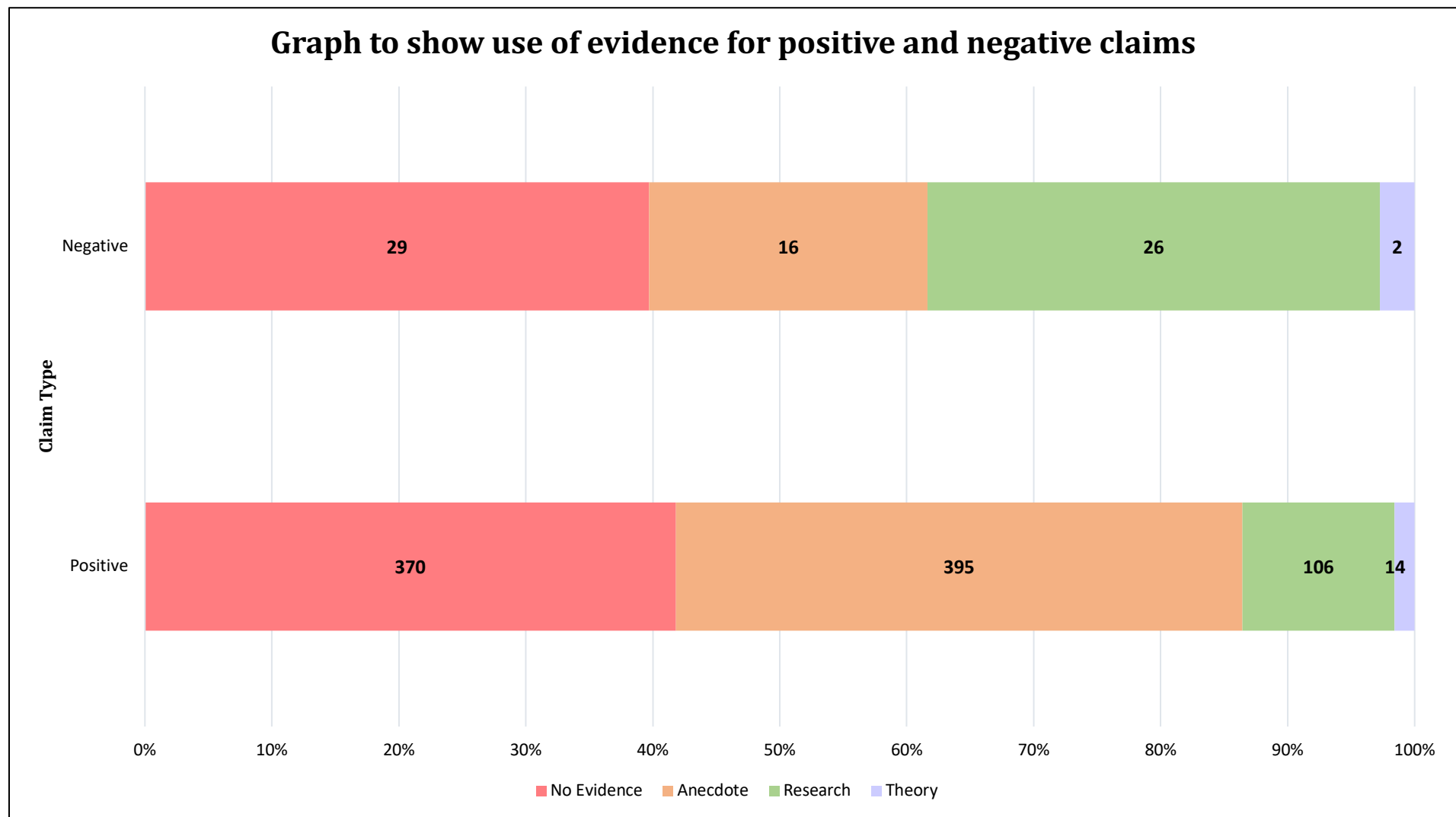
Figure 11. Bar chart depicting the utilisation of evidence to support positive and negative claims across sources

	Outreach	Modelling	Social Reinforcement	Empowerment	Pedagogy	Credibility	Communication	Acceptability	Educator Benefit	Effectiveness
Research	2	2	1	1	2	7	8	20	8	49
Anecdote	4	7	20	16	30	37	54	75	91	54
No Evidence	12	23	24	30	36	34	44	31	30	81

Figure 12. Graph to show distribution of evidence sources to support positive claims

	Outreach	Modelling	Social Reinforcement	Empowerment	Pedagogy	Credibility	Communication	Acceptability	Educator Benefit	Effectiveness
Research	0	0	1	3	1	1	1	1	0	16
Anecdote	0	1	1	0	2	3	2	1	0	3
No Evidence	1	0	0	0	0	4	4	2	1	8

Figure 13. Graph to show distribution of evidence sources to support negative claim

3.2. Claim Analysis

There was a general consensus that peer-led sex education was a more effective approach with which to educate young people about sexual health and wellbeing than adult-led alternatives. For each claim, a number of reasons were proposed to explain this. The following section describes the discourse surrounding the ten most popular claims for peer-led sex education.

Efficacy

Peer education was presented as changing knowledge, attitudes, skills, behaviour, and increasing testing and treatment of STI's. Efficacy was thought to be a product of young people talking to young people '*Young people talking about their experiences to other young people brings reality much closer to them and has a much bigger impact*' (wXNrdXxM). Many instances of claimed effectiveness were linked to anecdotal evidence of participants' enjoyment '*Everyone always says they enjoy them and want us to come back*' (je5p9csr). Other sources referred to historical pedigree: '*It's a tried and true approach*' (iwtGFZ8X), '*recognised as an effective teaching method from Greek and Roman times*' (tmkt352R). For both negative and positive codes, this category was most likely to cite research evidence: '*Sex education in schools may be more effective if delivered by pupils rather than teachers, according to Edinburgh University research*' (Kkp4mqfM). The majority of sources critiquing the approach referred to a lack of research evidence (2f2QdFAu): '*Some studies have advocated peer-led SRE schemes, but again there is no evidence that such programmes are effective in reducing levels of teenage pregnancy*' (CSH9PQMv).

Acceptability

Many sources appeared to attack adult providers, particularly teachers. This was reinforced by young people being quoted as saying they couldn't or wouldn't feel comfortable talking to doctors, parents or any adult at all, as sex was an inappropriate

topic to discuss with elders. '*Information provided by authority figures such as teachers, government employees and police officers can be received by youth with mistrust or be seen as preaching*' (WWB9M4tU). There was particular emphasis on the poor performance of teachers as sex educators and the '*sexual information gap created by schools*' (52khtCNg). In the majority of instances this was presented in the style of an 'Us vs Them' conflict. Teachers were described as being out of touch, embarrassed, untrained, and unenthusiastic: '*From our experience, particularly with sexting and anything digital related, children often prefer to take advice from their peers rather than "out of touch" adults*' (x3cmiMCq), '*...in school it's difficult to have the confidence to speak to teachers who you don't identify with about your own feelings to do with sex and relationships*' (rTK63XDq), '*I reckon I would have listened to some young girl telling me straight what it had done to their life, instead of some teacher rattling on*' (DzLixQKG), '*It's not good enough to have a supply teacher or underemployed physics or PE teacher brought in to put a condom on a banana*' (2rfqXJNi), '*Teachers were just lecturing us about it, they didn't ask questions, what would you like to know about it, are you afraid? They didn't ask us questions they just told us about it and that was the end of the lesson.*' (RATxvyEk), '*Having someone who is trained and clearly enthusiastic about the task is far better than an underprepared teacher who is a bit embarrassed and doesn't really want to be there*' (2rfqXJNi). There was the notion that a '*generational gap*' (4fkLcnxE) prevented adults from understanding the needs of young people and dissuaded young people from heeding the advice of adults. '*Younger teenagers are more likely to take notice of, and believe, an 18-year-old rather than someone of 35, 45 or 50*' (Tgtg5AGL), '*I cannot go into a teen culture and have them identify with me as they do with their peers and you know, it's a no brainer, but the high school students who are there within the school, day in, day out, they're not in once a year to make a talk or for three days or something. They're there, they teach just a few lessons during the school*

year, but they're there day in and day out, living it. Living and walking the talk. That's what makes a difference' (Rbf8CdKL). Peer education was presented as overcoming limitations inherent within adult-led provision: '*Peer educators can ask difficult questions that adults could not easily ask*' (8p3vjyEz), '*I have seen embarrassment in students' eyes when adults present touchy information to a class*' (qSatV6Ym). This prevents young people feeling comfortable within sex education. '*Pupils feel really awkward when asking questions about sex in a teacher-led class. And who can blame them? Asking intimate, embarrassing and personal questions about your body, sex and relationships with someone who is loads older than you, teaches you geography or maths and sees you on an almost daily basis around school would make anyone feel awkward*' (rTK63XDq). In contrast, sources suggested that it was more acceptable to talk to peer educators: '*It's not like being in school with a teacher. Young people are comfortable to ask questions, be open, get advice and not feel pressured that there's things they can't say… It's much better being spoken to by someone younger. You feel a bit awkward if it's a teacher or someone old*' (TMmecL4j).

Educator Benefit

The majority of claims about educator benefit were in the form of anecdotes from the peer educators themselves, describing the impact being a peer educator had had on them: '*It has helped me personally and professionally, my public speaking skills have improved greatly… I've also been looking into a career in public health*' (6e8eV7Yn). The benefits to peers included: confidence, self-esteem, organisation skills, punctuality, communication skills, new friendships, a support network of fellow peer educators, teamwork skills, facilitation skills, self-acceptance, clarification of self-identity, leadership skills, teaching experience and skills, and the rewarding nature of the work. Being a peer educator was often attributed to guiding young people down a career path to adopt professions in psychology, counselling, health and social work '*Graduates have*

gone on to become health care providers, teachers, policy makers, askable parents, facilitators' (cKrHY7zp). Volunteering as a peer educator was portrayed as a transformative experience (v2inPnK2), with increases in confidence enabling projects to act as '*a stepping stone into education, employment and training*' (uD9TetoP). As one peer educator describes: '*Because of the experience… I applied to and attended the University of Michigan. If it weren't for that programme I'm not sure that I would have developed the confidence or the drive to go to them or to move away from home.*' (L4hr47sp).

Communication

Peer education was believed to '*facilitate open discussion*' (HZaCAKhM), as '*young people talking to other young people is easier*' (gqPgM7SB). Ultimately, peer education was presented as the best method to promote student talk within sex education classrooms and wider society. '*Sex education needs to be improved and it is important we have peer educators who talk to us in a way we understand but who don't talk down to us*' (YWQQoNRe), '*It's not like being in school with a teacher. Young people are comfortable to ask questions, be open, get advice and not feel pressured that there's things they can't say*' (BVkjpNsm). Sources described this process as being facilitated by similarities between the educator and educated: '*Peer educators are young and talk in the same language as teenagers*' (rTK63XDq), '*younger children are more happy discussing sex with other teenagers than with adults… It is amazing how open and frank they can all be with one another in their discussions*' (A98GVTii). Peer education was thought to '*encourage students to explore the subject openly and frankly*' (qZisJorC) and '*encourage open and free discussion*' (CXaVrERk), through the use of '*language familiar to young people making education more accessible*' (KZXwLjCg). Increased communication was often linked to improved behaviour: '*Students taking part in peer-led sessions were more*

able to ask questions and take part in discussions which have modestly improved their sexual behaviour' (AAWYPdkb).

Credibility

Literature suggests that peer educators are more credible to the target population. This credibility was due to similarities in age. '*Crucially, it employs older teenagers to convey the message to their younger peers. And we all know how younger secondary school pupils think the older kids are cool*' (rtY5vRja), '*The smaller age gap increased identification*' (uD9TetoP), '*The benefit of a young person talking to a fellow young person in this case is that acceptance because of the age bracket. They belong to the same age. They understand each other in terms of language*' (CgKRxKC7). Literature also referred to similarities in clothes, language, and experience: '*Young people talking about their experiences to other young people brings reality much closer to them and has a much bigger impact*' (wXNrdXxM), '*An educator of the same age and social class who shares the same dress code, taste in music and social needs is more likely to be listened to*' (Dbjqahny). Personal anecdotes from peer educators featured prominently in sources. Peer educators described how young people listened to them because '*they knew we had done what they were doing*' (AYgpeKVK), '*I'm nearer their age, pupils can relate to me*' (fhfAGgUx), '*They feel comfortable when someone closer to their own age is teaching them as they can relate to them*' (UifhESk3). '*Why does it work so well? I think it's because we're obviously too young to judge them but we're just that little bit older so that they can look up to us. We're one of them - we wear what they wear outside school, we talk like they do and they know we must be facing the same problems they have with sex*' (qGLFmmzj). Emphasis was placed most heavily on age differences. '*This is especially true of sex because it's seen as a young person's thing. There's this idea that once you're past 25 or 30, you can't have sex anymore. We're at that magic age when we get respect because we're older than they are, but not old enough to be dismissed as too old. If we*

were the same age as them, they'd laugh and say: what do you know? As it is, they assume, rightly or wrongly, that, by the age of 16 or 17, we've had these experiences' (Tgtg5AGL). A few sources however highlighted that peers may not always be seen as the most credible educators. '*This has created a ridiculous situation in which teenage girls who know very little about teenage boys, attempt to talk to them about a subject they have very little experience of themselves*' (n4AWfRfd). In a peer education program in China for example, '*students did not view the peer educators as knowledgeable, which may be due to cultural norms of referring to authority figures for information*' (2UzyHAZw).

Pedagogy

A very common description of peer education was that it was an interactive and innovative approach featuring: '*stories, facts, games and experiences with the teenagers to raise awareness and encourage discussion*' (je5p9csr), '*fun activities and quizzes to capture the interest of students*' (qZisJorC). Sources described or depicted students laughing and having fun with peer educators, using brightly coloured resources and engaging in group activities. Sources referred to the use of drama, puppets, theatre, street performances, dance, poetry, rap, comedy sketches, games, basketball and football. Others proposed that the range of activities conducted under the banner of peer education may suggest that its '*success is more dependent on informality*' (DwFijPiS). For example, one educator attributed success to '*people enjoy us because we play really fun games*' (63hmvymk).

Empowerment

The focus of empowerment claims was almost exclusively on peer educators. Peer educators were described as being empowered through the training process of becoming a peer educator: '*Once you empower them, once you've given them that information through training, through enabling access to information, through participation and*

enabling them to participate in what we are doing they change and they do very well' (CgKRxKC7). The process of educating was presented as empowering: '*we empower teens to educate their peers*' (cKrHY7zp), '*empowers teenagers to educate their peers, families and communities*' (uo47BjYR). Empowerment of young people as peer educators was also presented through their involvement with public health reform. Literature depicted young people petitioning governments, and school boards for increased support and campaigning for improved sexual health of young people. It was noted that this type of empowering environment was sometimes difficult to achieve in schools, '*The highly regulated nature of the school environment militated against the development of autonomous critical thinking by learners. Rigid teacher control of the programme undermined any sense of youth ownership of programme activities and programme goals*' (WcRAJee6) and there were concerns that delivering an adult agenda could be a manipulation rather than an empowerment of peer educators (DwFijPiS).

Reinforcement

Literature suggests that the social mobility of peer educators encourages the spread and reinforcement of knowledge through informal interactions with friends, family and classmates. Peer educators were presented as using established social networks to distribute education: '*Existing peer networks can be utilised*' (KSDCQ6mK), '*the grapevine exists anyway so why not make actual positive use of it*' (MEH3ddFQ), '*peer education can be at an even more informal level with information being passed out informally by the group to their friends*' (2W6EnVyE), '*I talk to my father, my father goes to another father. And he will talk to another. And if we combine together we get a big group so that we can help to avoid AIDS*' (jXPHP3pC). '*The value of peer educator programming is that it has far greater reach than adults could ever have… Young people are engaging with other youth in settings that go beyond the clinics and the community settings. It has a trickledown effect*' (iwtGFZ8X). Notions of social diffusion or

trickledown effects were common: '*Information is disseminated to all of their networks and all of their spheres of influence that they have in their lives*' (VAwDnUGv), '*multiplier effect of increasing information flow from one person to another*' (XxVrN23J). This contact could be face to face, online, via phone or text message. Some sources included first-hand accounts of peer educators being approached or disseminating information in schools, malls, grocery stores, sports events, and even taxi cabs and hot tubs. On-going contact between peer educators and their peer group was presented as reinforcing learning as '*the power of peer education is that they are there when the 'sage on the stage' is not*' (n27483it).

Modelling

Many sources that contained a modelling claim simply stated that peer educators were role models: '*...teen peer educators serve as role models promoting healthy social sexual norms*' (3PTZk7Ej), '*peer educators serve as social referents, providing standards of knowledge and behaviour for contacts with respect to understanding sexuality and preventing pregnancy*' (cFdXnEgJ, 39). Some sources reported incidents of '*peers not living up to what they preach*' (eTtJmXmd). Adopting the role of peer educator was a big commitment resulting in '*...an ivory tower scenario for peer educators, who cannot be seen to succumb to the same influences as their clients*' (Dbjqahny). Despite this, many sources included anecdotes from peer educators who believed that being a role model was positive: '*Recounting stories of students who have let them know their advice made a difference, the teen instructors say they relish the experience they've gained as role models. "It's a chance to influence them," Naomi says, "to give them a positive perspective*' (RtPdmdAr).

Cost Effectiveness

Cost effectiveness was a claim over which sources were most divided. Some claimed the approach was cost effective, whilst others argued that the approach was too expensive for

school and community budgets, '*endangering sustainability*' (JUCYGgAd). Those that did present the approach as cost effective either claimed that minimum funds were needed to support peer-led sex education initiatives, or acknowledged that the approach was expensive, but the alternative costs of teacher training or teenage pregnancy were much larger (DzLixQKG, WnvJpq4R). Notions of the economy of '*person power*' (ogsFsfde) were common as '*for the price of one educator, the community receives an additional 15 skilled, compassionate educators an advocates*' (cDgW2mwf). The social mobility of peer educators was also believed to increase costs however as high turnover rates require increased training which is expensive (JPNqRPSk).

Outreach

The focus of outreach claims was generally on reaching out of school youth. There was brief mention of peer educators' ability to cover wider geographical locations, but the majority of claims discussed targeting out of school youth, '*the teenagers we train go away and talk to other teenagers who are harder to reach*' (gqPgM7SB). Several sources highlighted that peer education was not always effective at reaching specific groups. Male students were identified as being particularly difficult to engage in peer education as educators or as those being educated: '*it has proved very difficult to recruit older boys into the schemes*' (n4AWfRfd).

4. Discussion

Study I set out to address the following research questions through conducting a literature review of peer-led sex education.

1. What claims are cited to encourage or discourage the utilisation of peer-led sex education?
2. Which claims are most prevalent?
3. Are claims supported by evidence? Is this based on research or anecdote?

By coding literature sources to identify claims and subjecting claims to both trend and content analysis, Study I has addressed these questions and achieved the study aims. It illustrates discourse around peer-led sex education which has previously been overlooked by research, and expands upon the 10 claims identified by Turner & Shepherd (1999), recording 15 positive *and* negative codes used to encourage or discourage the utilisation of peer-led sex education. Research findings suggest that claims are overwhelmingly positive, with a small minority cautioning that the approach may not be effective or cost efficient. Whilst claims provide interesting insight into why practitioners may choose to utilise peer-led sex education, they are limited in that they do not cite research evidence to support them. Instead claims typically rely on the anecdotal accounts of practitioners, peer educators and students. Thus it is questionable to what extent these observations can be taken as factual reports of the outcomes of peer-led sex education. This is not solely a limitation however, as anecdotal evidence demonstrates how peer education has become a positive youth movement by describing the dedication and activism of youth volunteering as peer educators. There is a general consensus in the greater effectiveness of young people delivering sex education compared to their adult counterparts. This is in contrast to the negative reporting of the APAUSE study as reported by Kingori, Wellings & French (2004). Instead, reporting of peer-led sex education was overwhelmingly positive. Teacher-led provision on the other hand, was depicted as inadequate and in need

of improvement. Peer-led provision was presented as a panacea to these ills, being more acceptable, communicative, credible, empowering, fun, and innovative.

4.1. Promoting Peer-led Sex Education

Fluctuations in reporting

Pre-1990, the majority of literature discusses peer-led sex education programmes that were conducted in North America. This supports theories that peer-led adolescent health initiatives originated in the United States and were later adopted by health providers in the United Kingdom. Publication of sources that were negative in tone increased between 1998-2000, and in 2002, 2004, and 2008. It could be suggested that, whilst empirical studies were excluded from this review, these patterns depict reaction to the publication of foundational research papers on peer-led sex education (Figure 14).
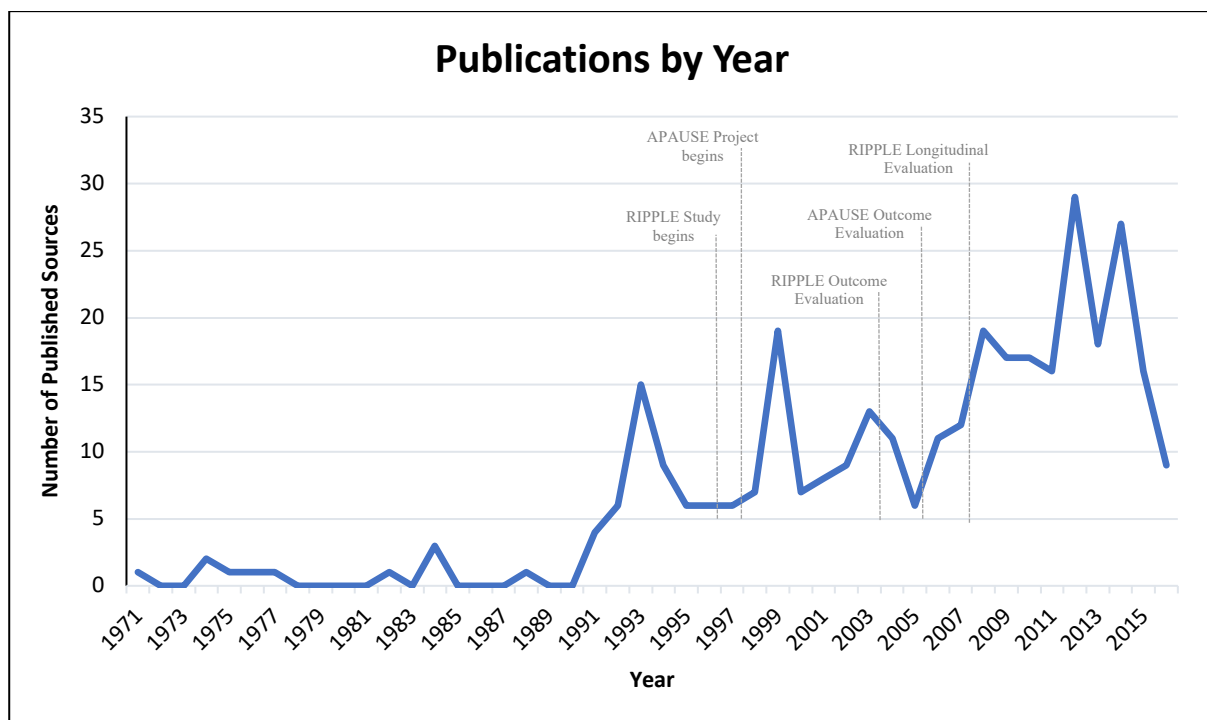
Figure 14. Line graph plotting number of relevant sources published each year and publication of key research evidence for trials of peer-led sex education

The RIPPLE Study, for example, ran from 1997-2000 and published process/outcome evaluation data in 2002, 2003, 2004, and 2008. Findings from the RIPPLE Study

published in 2004 and 2008 could explain the lack of coverage during 2005 and between 2009-2011. The launch of the APAUSE Project in 1998 meanwhile, may account for the increased coverage during this year and its positive evaluative reports published in 2001 and 2006 could explain increases during this period. From 2005 onwards, the increase in published source is largely driven by User Generated Content in the form of YouTube videos online.

Prominence of YouTube

The current movement for peer-led sex education appears to be largely driven by content published by peer educators on YouTube. This reflects a general move in health promotion from more traditional channels (e.g. newspapers and magazines) to new channels such as the Internet (Lu, 2009). The unregulated nature of Internet forums provide a unique opportunity to address subjects that are elsewhere deemed taboo (Keller & Brown, 2002). YouTube has been recognised as being popular with youth as a new forum for knowledge consumption (Economou & Lindgren, 2015) as it is out of reach of traditional 'media panics', which feature adult anxieties about children's upbringing (Drotner, 2006). Studies included in the contextual overview of this review suggest that discourse surrounding adolescent sex education programmes in the media is typically negative. Not only is the Internet a viable information resource, it creates the opportunity for the presentation of a wider range of positions and perspectives on adolescent sexuality than other forms of more traditional sources such as newspapers. The advantage of the Internet to discuss adolescent sexuality is that it does not have to be approved by adult authority (Bay-Cheng, 2001). This may explain the popularity of peer education sources on YouTube, as YouTube is regarded as a pre-established communication link between young people, for young people (Economou & Lindgren, 2015), much in the same vein as peer education itself.

Importance of First-Person Narratives

Of note is the abundance of personal anecdote used to support claims for peer-led sex education. There may be negative consequences of this focus on first-person narratives for evidence-based policy and practice, particularly as claims promoting utilisation of the approach were least likely to cite research evidence. As identified in the Background chapter of this thesis, systematic reviews have reported that peer-led sex education has uneven and uncertain effects. This is at odds with the largely positive reporting of peer-led sex education identified in this review. If one were to only canvas literature included in this review, peer-led sex education is presented as a panacea to not only improve the sexual health of youth, but also increase empowerment, skills, employability and self-confidence. Without research evidence to support these claims, we can only conclude that these are interesting areas for further study.

4.2. Strengths and Limitations

Methods employed to investigate the research questions are subject to several limitations. Where possible, measures have been taken to overcome these. It is the author's belief that regardless of such limitations, these were the most appropriate methods to address the research questions.

Search Strategy

A key challenge when conducting the literature review was to develop an effective search strategy with which to search for and identify relevant literature. Due to the multiplicity of terms used to describe 'peer education' and 'sex education', and the numerous sources of data that were searched, the study employed multiple search strategies. Several searches were developed that were specific to each data source. This may make the search procedure less rigorous and replicable. The recording of each search strategy is an attempt to make the search process as systematic, transparent and replicable as possible. The use

of Index/Thesaurus terms when searching should make the process more rigorous as they cover the content of the full article, title and abstract and include concepts that can be expressed in numerous ways. As such, thesaurus terms have been identified as the most efficient way to conduct a systematic literature search (Barroso et al., 2003; Evans, 2002). There are some limitations to this approach as it requires the author to clearly and correctly describe the subject matter and research methods. Further to this, indexers are not always experts in the subject areas or methodological aspects of the articles they are reviewing and so may mislabel articles. Available indexing terms might not correspond to terms the researcher wishes to use. In light of these critiques, both free text and index terms were used in searches. Due to the different search capacities of databases, it is believed that this was the best approach to identify all possible data sources, but may not have captured the entire corpus.

Inclusion of Web-based Literature

The inclusion of web-based literature may further contribute to reducing the rigour and replicability of searches when compared to reviews of published literature. Users can control the visibility of the content they produce online, a potential limitation when reviewing web-based literature as the creator can add/remove content and control who posts on their page, serving as 'censors for content' (Pihlaja, 2016, p. 50). In consequence, it is argued that this literature is more susceptible to manipulation, cultivating a false impression of the subject being presented to viewers. This in itself does not pose a problem for the current study, as the aim is to observe how peer-led sex education is presented to the public. It does however have the adverse effect of web-based literature changing over time. As content can be added, edited, and removed quickly with relative ease, different literature will be available for analysis at different times. Even using identical search terms, it is unlikely that the results of any two studies would review the same material. Whilst it could be argued this is an issue when reviewing any form of

literature, as the corpus is continually expanding, this is a key issue when reviewing Internet-based literature and has been identified in previous studies. Bay-Cheng (2001) in a study of Internet-based sex education websites found 'within one week of the completion of data collection, an exhaustive search was no longer complete. New sites are being launched and existing sites are being expanded' (p. 249). This hinders replicability. The detailed description of search procedures in Appendix G will enable study replication to some extent. Reviewing online material immediately skews the sample towards those that use the Internet to post, view, or search for content related to peer-led sex education. Whilst Internet access is widening globally, it is still not representative of the general population. This places significant limits on the value of Internet-based literature as a measure of public opinion. Internet-based research methods that seek to describe parameters of interest in a population exclude a significant number of individuals who are not online, presenting a sample bias. The aim of the study however is not to deliver a verdict on what the public believe about peer-led sex education but rather to examine what is being presented to them regarding the subject.

Sources of Bias

During the process of conducting content analysis, data was aggregated based on individual sources, not by author. Such an approach biases results towards authors who publish more content than others. As the study is not trying to measure public feeling, but rather to observe what is publicly presented, this is not considered to be a limitation. A potential source of bias is the largely subjective and interpretive content and thematic analytic process. The use of existing coding schemes and Inter-Rater Reliability helps mediate this by using clear data extraction forms and more than one assessor as recommended by Khan & Kleijnen (2001). Coding of data will be driven, however subconsciously, by the researcher's interest in the subject area. Consequently, Inter-Rater Reliability was calculated before the coding scheme was applied to literature. Because of

the interpretative nature of content analysis, there is scepticism about the value of Inter-Rater Reliability testing. It is suggested that measures of IRR are not always accurate indicators of reliability as one researcher merely trains another to think as they do when analysing text. Thus, it could be argued that the reliability check does not establish that the allocation of codes was objective, as it is merely two people applying the same perspective to the text (Loffe & Yardley, 2004). As the researcher was coding for a specific research question and adopted a theoretical approach to coding, pre-defined codes were used in part of the analysis in the hope of making the study more replicable.

Underlying Assumptions

The inference of quantifying claims via content analysis is that greater frequency of claims equals more commonly-held beliefs. Frequency does not always equal popularity however. This is dependent on where claims are published and how popular and/or credible the literature is perceived to be as an information source. Frequent occurrence could indicate importance, but it might simply reflect greater willingness or ability to talk about a topic (Shields, Twycross, Shields, & Twycross, 2008). Frequency counts are still useful however as 'at the most basic level, increases in the amount of news coverage on a particular topic serve as indicators that the subject has been placed on the agenda of media gatekeepers' (Stead et al., 2002, p. 360). These sorts of measures alone, whilst useful for quantifying claims, do not reveal anything about how the audience reacted to content, if indeed they saw the coverage at all. If only the frequency of codes are counted to find significant meaning in the text, there is the danger of missing the context (Morgan, 1993). Conducting qualitative content analysis of discourse surrounding claims provided a deeper contextual understanding of the data.

4.3. Future Research

From conducting a review of existing literature, a number of recommendations can be made to inform the conduct of future research investigating peer-led sex education. This study is a review of the claims presented to the public and practitioners concerning peer-led sex education. It is not designed to speculate on the ways in which audiences may be receiving and interpreting these claims or whether these claims have any direct impact on policy and practice. Consequently, it can only discuss the nature of coverage, it cannot interpret its effect. It may be possible in future studies to explore the impact of reporting on policymakers and the public, by examining how credible data sources are perceived to be and investigating levels of support for peer-led approaches to sexual health. To ensure that the full range of sources that could be accessed by practitioners are included in the review, future studies could use interviews with practitioners to establish how they search for literature and the sources they use to do this. Due to the large number of web-based sources discussing peer-led sex education identified via searches, it is recommended that future reviews of peer education literature utilise this resource as it is an important area of promotion within the field. As identified in the preceding section, it is difficult to keep up with this literature base as it is rapidly expanding. Researchers may need to create news alerts or run regular searches to canvas the full range of available sources. Study I has suggested some potential bases for the creation of CMO configurations, as some of the claims identified here are causal and as such may present mechanisms to be investigated in exploring the effectiveness of peer-led sex education. The majority of sources used to identify these claims however discussed a programme implemented outside of the UK. Less than half of the sources included in this review (46%) included claims that were based on a UK-based programme of peer-led sex education. It is questionable therefore to what extent claims identified via this review are applicable to

identify mechanisms for or influence the practice of UK-based peer-led sex education. In assessing whether these claims are applicable in the context of the UK, a review of empirical studies of UK-based peer-led sex education needs to be undertaken, this will form the basis of Study II.

4.4. Summary

Study I has identified 15 positive and negative claims regarding the practice of peer-led sex education. Claims were rarely supported by empirical research evidence and as such, there is no way to ascertain which of these claims may be generalised to or observed at work in influencing the effectiveness of UK-based practice.

STUDY II

EVALUATING THE PEER-LED APPROACH

Study II is a systematic synthesis exploring whether claims identified in Study I have been subject to evaluation. It assesses the methodological quality of evaluation and identifies areas that are currently overlooked, and as such, worthy of further investigation. 31 studies were identified as researching a claim relating to peer-led sex education. The search process revealed that the majority of studies have been conducted in North America or Africa and there is a lack of UK-focussed research. The research design of included studies ranged from case studies to RCTs. Most studies did not employ an adequate comparator group and as such, it was difficult to ascertain whether reported findings were produced by an 'educator' effect specific to peer-led sex education.

STUDY II: EVALUATING THE PEER-LED APPROACH

1. Context

Study I identified a number of claims used to justify the adoption of peer-led approaches

to deliver sex education.

- Peer-led sex education is more effective than adult-led approaches
- Peer-led sex education is more effective than adult-led approaches because it is more acceptable to participants
- Peer-led sex education is more effective than adult-led approaches because it is beneficial for students volunteering as peer educators
- Peer-led sex education is more effective than adult-led approaches because it increases the quantity and quality of communication between educator and student
- Peer-led sex education is more effective than adult-led approaches because peer educators are more credible to their students
- Peer-led sex education is more effective than adult-led approaches because peer educators utilise more innovative pedagogical techniques with students
- Peer-led sex education is more effective than adult-led approaches because peer educators empower their students
- Peer-led sex education is more effective than adult-led approaches because peer educators socially reinforce the educative message with students
- Peer-led sex education is more effective than adult-led approaches because peer educators model appropriate behaviour to students
- Peer-led sex education is more effective than adult-led approaches because it is cost effective
- Peer-led sex education is more effective than adult-led approaches because peer educators can deliver the educative message to 'hard-to-reach' students
- Peer-led sex education is more effective than adult-led approaches because peer educators have more expertise in/knowledge of the subject matter
- Peer-led sex education is more effective than adult-led approaches because peer educators make the educative environment more comfortable for students

The manner in which these claims are presented suggest that these features are specific

to peer-led sex education. Their absence, in alternative adult-led forms of provision, is

used to explain the perceived lack of effectiveness of these approaches. The inference is

that these claims are not applicable, or applicable to a lesser degree, in settings which do

not utilize peer educators. As such, these claims are positioned as 'mechanisms of effect' (Simoni et al., 2011). Yet claims are largely drawn from the anecdotal accounts of practitioners and participants. This has led to the criticism that the approach is 'a self-validating exercise (Frankham, 1998, p. 181). Rarely do claims refer to empirical evidence. It is important that claims are supported by research evidence as they promote and perpetuate the utilisation of peer-led sex education.

1.1. Reviewing Peer-led Sex Education

There have been several systematic reviews that refer to peer-led sex education. These reviews can be of sex education or peer education more generally, or may focus specifically on peer-led sex education. A summary of these reviews and their key findings is presented in the Background chapter. Evidence from systematic reviews tends to focus on 'direct effects', reporting changes in knowledge, attitudinal or behavioural outcomes. This evidence applies to only one of the claims identified in Study I, that of effectiveness. As such, this evidence is problematic because it does not assess other identified claims thought to influence effectiveness. Solely evaluating 'direct effects' has resulted in 'little detailed understanding of the processes involved in such interventions'(Milburn, 1995, p. 418). Evaluations typically focus on measuring the initial outcomes and down-stream impacts of the approach, particularly with knowledge, attitudinal and behavioural change (Southgate & Aggleton, 2017, p. 2). Whilst these provide evidence of effectiveness (although somewhat confused and contradictory), very little attempt has been made to explore claims regarding underlying mechanisms of effect for peer-led sex education. In the context of peer-led sex education, attention to ensuring rigorous evaluation of effectiveness has not been matched by an equivalent effort examining processes (Harden, Weston & Oakley, 1999, p. 122). This may explain why those citing claims do not support

them with research evidence, as there has been very little effort to compile such evidence in a review.

Evidence for other identified claims

Reviews may not concentrate on gathering evidence for claims other than those of 'direct effects', but they often allude to claims such as intervention acceptability or cost effectiveness to explain and expand upon findings. There are limited instances where reviews have tried to identify positive and negative aspects of peer-led sex education other than 'direct effects'. Harden, Oakley & Oliver (2001) conducted a narrative synthesis of qualitative studies, whereas Knibbs & Price (2009) conducted a review to investigate the extent to which peer-led projects were participatory and empowering. A summary of references to claims other than 'direct effects' in reviews of peer-led sex education is presented in Table 7. It is important to note that in the majority of circumstances, the claims that are being referred to are a repetition of the personal reflection of evaluators or intervention participants. They are not drawn from an investigation designed to specifically target and report upon said claim; they are merely observations. As such, reviews rarely include empirical evidence to support these claims. Consequently these claims cannot be reported or scrutinised in the same way as claims of 'direct effect'. The review of Kim & Free (2008) for example, stated that whilst studies alluded to the positive effect of the intervention on peer educators, they did not subject this claim to evaluation in itself. As a result, it is still the case that 'with regard to such claims, limited empirical evidence is available' (Turner & Shepherd, 1999, 245).

Quality of Review Evidence

In determining whether there is evidence for claims other than those of 'direct effect' in the context of peer-led sex education, existing reviews are subject to several limitations.

Claims identified in reviews examining empirical evidence for peer-led sex education

Claim	Review Findings
Acceptability	• High level of satisfaction with peer-led interventions, students preferred peers to teachers (Harden et al., 1999) • Preference for peer educators over teachers (Harden, Oakley & Oliver, 2001) • Popular amongst students (Harrison et al., 2010) • Higher participant satisfaction (Sun et al., 2018)
Educator Benefit	• Clear evidence of benefits to peer educators (Milburn, 1995) • General agreement amongst peer educators that experience was a valuable opportunity for personal development (Harden, Oakley & Oliver, 2001) • Peer educators benefit from interventions (Knibbs & Price, 2009) • Benefits to peer educators (Sun et al., 2018)
Communication	• Close association with peer educators make it difficult for students to discuss sexual attitudes or lifestyles (Shepherd et al., 1997) • Difficult issues were easier to talk about with peer educators (Harden et al., 1999) • Peer education enables communication through familiar language (Sun et al., 2018)
Credibility	• Peer educators were credible (Harden et al., 2001)
Innovative Pedagogy	• Young people described sessions as fun (Harden et al., 1999) • Peer educators were fun (Harden et al., 2001) • Peer-led sessions were more fun (Sun et al., 2018)
Student Empowerment	• Peer education was a duplication of adult methods, hindering empowerment (Hill, 1993) • Not participatory and therefore not empowering (Knibbs & Price, 2009) • Empowerment questionable (Sun et al., 2018)
Social Reinforcement	• Will occur with prompting, doesn't happen naturally (Kelly et al., 1991; Jay et al., 1984)
Modelling	• Role modelling not demonstrated (Turner & Shepherd, 1999; Peers et al., 1993) • Little assessment of whether peer educators consistently model the behaviour they promote to peers, appears to be limited (Price & Knibbs, 2009)
Cost Effectiveness	• Labour and time intensive; requires trained, committed staff (Milburn, 1995) • Requires same resources as other providers (Hill, 1993) • Cost effectiveness evaluation lacking (Tolli, 2012) • Peer education was generally more expensive than alternative approaches (Sun et al., 2018)

Outreach	• Peer educators can access those hard to reach (Shepherd et al., 1997) • Peer education does not reach those at risk (Harden, Weston & Oakley, 1999)
Expertise	• Peer educators understand young people's problems (Harden et al., 2001) • Students preferred factual information to come from adults or much older adolescents (Maticka-Tyndale & Barnett, 2010)
Comfort	• Students felt relaxed with peer educators (Harden et al., 2001) • Students felt more embarrassed with a peer educator than with a teacher (Mellanby, Newcombe, Rees et al., 2001)

Table 7. Claims identified in systematic reviews

These restrict their usefulness in understanding whether there is evidence to support claims identified in Study I. As a result of the focus on developing countries, heavy emphasis is placed upon the effectiveness of peer-led sex education in preventing HIV/AIDS. This is perhaps the most significant limitation of existing reviews; the almost total absence of reviews exploring claims other than effectiveness.

Furthermore, only one review employed criteria to limit inclusion to those studies that compared a peer-led intervention with an equivalent adult-led alternative (Mellanby, Rees & Tripp, 2000). Many reviews did not stipulate this requirement and included studies that compared peer-led sex education with no intervention. Utilising this design, studies can only attest that peer-led sex education is effective. It is unclear whether it is *more* effective than alternatives, as the claims identified in Study I would suggest. Reviews identified that claims other than 'direct effect' are frequently referred to in individual research studies. These claims are infrequently the subject of evaluation. Yet they are presented as persuasive evidence to explain the effectiveness of peer-led sex education. 'Consider the usual practice of trying to understand why a program succeeded or failed. Following reporting of results, evaluators usually work in a post hoc manner to suggest reasons for observed results' (Petrosino, Turpin-Petrosino, & Buehler, 2003, p. 170). Without evaluation, these post hoc theories are un-tested and should be not taken as truth.

1.2. Researching Peer-led Sex Education

Previous reviews have identified that evaluation of peer-led sex education typically takes one of two forms: outcome or process evaluation (Sriranganathan et al., 2012), neglecting other forms of evaluation, such as cost effectiveness studies (Tolli, 2012). Outcome evaluation is 'designed to generate answers to questions about the effectiveness of particular interventions in changing specified outcomes' (Harden, Weston & Oakley, 1999, p. 18). Process evaluation is 'designed to assess or monitor the stated goals of an intervention, and to describe how an intervention works, with whom and why' (Harden, Weston & Oakley, 1999, p. 18). Harden et al., (2001) recommended that these be combined to improve understanding of peer-led sex education. In the case of peer-led sex education, where there is mixed evidence of effectiveness, separating these types of evaluation prevents knowledge of the mechanisms that link process and outcomes together. This led Harden, Weston & Oakley (1999) to call for evaluative research to 'move towards the integration, rather than polarisation, of qualitative and quantitative research techniques and of outcome and process evaluations' (p. 7). The problems inherent in conducting outcome- or process-only evaluation are elaborated upon further below.

Establishing effectiveness through outcome-evaluation

The pre-dominant method for outcome evaluation is pre-post questionnaire (Sriranganathan et al., 2010). Typically in peer-led sex education, these evaluations focus on measuring outcome results in terms of behaviour, knowledge, or attitudinal change; preventing the identification of mechanisms that may produce outcomes (Maticka-Tyndale & Barnett, 2010). 'Pre-test and post-test questionnaires or other forms of measurement are quite simply not enough really to understand why some interventions appear to have some success whilst others fail to have the desired impact on a particular group of peers, even in apparently similar circumstances' (Milburn, 1995, p. 412).

Focusing only on outcomes can lead to intervention process being overlooked (Sandelowski, Barroso, & Voils, 2007) leaving unresolved questions regarding the mechanisms at work in interventions. Many studies do not report implementation issues: 'Even when articles did discuss implementation issues, there was no consistent way to compare across interventions. Operational research is needed to identify the factors that maximise programme success' (Medley et al., 2009, p. 190). Focusing only on establishing effectiveness through outcome evaluation prevents understanding of which mechanisms are at work and whether these work as hypothesised.

Exploring experience through process evaluation

Despite the emphasis on outcomes in reviews, many evaluations of peer-led sex education describe processes rather than impact (Harden et al., 2001; Harden et al., 1999; Walker & Avis, 1999). These evaluations typically examine implementation and/or acceptability (Harden et al., 1999; Harden et al., 2001). Many process evaluations do not make research questions and methods clear and do not report results but make a series of evaluative comments in support of the intervention (Harden, Weston & Oakley, 1999, p. 122). Data collected from these evaluations are often claimed (explicitly or implicitly) to establish effectiveness (Harden et al., 1999), whereas this can only be inferred. It could be argued therefore that these evaluations are also reporting on outcomes rather than the educative process; treating data gathered via process evaluation as another form of outcome. Consequently whilst process evaluations may examine process-based features such as intervention acceptability, they do not examine the mechanisms underlying intervention effectiveness or lack thereof (Oakley et al., 2006).

Combining Outcome and Process Evaluation for Review

Systematic reviews currently tend to favour quantitative forms of evidence, and omit qualitative evidence (Dixon-Woods, Agarwal, Jones, Young, & Sutton, 2005; Sandelowski et al., 2007). If the majority of literature on peer-led sex education is process

evaluation, which is largely qualitative in presentation, excluding these studies from review means that a whole body of research evidence is neglected. Reviewing findings from process evaluation would help to deepen understanding of some of the other claims made about peer-led sex education.

> *'The reports of both the outcome and process studies allowed us to identify the models and theories used to justify and support interventions. These are often quoted in studies as constituting 'evidence' that peer education is not only appropriate but the most effective way of teaching a range of health promotion topics, especially sex education and HIV/AIDS, and for accessing and motivating young people. However, neither the outcome or process studies provide evidence that these models and theories are the most appropriate, and neither do they provide 'evidence' that the described combinations work. The models and theories therefore remain to be tested'*

(Harden, Weston & Oakley, 1999, p. 115).

1.3. Research Purpose

Research Aims

There is a need to explore theoretical features of peer-led sex education to uncover which of these are at work in school-based sex education, and whether these produce outcomes that are comparatively different to those achieved via alternative forms of provision. Turner & Shepherd's (1999) review of theoretical claims, reported that 'claims for the effectiveness of the method have little basis in existing theories' (p. 235). Summarising literature reviews of peer-led sex education suggests that there is also little basis in existing evidence from systematic reviews. This highlights a number of issues with the existing evidence base. As a result, Study II aims to:

Research claims other than effectiveness

Focussing review questions on effectiveness in terms of impact on health outcomes directs attention away from underlying theory. This is not to argue against meta-analysis or systematic review, but to suggest there is a need to conduct a review to assess claims other than effectiveness. 'The much vaunted side-effects (if they are not direct aims) of

peer education, such as increases in self-esteem and empowerment must not be taken for granted' (Milburn, 1995, p. 417). Very few studies look to outcomes apart from direct effects. Due to the lack of investigation of claims other than effectiveness, it is still the case that peer-led sex education works under a 'very generalised framework of justification. When this is operationalised into health education practice it results in a very diverse set of 'working hypotheses', many of which have yet to be rigorously investigated and tested' (Milburn, 1995, p. 408). It is of primary importance that further studies are conducted in order to evaluate some of the fundamental assumptions in peer education (Tolli, 2012, p. 913). The lack of investigation of claims other than effect, led Turner & Shepherd (1999) to recommend that the next stage for theory development in peer education research would be to take the theories with most to offer and to gather further evidence to support or refute their claims.

Combine evidence across evaluation types

There are very few reviews that contain both forms of outcome and process evaluation (Harden, Oakley & Oliver, 2001). To summarise evidence for claims identified in Study I would require a review that engages in combining both types of evidence.

Focus evidence

The majority of research evidence is not UK or sex education specific. There is a dearth of research engaging with practice in developing countries (Price & Knibbs, 2009). It has been noted in interventions targeting HIV transmission in gay men that peer-led approaches are not easily transferable across social groups and continents, even between the US and UK (Elford, Bolding, & Sherr, 2001). Different social contexts influence the relevance and effectiveness of peer education (Knibbs & Price, 2009) - thus there is a need to look at UK specific evidence.

Objectives

The study aim will be achieved through the completion of the objectives to: identify relevant UK-based studies, categorise studies based on focus, evaluate studies' research design, record study findings, highlight areas lacking in research evidence and suggest areas for future study. In this way, the review will identify areas which have been subject to research and those which have not, assess the quality of the research base and evaluate whether claims identified in Study I are supported by research evidence.

Research Questions

Study II seeks to achieve the aforementioned aims and objectives by answering the general research question: Which of the claims for peer-led sex education identified in Study I have been subject to investigation? This general research question is made up of two sub-questions:

➢ Is there empirical evidence for the presence of identified claims within UK-based peer-led sex education?

➢ Is there empirical evidence to suggest that identified claims are specific to peer-led sex education when compared to alternative approaches?

In answering these questions, data produced in Study II will be used to help build towards addressing thesis question 2) Which mechanisms and/or contextual features have been subject to investigation?

2. Methods

The empirical foundation of claims identified as supportive of peer-led sex education in Study I should be subject to review. In this way, the empirical justification for these claims and subsequent methodological quality of UK-based peer-led sex education research can be evaluated.

2.1. Design

A systematic review was conducted to synthesise research evidence. Research synthesis was selected as the study design because it 'is retrospective in the sense that the research it summarises has already been conducted… but it is also prospective in the sense that the purpose of synthesis is to inform and may change what we decide to do in the future' (Higgins, 2018, p. 55). This meets the research aim to summarise existing evidence and make recommendations for the conduct of future studies. There is not a clear typology of reviews. This has created a complex web of terminology (Barnett-Page & Thomas, 2009; Gough, 2007) with a 'disparate literature background on synthesis methods' (Suri & Clarke, 2009, p. 297). 'The current proliferation of types of systematic reviews creates challenges for the terminology for describing such reviews' as there is 'insufficient consensus on terminology' (Gough, Thomas, & Oliver, 2012, p. 1). The profusion of terms and technical texts can mask similarities that the different methods share and confuse the selection process when deciding which method is most appropriate (Barnett-Page & Thomas, 2009). The following section will focus on defining the design of the review and describing why this approach and its subsequent terminology were selected over others.

Typology of Reviews

Many terms are employed to describe the synthesis of research, with significant overlap between each.

Meta-ethnography

Meta-ethnography enables a body of 'qualitative' research to be drawn together in a systematic way. This is an appropriate design for Study II because findings can be combined and 'expressed as a line of argument that can be presented as text and diagrams or models' (Campbell et al., 2012, p. iv). This is useful to identify absences of knowledge and reveal literature that has been previously overlooked. The aim of meta-ethnography is theory-building (Noblit & Hare, 1988). This is counter to the study aim of theory testing.

Meta-synthesis

Meta-synthesis is similar to meta-ethnography in that it enables the integration and comparison of findings from a body of qualitative research (Sandelowski & Barroso, 2007). It can identify gaps and omissions in a body of research (Major & Savin-Baden, 2010) but should not be undertaken to generalise research findings (Erwin, Brotherson, & Summers, 2011). Instead, meta-synthesis is used to present an *interpretation* of the findings of selected studies (Zimmer, 2006).

Realist Synthesis

Realist synthesis is described as extracting, testing and refining programme theory by examining existing evidence (Pawson, 2013). It is an explicitly theory-driven approach to the synthesis of research evidence (Pawson, 2002). Realist synthesis begins with the theory that underlies a programme or intervention. It can 'utilise many different forms of evidence and integrates these using results as forms of proof or refutation of theory' (Dixon-Woods et al., 2005, p. 49). This is closely aligned with the study aims as realist synthesis unpacks the implicit models of change underlying an intervention, followed by an iterative process of identifying and analysing the evidence to support each part of that model. As such, this review is essentially realist in its approach. It departs from the realist approach however in that it evaluates the methodological quality of research evidence

based on the study design through which this evidence was generated. In contrast, a realist synthesis 'focuses on the robustness of the theory being evaluated, rather than the evidence being offered' (Dixon-Woods et al., 2005, p. 49).

Systematic Synthesis

For the purposes of this review, Study II is referred to as a 'systematic synthesis'. Systematic synthesis is a set of formal processes for bringing together different types of evidence (Gough, 2004; Gough & Elbourne, 2002). Systematic synthesis was selected as the research design for Study II because it integrates methods from across each of the approaches outlined above. It utilises diagrammatic displays from meta-ethnography, interprets study findings using meta-synthesis, and test theories using realist synthesis whilst still employing methodological criteria to assess research quality. It may be more appropriate to label this as a 'qualitative synthesis'. Qualitative synthesis is defined as 'any methodology whereby study findings are systematically interpreted through a series of expert judgements to represent the meanings of the collected work. In a qualitative synthesis, the findings of qualitative studies - and sometimes mixed-methods and quantitative research - are pooled' (Bearman & Dawson, 2013, p. 253). This term was not used however as it may have suggested a focus on qualitative research evidence only, excluding synthesis of qualitative and quantitative forms of evidence (Paterson, Thorne, Canam, & Jillings, 2001).

Approach

Synthesis can be integrative or interpretive. An integrative synthesis requires 'quantification and systematic interrogation of the data' (Dixon-Woods et al., 2005, p. 47). An interpretive synthesis is 'conceptual in process and output. The main product is not aggregation of data but theory' (Dixon-Woods et al., 2005, p. 46). Whereas Study I is an interpretive synthesis as it collected theoretical claims for peer-led sex education,

Study II is an integrative synthesis. It uses pre-defined concepts (claims) from Study I and tests these using a-priori assessment criteria.

> *'Integrative syntheses are those where the focus is on summarising data and where the concepts (or variables) under which data are to be summarised are assumed to be largely secure and well specified... the primary focus of an integrative synthesis is not on the development of concepts or their specification... the kinds of theory that integrative synthesis may be especially likely to produce will often be theories of causality and may also include claims about generalisability'*
> (Dixon-Woods et al., 2005, p. 46).

This mirrors the stated aim of the review and as such was an appropriate approach to synthesis.

2.2. Process

Study II combines integrative synthesis with standard systematic review methodology to produce a systematic synthesis. As is the case with synthesis, systematic review methodology is under-developed and under-evaluated (Dixon-Woods, Fitzpatrick, & Roberts, 2001; Khan & Kleijnen, 2001). Research methods texts refer to the utilisation of different review methods depending on whether the review intends to evaluate qualitative or quantitative data. Methods for reviewing quantitative research studies are well established. There is no consensus about how to do this with qualitative research (Campbell et al., 2012; Erwin et al., 2011). Study II adopts a process suggested by the EPPI Centre (2001), whose reviews of peer education have included both quantitative and qualitative data, to combine findings from both process and outcome evaluation (Harden et al., 1999; Torgerson, Roberts, Thomas, Dyson, & Elbourne, 2001). The EPPI Centre review process is conducted in two parts: descriptive mapping and weighting of research evidence (Gough, 2004). Descriptive maps are thought to be helpful when there has been no previous attempt to look systematically at a particular section of the research literature. It provides a way of 'pinning down just what it is out there and what is not' (EPPI Centre, 2001, p. 6). Weighting of evidence considers the appropriateness of the

research design in addressing the research question of the review, not the quality of the individual studies as a piece of research in itself.

Identification of potential studies

To address the research question, Study II proposed to identify all relevant empirical literature researching peer-led adolescent sex education in UK-based settings. A number of studies (n=250) had been identified via Study I searches. These studies were excluded from Study I due to being empirical research studies. As such, they became potential sources of studies to include in Study II. 'Pearl-growing' techniques were also used to identify potential studies for inclusion (n=15), with further references being identified via the bibliographies of included studies, this process being repeated until saturation.

Screening for Inclusion

To be included in the review, a literature source had to meet the following inclusion criteria:

Literature Type

Literature had to present an empirical study of a peer-led sex education programme.

Educational Approach

Studies had to research programmes that were delivered by an educator identified as being a 'peer' to those receiving the programme. The general term 'peer' was selected to capture all of the various terms used to describe those delivering peer education. Initiatives using videos, plays, newsletters or other materials developed but not delivered by peers were excluded. This was because it would be hard to ascertain if it was the peer educator or the peer educator-produced material responsible for observed outcomes. Further to this, if programmes included a peer-led component that was not evaluated separately to other programme components, these studies were excluded.

Educational Programme

Studies had to research programmes that aimed to improve the knowledge, attitudes, beliefs, intentions or behaviours of adolescents regarding any aspect of sexual health or wellbeing (this included HIV/AIDS, STIs, pregnancy, relationships).

Target Population

Studies had to research programmes that targeted young people aged between 11-24 years of age to be consistent with the definition of adolescence as discussed in Study I. Studies that specifically focussed on a functional group, such as youth with disabilities, HIV/AIDS or sex workers, rather than adolescents more generally, were excluded.

Country

Studies had to research programmes that were based in the UK. Kelly et al., (2006) estimate that Sub-Saharan Africa accounts for 59% of peer-led programmes. To include these studies would bias review findings towards a different context. As discussed in the preceding section, interventions regarding sexual health are highly context-specific, therefore outcomes may change depending on the cultural context in which the intervention is embedded.

Research Focus

Studies had to research a claim other than effectiveness (in terms of behavioural, attitudinal or knowledge change as this has been investigated in other reviews of the approach). Claims identified in Study I were used as a keywording tool to identify studies presenting research findings other than effectiveness.

Date of publication was not used as an inclusion/exclusion criteria. In addition, studies were not subject to any methodological inclusion/exclusion criteria. Reviews typically exclude studies of poor methodological quality from analysis. There is value in recording the different study types employed within the field to understand how research can be improved in the future. As the purpose of Study II was to identify those claims in need of more rigorous evaluation, restricting sources by research design was felt to be unnecessary. It may lead to loss of information contained within those studies. This information should still be subject to review and made accessible to readers, so long as reviews make it clear to readers that study findings had been obtained from weak designs. 'It may not be an all or none decision of inclusion but one of weighting studies in terms of quality and relevance and thus the extent that their results contribute to the synthesis' (Gough, 2007, p. 221). This led to a total of 31 included studies (Figure 11). Initial inclusion/exclusion of studies was conducted by the researcher, who excluded clearly non-relevant studies based on titles and abstracts. Remaining studies were screened by

two PhD researchers according to the inclusion criteria. Results of the two independent screenings were compared and discrepancies discussed to establish consensus.

2.3. Analysis

Data Extraction

Included studies underwent data extraction and quality assessment using a pre-specified framework. Data for each literature source was coded in EPPI Reviewer. Directed content analysis as described by Hsieh & Shannon (2005) and Mayring (2004) was conducted to extract data. Directed content analysis is a structured process in which categories are formed a-priori. The EPPI (2001) keywording tool was adapted for this purpose. For each study, coders collected information on the intervention name, intervention description, sample, study design, research methods, claim being investigated and key findings. Authors of studies with missing or incomplete data were contacted in an attempt to obtain this information. A full table of included studies and their description can be found in Appendix I. Once studies had been coded, the appropriateness of the research design was assessed. In systematic reviews, methodological appraisals generally evaluate four areas of potential bias: selection bias, performance bias, attrition bias, and detection bias (Kim & Free, 2008). 'The variety of methodologies, theories, definitions and cultures considered in peer education design makes the task of creating a single evaluation framework near impossible' (Sriranganathan et al., 2010, p. 67). Mixing different data types creates 'difficulties achieving consensus on the criteria that might constitute quality standards' (Khan & Kleijnen, 2001, n.p). To analyse risk of bias and whether included evaluations were methodologically sound, the researcher intended to employ criteria used in previous studies of peer-led adolescent health (Harden et al., 1999; Oakley, Fullerton, & Holland, 1995). These were used to assess (quasi-)experimental studies and therefore may not be appropriate to assess other research designs. 'The diversity of qualitative study

designs and approaches makes it impossible to specify universally agreed a-priori defects, equivalent to inadequate randomization for RCTs, which would indicate that a qualitative study is fatally flawed' (Dixon-Woods et al., 2006, p. 29). As the aim of Study II was to assess the strength of multiple types of design (both those labelled outcome and process evaluations or qualitative and quantitative data), it was difficult to use previous criteria to class studies as sound or unsound as these are often developed to deal specifically with either qualitative or quantitative data. This review did not attach importance to whether results were reported as qualitative or quantitative data. Take for example, assessing the research evidence for credibility claims; the belief that peer educators are more credible than other educators. A study could ask students to score the credibility of their peer educator on a questionnaire or could ask them to participate in interviews where the credibility of the peer educator is subject to discussion. Both of these findings provide evidence regarding educator credibility in different forms. One would be labelled as generating quantitative data, the other qualitative. This data does not tell us whether a peer educator is more credible than an alternative educator, such as a nurse or teacher. Changing the type of data collected would not produce an adequate answer to this question. Rather it is the study design that is of import here. If the study compared two groups of students, one receiving peer-led sex education and the other receiving teacher-led sex education, results from either data collection exercise could be compared to ascertain whether one group attached more credence to their educator than another. Once equivalency between groups has been achieved, preferably via randomisation, the type of results gathered is irrelevant. Whether the data is labelled as quantitative or qualitative, the evidence regarding credibility is the same. Instead, it was decided that the assessment of methodological rigour would be based on one criteria: evaluations had to employ an equivalent control/comparison group and provide outcome data for both groups. This was based on the review question as determining whether peer and adult educators produce

different effects, 'requires isolating the educator from the programme' (Mellanby et al., 2000, p. 544). If studies claim that peer education is cheaper than alternatives, or more enjoyable than alternatives, they need to demonstrate the greater propensity for these phenomena to occur or be observed in peer-led sex education when compared to alternative provision. For example, can peer-led sex education be labelled as cost effective if it has not been compared with another method that could be cheaper? These are also presented as causal claims. It is the peer education that is thought to be responsible for increasing participant satisfaction more than alternatives. Thus studies need to compare peer-led sex education with an equivalent comparator in order to establish a robust causal pathway. The lack of an equivalent comparator results in many alternative plausible explanations for observations. Control groups take proper account of the influence of alternative factors. In assessing the methodological rigour of studies, the review classified studies into three groups: equivalent comparator, non-equivalent comparator and no comparator. An equivalent comparator was defined as a control group that evaluators had tried to make as similar as possible to their peer-led counterparts, typically through randomisation. To be a truly equivalent comparator, the control group had to receive an intervention that was the same in every way as its peer-led counterpart in terms of resources, setting, curriculum and budget. In this way, the only difference between the groups should be the person delivering the material, thereby isolating the 'educator effect'. Studies were classed as utilizing a non-equivalent comparator if allocation to groups was not randomly allocated or if there was a difference in educational provision between groups. Studies were coded as 'no comparator' if results were only reported for one group.

Visualization

Results were presented in a visualisation table modelled on the EEF Toolkit. The Sutton-Trust '*EEF Teaching and Learning Toolkit*' is an accessible summary of educational

research which provides guidance for teachers and schools on how to use their resources to improve pupil attainment. It covers 35 topics, each summarised in terms of their average impact on attainment, the strength of evidence supporting the approach, and its cost. The visualisation table produced in Study II follows a similar aggregative logic; pooling empirical observations to produce an overview of the evidence for each claim and methodological rigour of the studies providing this evidence (Gough et al., 2012). It includes an overview of: the popularity of the claim in theoretical literature (taken from Study I); the popularity of the claim in empirical literature; whether existing evidence for the claim suggests a positive, negative or uncertain effect on participants, and the rigour of the research evidence on which these results are based.

Claim Popularity

To calculate claim popularity, the number of sources discussing the claim was divided by the total number of identified sources included in the Study I review. This was depicted by 'speech bubble' icons. The popularity of a claim was indicated using a scale of 1-4 speech bubble icons. This represented 0-25%, 26-50%, 51-75%, and 76-100% of the included sources in Study I discussed that specific claim. To calculate the popularity of the claim in empirical literature, the number of research reports directly investigating the claim was divided by the total number of identified research reports. This was depicted by 'paper' icons. The research popularity of a claim was indicated using a scale of 1-4 paper icons. This represented 0-25%, 26-50%, 51-75%, and 76-100% of the included research studies in Study II had investigated that specific claim.

Claim Effect

Effect was calculated using the consistency of reported effect across studies (modal score). If, on average, the effect was positive, this was indicated with a tick icon (51% or more of included studies suggested a positive finding). If the effect was negative, this was indicated with a cross icon (51% or more of included studies suggested a negative

finding). Studies were coded for whether evidence for a claim was gathered through direct investigation or was a personal observation or remark. In the case of the latter, the effect was not recorded. If there were no studies coded as directly investigating the specific claim, effects were deemed to be unknown and this was indicated with a question mark icon. Originally, if studies did not employ an equivalent control group their findings were not used to produce an overview of the research evidence. So few studies employed an equivalent control group however that these were included and the 'rigour' of findings was indicated next to evidence for the claim.

Research Rigour

To calculate research rigour, studies that were coded as directly investigating the claim were given a score of 0, 1 or 2. This represented research design: studies received a score of 0 for no comparator, 1 for a non-equivalent comparator and 2 for an equivalent comparator. The research score for the claim was calculated by adding the score of each study together and calculating this as a percentage of the highest possible research rigour score for the claim (e.g. if 5 studies investigated the claim the highest possible score would be 10). This was depicted by 'lock' icons. The research rigour of a claim was indicated using a scale of 1-4 lock icons. This represented 0-25%, 26-50%, 51-75%, and 76-100% of the best possible research score for studies investigating that specific claim.

2.4. Inter-Rater Reliability

The methods of analysis employed in Study II are susceptible to researcher bias. To mitigate this, literature was independently coded by the researcher and an independent reviewer using a coding matrix in EPPI Reviewer. Use of this software enabled the assignment of codes to the dataset to be compared and discussed to follow-up on any discrepancies. Before proceeding with the full synthesis, 10% of papers were independently coded by two researchers to explore reproducibility of the method and

reduce subjectivity during data extraction. Agreement was high, less than 10% of disagreement across codes so the code set was not subject to revision.

2.5. Ethics

Ethical approval for the study was granted by the School of Education Ethics Committee at Durham University on 16/03/2016 (Appendix A).

Study II Flow Diagram
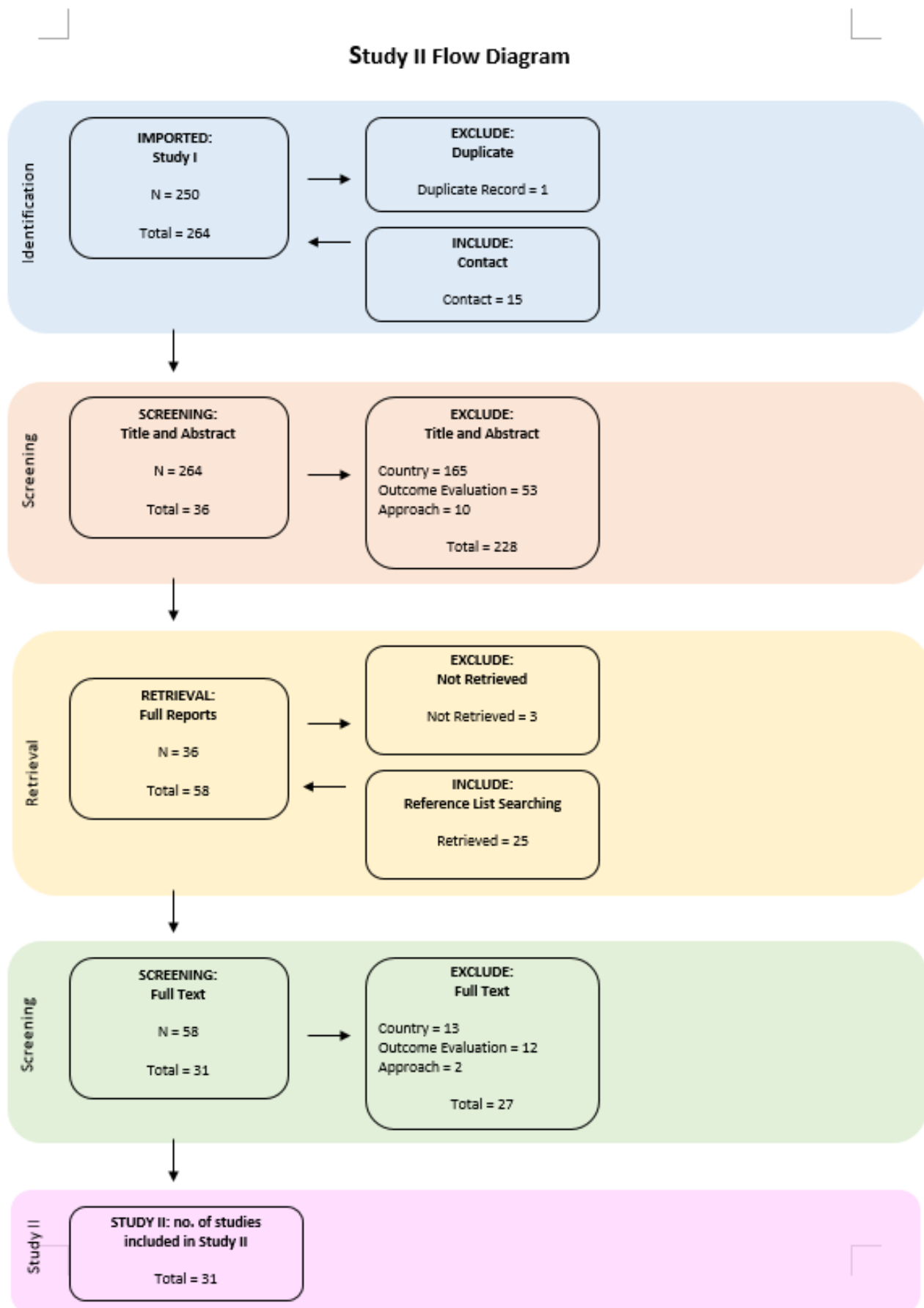
Figure 11. Study II Inclusion Diagram

3. Results

Of a possible 264 sources, 31 met the review inclusion criteria and were subject to analysis. Most sources were excluded because the peer-led sex education intervention had been conducted in countries outside the UK (n = 178). 65 studies were excluded for reporting solely on direct effects e.g. knowledge, behavioural or attitudinal change regarding sexual health and wellbeing.

3.1. Reviewing Evidence for Claims

Research Popularity

102 codes for claim identification were applied across sources (Table 8). Upon review, it was found that some studies claimed to provide evidence for a claim but this had not been subject to empirical investigation. Rather evidence for the claim was observed by the researcher, practitioner or participants of the study in addition to empirical investigation of another claim. As a result, the 'evidence source' of the claim was noted as either being drawn from a direct investigation or an observation. Only evidence derived from a direct investigation was used to calculate the research popularity score.

Sources coded by claim and evidence type			
Claim	Investigation	Observation	Total
Acceptability	22	0	22
Educator Benefit	16	0	16
Communication	13	6	19
Credibility	13	3	16
Pedagogy	0	9	9
Empowerment	1	0	1
Social Reinforcement	11	0	11
Modelling	1	0	1
Cost Effectiveness	1	0	1
Outreach	1	0	1
Expertise	0	1	1
Comfort	6	0	6
Total	85	19	104

Table 8. Study II sources coded by claim and evidence type

The most common investigative focus of included studies was acceptability (n = 22) and educator benefit (n = 16). Lesser researched claims included empowerment, modelling,

cost effectiveness and outreach (n = 1). Two claims, pedagogical innovation and educator expertise, had not been subject to investigation. The observation most frequently made by researchers, practitioners or participants was that peer-led lessons benefited from more pedagogical innovation (n = 9), there was increased communication between peer educators and students (n = 6) and peer educators were identified by students as being more credible educators (n = 3).

Research Rigour

Of the 31 included studies, only 2 were coded as utilizing an equivalent comparator to isolate an educator effect. 13 studies used a non-equivalent comparator, with the majority of included studies (n = 16) not utilising a comparative group at all.
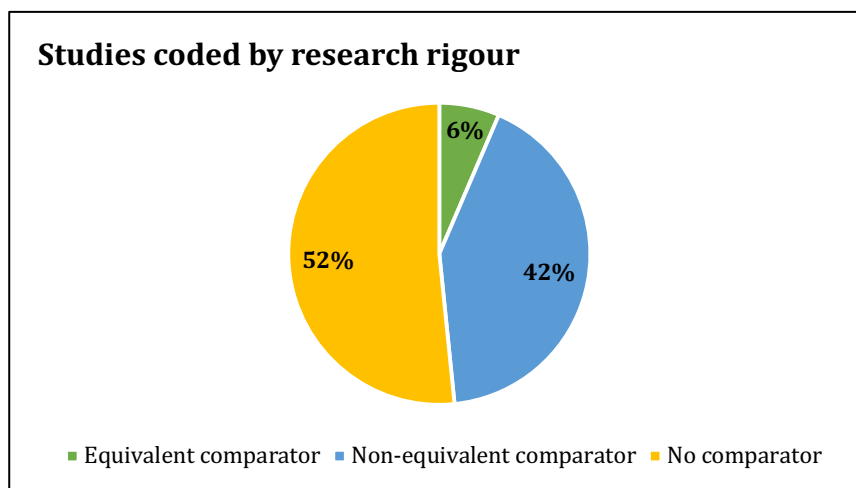
Figure 12. Studies coded by research design

Results of this review pertaining to the popularity of claims in both theoretical and empirical literature, research findings and methodological rigour are presented in Table 9. A breakdown of how the number of representative icons allocated to claims were calculated is discussed in further detail below.

Data visualisation table to show popularity, research evidence, rigour and effect of claims for peer-led sex education

	Popularity	Research	Rigour	Effect
Acceptability *Popular claim, with a moderate research base of mainly quasi-experimental studies reporting positive effects*	●●●●	■■■□	🔒🔒▫▫	✓
Educator Benefit *Popular claim, with a moderate research base of mainly non-comparative studies reporting positive effects*	●●●●	■■■□	🔒▫▫▫	✓
Communication *Popular claim, with a limited research base of mainly non-comparative studies reporting positive effects*	●●●●	■□□□	🔒▫▫▫	✓
Credibility *Popular claim, with a modest research base of mainly quasi-experimental studies reporting positive effects*	●●●●	■■□□	🔒🔒▫▫	✓
Pedagogical Innovation *Very common claim, with no research base*	●●●○	□□□□	▫▫▫▫	?
Empowewring Students *Common claim, with a limited research base of mainly non-comparative studies reporting positive effects*	●●○○	■□□□	🔒▫▫▫	✓
Social Reinforcement *Common claim, with a modest research base of mainly quasi-experimental studies reporting positive effects*	●●○○	■■□□	🔒🔒▫▫	✓
Modelling *Common claim, with a limited research base of mainly non-comparative studies reporting negative effects*	●●○○	■□□□	🔒▫▫▫	✗
Cost Effectiveness *Occasional claim, with a limited research base of mainly quasi-experimental studies reporting negative effects*	●○○○	■□□□	🔒🔒▫▫	✗

Criterion	Breadth of claim	Research base	Strength of evidence	Verdict
Reach *Occasional claim, with a limited research base of mainly non-comparative studies reporting positive effects*	1 of 4	1 of 4	1 of 4	✓
Educator Expertise *Occasional claim, with no research base*	1 of 4	0 of 4	0 of 4	?
Participant Comfort *Occasional claim, with a limited research base of mainlyquasi-experimental studies reporting positive effects*	1 of 4	1 of 4	2 of 4	✓

Table 9. Data visualisation table

Claim Calculations

Acceptability to Students

Of the 31 studies included in the review, 22 were coded as presenting results that were related to the acceptability of peer-led sex education to students. This is 71% of included literature, scoring three paper icons on the visualization table. Each of these 22 studies stated that they were conducting an investigation of the acceptability of peer-led sex education to students. 2 of these studies used an equivalent comparator. 8 studies used a comparator group but this was not deemed to be equivalent. 12 studies did not use a comparator group. With 22 studies, the highest rigour score that could be obtained was 44. Due to the research design of included studies, total rigour score was 12 out of 44. This is 27% and scores two locks out of 4 on the visualization table. 2 studies reported mixed results, these were both those studies utilizing an equivalent comparator. The other 20 reported a positive effect. As study results were positive on average, this was represented with a tick on the tabular visualization chart.

Benefit to Peer Educators

Of the 31 studies included in the review, 16 were coded as presenting results that were related to peer educator benefit. This is 52% of included literature and scores three paper icons. Each of these 16 studies stated that they were directly investigating benefits to peer educators. 1 of these studies used an equivalent comparator. 3 studies used a comparator group that was deemed to be non-equivalent. 12 studies did not use a comparator group. Of 16 studies, the highest rigour score that could be obtained was 32. Due to the research design of included studies, total rigour score was 5. This is 16%, scoring 1 lock out of 4. Each of the 16 studies reported a positive effect, indicated with a tick icon on the tabular visualization chart.

Communication with Students

Of the 31 studies included in the review, 19 studies were coded as presenting results that were related to improved or increased communication in peer-led sex education. Of these 19 studies, 13 stated they were directly investigating communication. This is 22% of the included literature, scoring one paper icon. 6 studies reported on communication as a personal observation remarked upon by the researcher and as such were not included in the calculations for the visualization chart. Calculations were based on the remaining 13 studies. 1 of the 13 studies used an equivalent comparator. 4 used a comparative group that was deemed to be non-equivalent. 8 studies did not utilize a comparative group. Out of 13 studies the highest rigour score that could be obtained was 26. Due to the research design of included studies, total rigour score for this claim was 6. This is 23%, scoring one lock out of 4. Of the 13 studies, 11 reported positive effects, 2 mixed. The average reported effect was positive, indicated with a tick icon on the tabular visualization. This investigation was through questionnaire or interview responses. There was no study that conducted objective observations as a research method.

Credibility of Peer Educators

Of 31 studies, 16 were coded as presenting results regarding educator credibility. Of these 16 studies, 13 stated they were directly investigating educator credibility. This is 29% of included literature, scoring two paper icons. 3 studies reported on credibility as a personal observation remarked upon by the researcher. The remaining 13 were included in the analytical calculations for the visualization chart. None of these studies used an equivalent comparator group. 9 used a comparative group that was not equivalent. 7 studies did not use a comparative group. Out of the 13 studies, the highest rigour score that could be obtained was 26. Due to the research design of included studies, total rigour score for this claim was 9. This is 35%, scoring 2 locks out of 4. All 13 studies reported positive effects, indicated with a tick icon on the tabular visualization.

Pedagogical Innovation of Peer Educators

Of the 31 included studies, 9 were coded as presenting results that were related to the pedagogical innovation of peer educators in sex education. None of these studies stated that they were directly investigating whether peer educators were pedagogically innovative. All 9 studies reported on the pedagogical innovation of peer educators as a personal observation remarked upon by the researcher. As there were no direct studies of pedagogical innovation, a rigour and effect score could not be calculated.

Empowerment of Students

Of the 31 studies included in the review, 1 was coded as presenting results regarding student empowerment in peer-led sex education. This was a direct investigation, scoring one paper icon on the visualization chart. The study did not employ a comparator group, with a total rigour score of 0 out of a possible 2. The study reported a positive effect, indicated with a tick icon on the tabular visualization.

Social Reinforcement

Of the 31 studies, 11 were coded as presenting results that were related to peer educators being able to socially reinforce the messages of peer-led sex education. This is 35%, scoring two paper icons. Each of these 11 studies stated that they were directly investigating social reinforcement. 2 studies used an equivalent comparator group. 2 studies used a comparative group that was not equivalent. 7 studies did not use a comparative group. Of 11 studies, the highest rigour score that could be obtained was 22. Due to the research design of included studies, total rigour score for this claim was 6. This is 27%, scoring 2 locks out of 4. 8 studies reported positive effects, 1 mixed, and 2 negative. The average reported effect is positive, indicated with a tick icon on the tabular visualization.

Modelling with Students

Of the 31 studies included in the review, 1 was coded as presenting results directly related to an investigation of peer educators modelling behaviour with students. The study did not use a comparative group. The reported effect is negative, indicated with a cross icon on the tabular visualization.

Cost Effectiveness

Of the 31 studies included in the review, 1 was coded as presenting results directly related to an investigation of the cost effectiveness of peer-led sex education. The study used a non-equivalent comparator. The reported effect is negative, indicated with a cross icon on the tabular visualization.

Peer Educator Expertise

Of the 31 studies included in the review, 1 was coded as presenting results related to the expertise of peer educators delivering sex education. This was not based on an investigation but on personal observations made by the researcher. As such, evidence regarding rigour (no comparator group) and effect (negative) was not recorded in the data visualization table.

Comfort of Students

Of the 31 studies included in the review, 6 were coded as presenting results regarding the comfort of participating students in peer-led sex education. This is 19% of included studies, scoring one paper icon. Each pf these 6 studies stated that they were directly investigating student comfort. 1 study used an equivalent comparator group. 2 studies used a comparative group that was not equivalent. 3 studies did not use a comparative group. Out of 6 studies, the highest rigour score that could be obtained was 12. Due to the research design of included studies, total rigour score for this claim was 4. This is 33%, scoring 2 locks out of 4. Each of these 6 studies reported positive effects, indicated with a tick icon on the tabular visualization.

4. Discussion

Study II set out to address the following research questions through conducting a systematic synthesis of existing research on UK-based peer-led sex education.

1. Is there empirical evidence to suggest that identified claims are present within UK-based peer-led sex education?
2. Is there empirical evidence to suggest that identified claims are specific to peer-led sex education when compared to alternative approaches?

By collecting findings from individual studies, collating these results, and calculating the methodological rigour of the studies from which these results were obtained, research findings suggest that it is still the case that many of the 'dominant rationales for peer education can be contested' (Price & Knibbs, 2009, p. 299). Very few of the claims identified as being used to justify the adoption of peer-led sex education in Study I have been investigated. Results from those studies that have researched these claims are limited by a lack of comparative analysis. This is not to label existing research as inadequate or incorrect. Rather it is inappropriate in its current form to address the review question. Due to the lack of comparative study, evidence from this review can't address whether identified claims are specific to peer-led sex education or determine their causal power as mechanisms of effect. An overwhelming majority of the research evidence reported positive effects, but as these results are weakened by flaws in methodological rigour, it is unclear whether these are 'true' effects. Thus on the basis of the collected evidence so far, Study II can only conclude that peer-led sex education has an undetermined advantage over alternative approaches.

4.1. Evidencing claims for peer-led sex education

Empirical Investigation

Very few claims identified in Study I have been subject to evaluation. Most evaluations focus on investigating levels of acceptability with the target population or discuss technical aspects of provision such as peer educator selection and training. This prevents

knowledge of whether the causal mechanisms thought to produce positive effects in per-led sex education are present within interventions or work as hypothesised.

Claim Popularity vs. Research

The data visualisation table lists claims in order of their popularity in literature reviewed in Study I. It was to be assumed that the more popular claims would have been subject to the most investigation. This was not always the case. Communication claims, for example, were very popular within literature but the amount of research investigating these claims, and its methodological quality, was limited. Pedagogical innovation was another popular claim, yet this is yet to be subject to investigation. In this way the data visualisation table is beneficial in helping to pinpoint areas that require further study because they are popular claims but have not been researched or research is of poor quality.

Claims specificity to peer-led sex education

Evaluations are typically case studies that do not contain a comparative component. Without an equivalent comparator, these studies cannot provide a definitive answer as to whether peer-led approaches to sex education are more likely to increase student enjoyment, comfort, communication etc. when compared to alternative provision, although many claim to do so. In the absence of a control group, these accounts could be entirely wrong (Bonnell et al., 2012). It was noted that in several studies, the evaluators' notion of how the programme was supposed to work, became an assertion that it had worked. This is an example of 'designed blindness'; 'evaluators can sometimes become such a strong believer in the programme theory they articulate and test that empirical findings are largely, or only, framed as corroborations of this theory'(Astbury & Leeuw, 2010, p. 76). This phenomenon was seen in many studies that purported to provide evidence for a claim, yet this evidence was often a personal comment or observation made on behalf of the researcher, teachers or students participating in a project. Claims

regarding increased/improved communication and innovative pedagogy, for example, were often based on personal accounts, rather than direct investigation through empirical study. Echoing the findings of Simoni et al., (2011), for the majority of claims made to support peer-led sex education identified in Study I, these claims are inferred, rather than empirically tested by researchers. As such it is still the case that claims made to support peer-led sex education are a 'conflation of basic theory, working hypotheses and intuitively appealing concepts' (Milburn, 1995, p. 408).

4.2. Researching claims for peer-led sex education

From collecting and reviewing existing research on peer-led sex education, a number of observations can be made about the rigour of UK-based research and its current conduct.

Research Focus

Most studies included in this review were labelled as 'process evaluations'. The data collected by these evaluations usually pertain to the acceptability or feasibility of peer-led sex education. The majority use the retrospective accounts of students, teachers, and peer educators to establish causal links between intervention components and acceptability or effectiveness. Undertaking such an approach to evaluation is problematic in addressing the review question for two reasons: firstly, by presenting process data as an outcome, studies neglect to describe the process by which these outcomes have been achieved. This was most noticeable in studies investigating increased/improved communication. By asking those participating in the intervention studies for their opinion on whether the phenomenon occurred, there is little direct investigation of the phenomenon in itself. Secondly, as these observations are not drawn from a comparison of equivalent groups, it is impossible to ascertain if these processes are specific to peer education or establish causal links between outcome and process. Furthermore,

evaluation activity in this area does not appear to be cumulative. A small number of studies build upon findings from previous evaluations. The majority are conducted in what appears to be a research vacuum, producing 'one-off' reports of individual projects. As such researchers are unable to build upon these assumptions, which may exacerbate the 'designed blindness' of future studies.

Research Quality

Research of peer-led sex education in its current form cannot be used to adequately address the review question. This is not to cast aspersion on the findings of the individual studies included in this review. Studies described positive appraisals of student educational experiences, committed volunteers, and galvanised communities inspired to campaign for social action. These 'convey a great sense of enthusiasm, are based in laudable ideals, are carried out by highly motivated practitioners, and appear to create something which is often under-rated in health education, the 'feel-good factor' (Milburn, 1995, p. 418). Judgement of 'research quality' was a review question specific judgement. Review question specific judgements consider the extent to which a study is fit for purpose as a piece of evidence to answer the review question. As Gough (2007) writes, 'The authors of the original primary study may have executed the study perfectly, but they undertook the study before the review took place and could not be expected to know the particular focus of any potential future review. A study may be very good of its kind, but use a research design that is not powerful at answering the review question' (p. 222). Thus the primary criteria in assessing the usefulness of included studies in this review was whether it could help to answer the review question. As the research question concerned establishing causality, this was dependent on research design.

Research Design

The evidence base for UK-based peer-led sex education often utilises case study designs with small sample sizes. A case study is not a suitable design to address the review

question. The absence of a comparator group within studies results in many alternative plausible explanations for observed outcomes. This issue appears to be recurrent within the field, noted by Harden et al., (1999), Kim & Free (2008) and Sun et al., (2018). Very few studies utilise an equivalent comparator, despite the employment of quasi-experimental or RCT designs. This was often a result of studies not giving comparator groups the same curriculum, resources or training as their peer-led counterparts, making it impossible to isolate the 'educator effect' of the intervention. Without an equivalent comparator, 'it may sometimes be the methodology rather than the deliverer of the programme which is being tested' (Mellanby et al., 2000, p. 542). The importance of employing equivalent groups is demonstrated by the following example taken from an evaluation of a peer-led drugs education programme (Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990; Botvin, Baker, Renick, Filazzola, & Botvin, 1984). In their original evaluation, Botvin et al., (1984) reported that adult-led students performed worse than both their peer-led and control group counterparts. Adult-led groups reported low implementation fidelity of the educational programme. Having restricted the sample to include only high-fidelity groups only, adult-led students had lower rates of substance use than the control group, with no difference between adult and peer-led groups (Botvin et al., 1990). Of the studies included in this review, there was considerable ambiguity surrounding the control condition. Studies reported a lot of detail about intervention groups but rarely went beyond specifying the number of participants in the control condition. As a result it is hard to ascertain what treatment control group participants received and how this varied in comparison with their peer-led counterparts.

4.3. Strengths & Limitations

The methods employed to investigate the research questions are subject to both strengths and limitations. Regardless of identified limitations, these were the most appropriate methods to address the research question.

Heterogeneity

Included literature evaluates a number of different outcomes from different initiatives, working with different populations, in different contexts, targeting different aspects of sexual health and wellbeing through formal and informal education programmes or interventions. The review followed an aggregative logic where individual studies were treated as if they were investigating different samples of the same population. Results were then combined in the data visualization table to produce information that was generalized to a bigger sample. Such an approach to synthesis was selected as the logic of aggregation suggests that through identifying studies that support one another, there will be greater clarity about the magnitude and variance of the phenomenon under investigation (Gough et al., 2012). It has been questioned 'whether it is appropriate to combine the results of several unique contextually rich studies' in a review (Pope, Mays, & Popay, 2007, p. 78). Despite this critique, synthesis of existing literature is the best current approach to 'assist in the broader understanding of the phenomenon under study' (Bearman & Dawson, 2013, p. 258). Regardless of whether these findings are qualitative or quantitative, 'if theory says there should be an increase in behaviour then such increases or improvements should be monitored and apportioned' (Pawson, 2013, p. 21). Such an approach is supported by Thomas et al., (2004) who critique the assumption that systematic review is only applicable to the synthesis of empirical quantitative literature. The contextual overview at the beginning of this study identified a need to try and synthesise findings from across studies to create a wider understanding of the evidence for identified claims. Without synthesis, evidence takes the form of single studies that are

conducted and scrutinized in isolation. 'Handpicked personalized descriptions of outcomes cannot reveal collective outcome patterns' (Pawson, 2013, p. 21). Synthesis can produce this evidence (Pawson, 2006), therefore Study II achieves its aim of producing a review of individual studies to inform understanding of underlying programme mechanisms.

Research as replication

Studies were treated as replications, following the logic that if studies of the same question come to the same conclusion, findings may be regarded as reliable. Again, this raises the question of whether included studies are truly comparable as they are not always investigating the same research question. The aim was to establish 'potential generalizability… at the level of developed concepts and theories, rather than specific findings' (Garside, 2008, p. 35). Deaton & Cartwright (2016) argue that even with multiple replications, studies cannot predict with absolute certainty that future studies would generate the same results. If failure to replicate occurs however, reviews can compare studies to determine which factors may have differed between studies to have produced different outcomes, guiding future research efforts.

Study Identification

Pearl-growing techniques were utilized in an effort to make searches as exhaustive as possible, but there is a likelihood that not all relevant studies will have been included in the review. The majority of studies included in this review reported positive findings. This mirrors the findings of previous reviews that research of peer-led sex education is overwhelmingly positive (Harden et al., 1999). It is questionable whether this is the case or whether negative findings are not reported. This may have implications for review findings as studies reporting positive findings are more likely to be published (Hedges, 1984), although there was an extensive grey literature search.

Quality of Reporting

This review can only reflect information as reported in included studies, the degree to which write-up corresponds with how the study was actually conducted cannot be ascertained. Furthermore, it offers a subjective interpretation of individual findings that may be 'far removed from these findings as given in research reports' (Sandelowski & Barroso, 2007, p. 18). For full transparency, a list of included studies and description of their content is provided in the Appendix. Assessment is inevitably subjective and is a limitation of the research findings. It is hoped that through the use of comparative coding, clear inclusion/exclusion and assessment criteria subjectivity effects were minimized. A further consideration is whether the claims targeted by this review can be observed and evaluated. 'Even if the review is committed to tracking some back-stage mechanism or unintended process, it may not always be possible to do so' (Pawson, 2006, p. 37). This review assumes that each of the claims identified in Study I are observable, measurable, and as such, can be subject to investigation (Gough, Thomas & Oliver, 2012). Even if these claims cannot be observed, this review has synthesized research that has attempted to make these claims visible, summing research findings and methodological rigour. There may be better ways to make these claims visible and measurable and it is hoped that the findings from this review may encourage researchers to think creatively about the ways in which this aim could be achieved, particularly for those claims which have not been subject to evaluation.

Summarising Evidence

The data visualization table presents an overview of the research findings. This requires a summary of included studies and limits in-depth description of individual reports. Summarising the findings of individual studies in this manner ignores the variability of results. There is also a lack of guidance on how to deal with contradictory evidence when synthesizing separate studies. For the purposes of this review, these were calculated from

a modal average. This is problematic for a number of reasons, foremost of which is that this average will include studies of poor methodological rigour which may have inflated or incorrectly reported an effect. This is partly addressed by including the 'rigour rating' of combined studies in the data visualization table. Meta-analysis to control for these effects was not possible due to the heterogeneity of variables used to measure effect, as reported in other reviews of peer-led sex education (Simoni et al., 2011; Tolli, 2012). Neither the outcomes nor the initiatives themselves were sufficiently homogenous to undertake statistical meta-analysis. In this instance meta-analysis would have been inappropriate because not all studies produced a numerical estimate of effect. In future, as the quality of studies improve, inclusion criteria could become more rigorous and include criteria such as attrition, selection bias, performance bias and detection bias. Until studies are sufficiently similar to undertake statistical meta-analysis, this was the best approach currently available to report research findings.

Cumulating Research Findings

There are a number of issues that need to be taken into consideration when undertaking a cumulative approach to the presentation of individual research findings in a systematic review. Of most import is to note that '…some of the subtleties of these issues are lost in aggregation. There is also considerable variation… there are examples within each area which are successful or not. This summarisation… therefore masks these differences' (Higgins, Kokotsaki, & Coe, 2012). Despite this, the benefits of presenting results in this way was thought to outweigh any potential pitfalls. This was because a visualisation table facilitates quick and easy interpretation of data findings, 'a consumer guide to the evidence base' (Higgins, 2018, p. 21). Such an approach may be useful for practitioners and policymakers to inform their understanding of the advantages and disadvantages to utilising peer-led approaches in sex education. It also helps to make the evidence clearer

amongst the numerous and contradictory research reports currently available reporting on peer-led sex education.

Programme Theory

By only including written evaluation of peer-led sex education, the review neglects the accumulated experience of practitioners, students' needs and wishes and an understanding of social context (Wrigley, 2018). These are important considerations in building programme theory and its associated mechanisms of effect. Study II has extended understanding of programme theory by suggesting which potential mechanisms (claims) are supported by evidence, the next step will be to combine these findings with the experience of stakeholders to situate these mechanisms in CMO configurations to further develop a comprehensive programme theory for peer-led sex education.

4.4. Future Research

From conducting a synthesis of existing studies, a number of recommendations can be made to inform the conduct of future research investigating peer-led sex education. As this review did not exclude studies based on methodological rigour or research design, future studies could examine the influence of study design on reported outcome effects to determine whether some designs inflate or incorrectly report effects. Findings from this review suggest this may be the case as all studies of acceptability reported positive findings except those that used equivalent comparison groups. These reported a negative effect. The review also treated study populations as homogenous, as its aim was to generalize findings for all UK-based adolescents receiving peer-led sex education. Included studies did not examine the same population, sometimes targeting specific groups of individuals such as girls identified as being at risk of teenage pregnancy or homosexual youth. Future reviews could stratify review findings to make more accurate statements about which claims hold true for particular groups of youth in particular

settings and explore whether there are variations across different contexts. None of the claims identified in Study I have been subject to investigation that is of sufficient methodological rigour to draw conclusions about their existence within and specificity to peer-led sex education. This review has also identified specific claims which have not been subject to or are seriously lacking in evaluation. Future evaluations for example, should make an effort to include a cost analysis of the intervention compared with the cost of delivering an alternative curriculum. Whilst it could be argued that some claims have not been subject to evaluation because they are not observable or measurable, this review would posit that this requires more creative thinking on the part of evaluators. Pedagogical innovation for example could be assessed by giving the same curriculum to different types of educators e.g. peer educators, teachers, nurses and asking them how they would deliver the content. Each of the claims identified in Study I should be researched in more detail through more rigorous research designs. The evidence base requires more experimental studies to test the hypothesized benefits of peer-led sex education. Further to this, it is not enough for studies to conduct an experiment, to be truly comparative future studies need to ensure that they utilize an equivalent comparator and fully describe both the population and curriculum of both the intervention and control groups. Future trials could investigate intervention components separately and in combination through multi-arm trials with various combinations of intervention components in each arm to determine which produce desired effects. Alternatively, factorial trials could be used. Rather than one intervention and one control group, there are two intervention components and four groups: two groups receiving each component, one group with both components, one group with neither. Hypotheses to be tested could take the form of CMO configurations, mirroring the claims identified in Study I. This would require co-ordinated programmes of evaluations oriented towards the testing of common theories (Bonnell et al., 2012). To achieve this aim would require a more clearly

defined causal pathway, which will be established through combining evidence from Study I and II and conducting interviews with stakeholders in Study III.

4.5. Summary

On the basis of the evidence so far, peer-led sex education has an undetermined advantage over other approaches. The evidence from individual studies is not sufficiently robust to determine the comparative advantages of peer-led sex education over alternatives. This finding remains unchanged from previous reviews of the approach. Whilst projects subjectively appear to be successful, there is still a lack of rigorous evaluation, hindering efforts to ascertain whether claims are present within and specific to peer-led sex education. The focus on reporting outcomes, even within process evaluations (where findings are presented as outcomes,) limits understanding of the processes by which these outcomes are achieved. 'Despite the purported focus… on investigating the causal mechanisms by which a program achieves its effects, surprisingly few actually do this' (Davidson, 2000, p. 18). To summarise, existent evaluative literature is problematic for two reasons: firstly, it does not evaluate theory and 'if a program is based on a faulty theory it will not bring about the desired change' (Astbury & Leeuw, 2010, p. 364). Secondly, 'emphasis on measuring outcomes has led to a diminished focus on the educative processes and practices associated with peer education' (Southgate & Aggleton, 2017, p. 5). This has deterred evaluation of the mechanisms underpinning peer-led SRE and has led to: 'an evidence base of poorly theorised interventions with effects that are poorly understood and unlikely to be universally replicated in translation studies or real world implementation' (Bonell, Fletcher, Morton, Lorenc, & Moore, 2012, p.2300).

STUDY III

THEORISING THE PEER-LED APPROACH

Study III is a qualitative inquiry that develops an initial programme theory for peer-led sex education. Interviews with 21 practitioners were conducted to ascertain how mechanisms and contextual factors may influence intervention outcomes. Responses were subject to thematic analysis to identify major themes and codes. Analysis yielded three themes identified as key for intervention success: appropriate subject communication, supportive teaching environment and correct educator characteristics. Themes were not cohesive in that participants often directly contradicted each other, reflecting the complexity in defining and subsequently delivering peer education. The preliminary programme theory identified two key outcomes of peer education, specific to two different groups: the educators and the educated. CMOc-1 suggests that participatory practices employed within peer education produce empowered peer educators, leading to improved outcomes for volunteers. CMOc-2 suggests that identification of an educator as a peer encourages 'open communication' with the target population, leading to improved outcomes for students.

STUDY III: THEORISING THE PEER-LED APPROACH

1. Context

Without a specific programme theory for peer-led sex education, it is difficult to identify factors which may be responsible for producing intervention outcomes. Some features commonly thought to facilitate the effectiveness of peer-led sex interventions were identified in Study I. Yet, research findings from Study II suggest that there is a lack of evidence to support these claims. Significant gaps were identified where no evaluation had been published or no sound study had been conducted, making it difficult to identify specific characteristics of effective peer-led sex education.

1.1. Practitioners' Experiences of Peer-led Sex Education

Milburn (1995) notes that 'many of those working with peer education methods would claim their validity is proven daily by their own practical experience' (p409). To include this insight in programme theory development, a scoping review of research on practitioners' perspectives on, experiences of, and motivations for utilising peer-led sex education was undertaken to identify processes by which peer-led sex education may achieve its outcomes.

Practitioners choosing peer education

Research conducted by UNAIDS undertaken in 1999 examined peer-led sex education from the perspective of practitioners. Organisations specialising in HIV prevention were asked to explain why they had selected peer education as an educative tool. Respondents reported a number of reasons for the adoption of a peer-led approach, revealing a variety of beliefs surrounding peer education.

Practitioner responses reported in UNAIDS Study (1999), pp. 10-11

- Accepted and valued: peer education is a widely utilized HIV prevention strategy that is accepted and valued by audiences and stakeholders
- Access: peer educators have physical and sociocultural access to intended audiences in their natural environments without being conspicuous
- Behavioural theory: peer education is based on behavioural theory which asserts that people make changes not just because of scientific evidence or testimony but because of the subjective judgement of close, trusted peers who have adopted changes and who act as persuasive role models for change
- Communication: peer educators are effective communicators who have inside knowledge of the intended audience and use appropriate language/terminology as well as non-verbal gestures to allow their peers to feel comfortable when talking about issues about sexuality and HIV/AIDS
- Effective: peer education is effective in promoting the adoption of positive behaviour, it is a cost effective intervention strategy because the use of volunteers make it inexpensive to implement and/or expand
- Identification: peer educators and beneficiaries can mutually identify with each other as individuals and as members of a specific sociocultural reality. Because of this identification, peer educators make strong role models.
- Needs assessment: peer education was selected on the basis of a needs assessment study with the target population that indicates peer education would be an effective intervention approach
- Participatory nature: peer education facilitates the involvement of the intended audience in programme planning, implementation and evaluation. It is empowering for both the educator and the beneficiary because of its horizontal and participatory approach

Figure 13. Practitioner motivations for utilising peer-led sex education

Claims cited by practitioners in this review are similar to those identified by Turner & Shepherd (1999). There are also differences between these sources, perhaps reflecting the differing perspectives or priorities of academics and practitioners when delivering interventions. For example, despite Turner & Shepherd's finding that peer education is without 'theoretical justification' (p. 245), in the UNAIDS review practitioners refer to behavioural theories to support their practice. Whilst this review has the advantage of specifically focussing on peer-led approaches to sex education (whereas the majority of reviews in Study II were focussed on either health or peer education more generally), it

is limited in that it is not specific to initiatives targeting adolescents, may not be applicable to a UK context, and was published almost twenty years ago.

Peer education choosing practitioners

A search for UK and adolescent specific research yielded a study of teacher-led sex education undertaken by Abbott, Ellis & Abbott (2016). The study sought to understand how teachers responsible for sex education selected provision. Interviews held with secondary school teachers provide an instance where a practitioner describes how their school adopted a peer-led approach to sex education. The extract reveals that those receiving sex education, including individual students and their teachers, are not always active decision-makers in the selection process. In this instance for example, there was no agency on the part of the educator or educated as the approach was felt to have been chosen for them.

Practitioner interview excerpt from Abbott, Ellis & Abbott (2016), p.6

Interviewer:	Why erm why APAUSE how come you've chosen APAUSE?
Carl:	We didn't choose them, they chose us
Interviewer:	Right
Carl:	Erm (name of town given) at one point was a teenage pregnancy capital of the country according to the Daily Mail
Interviewer:	Laughs
Carl:	Two page spread and as a result of that there was a bit of a moral panic about the place about teenage pregnancies and so on so therefore funding was made available to reduce teenage pregnancy and those at authority level made the decision that we'd go with this APAUSE project
Interviewer:	Umm
Carl:	We were chosen because we were really fortunate to have two girls who were excluded from (name of school given) who were pregnant at the same time

Figure 14. Practitioner description of sex education selection

This suggests that one can distinguish between those schools actively seeking out initiatives and initiatives selecting schools. This is not mentioned in either of the two previous studies (Turner & Shepherd, 1999; UNAIDS, 1999) and reveals an entirely

different perspective on motivation for utilising peer-led sex education. Figure 15 is used to illustrate the overlap and differences between claims identified in the three studies described in this overview. These findings are drawn from a small number of sources and therefore can only offer partial insight into practitioner motivations for utilising peer-led sex education. Within these sources, there is very little in-depth description of the process by which practitioners believe peer-led sex education to work and the context which facilitates this.

1.2. The Importance of Programme Theory

Programme theory is 'a plausible and sensible model of how a programme is supposed to work' (Bickman, 1987, p. 5). According to Chen (1990), programme theory is both prescriptive and descriptive. It explains programme features and describes how these work to produce programme outcomes.

Programme Theory for peer-led sex education

Various theories can be used to support the practice of peer education and a wide range of terminology is used to describe the approach. Peer education lacks definitional clarity (Simoni et al., 2011) and is 'insufficiently developed' (Shiner, 1999, p. 555), producing 'disagreement about what constitutes peer education and great variation in the way in which projects are designed and implemented' (Walker & Avis, 1999, 573). Consequently, as it stands there is no accepted model of good practice for peer-led sex education. Greater definitional clarity would help to identify 'what works' in peer-led sex education. Currently the 'range of approaches defined as peer education means that effective and ineffective approaches may be being conflated' (Shiner, 1999, p. 555).

Venn diagram illustrating claim overlap between studies of motivations for utilising peer-led sex education
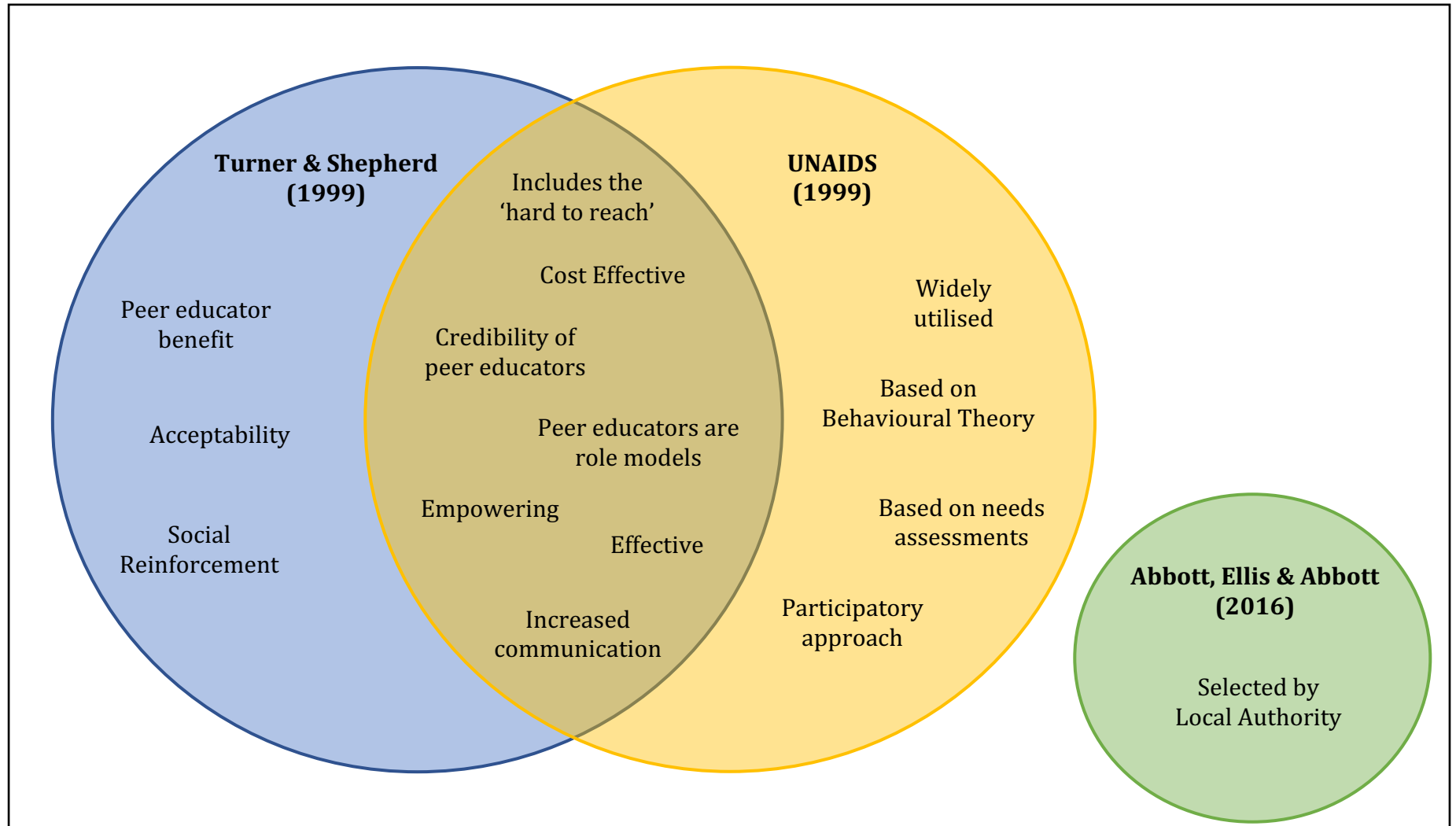
Figure 15. Venn diagram of claim overlap

Practitioner insights into programme theory

Consulting those directly involved in developing or delivering programme theory may further deepen working hypotheses (Pope & Mays, 2006). Asking practitioners to describe the 'implicit set of assumptions that steer the choice and design of a programme of intervention is useful because it aims to explain what is being implemented and why' (Marchal et al., 2012, p. 193). If excluded from evaluation of their practice, practitioners can have subtle insights lost to research. There may be logistical or theoretical issues that those not directly involved with an intervention may overlook. Practitioners also undertake innovative activities during programme delivery that can help to develop wider professional thinking (Gough, 2004) as novel project innovations could be used to further expand upon the programme theory. Consequently consulting practitioners enables identification of the necessary parts of the implementation chain, where these deviate and whether this leads to increased success or failure of interventions.

1.4. Research Purpose

Research Aims

There is a need to outline programme theory for peer-led sex education and assess whether this correctly hypothesises how programme outcomes are achieved. The aim of Study III is to:

Develop Initial Programme Theory

Claims identified in Study I have not been subject to evaluation and there is a lack of research reporting on the process by which these claims are thought to achieve their effects. This prevents 'resolution of the key operational issues accepted as lore by the sector as a whole' (Madden, 2009, p. 4). The absence of a consensual programme theory of peer-led sex education has been identified as an important gap within the research field

as 'the theoretical components of peer education in sexual health require much clearer specification and validation' (Milburn, 1995, p. 408). Without outlining programme theory, claims cannot be subject to empirical testing. And without investigation, it is unclear whether mechanisms within peer-led sex education work as hypothesised.

Construct CMO Configurations

Constructing CMO-c's to be investigated will not only contribute towards an identified gap in the field, it should also help to produce more focussed evaluation of the processes by which peer-led sex education achieves its outcomes. By identifying and separating specific components within the programme theory into Contexts, Mechanisms and Outcomes, individual features can be combined, evaluated, and re-assembled to refine the initial programme theory into a more coherent and correct model of change.

Include Practitioner Perspectives

The preceding section highlighted the small pool of studies including practitioner perspectives on the process by which peer-led sex education achieves it aims. It also emphasised the import of including these perspectives to develop programme theory as practitioners will have important insights into factors that may influence intervention success. Practitioners should be invited to contribute their experiences of designing and delivering peer-led sex education programmes as these will deepen understanding of intervention outcomes, not as hypothesised in theoretical writings or strictly controlled in research, but as produced when practised 'in the real world'.

Objectives

The study aim will be achieved through the objectives to: interview stakeholders, analyse interview responses and develop an initial programme theory for peer-led sex education.

Research Questions

Study III seeks to achieve the aforementioned aims and objectives by answering the general research question: How do stakeholders envision the process by which peer-led sex education achieves its outcomes?'. This general research question is made up of three sub-questions:

➢ What outcomes can be achieved through the delivery of peer-led sex education?
➢ What factors facilitate production of these outcomes?
➢ What factors impede production of these outcomes?

In answering these questions, data produced in Study III will be used to help build towards addressing thesis question 3) 'How do mechanisms and/or contextual factors influence programme outcomes?'.

2. Methods

A programme theory for peer-led sex education should be developed to support efforts to identify features that influence intervention success/failure. To address the absence of reporting on the process by which peer education may achieve its aims, stakeholders were asked to contribute their perspectives on and experiences of peer-led sex education.

2.1. Design

In developing a programme theory for peer-led sex education, it is first necessary to define programme theory.

Programme theory

Programme theory is defined as the features that intervene between programme delivery and to produce outcomes of interest (Weiss, 1997). This is because 'it is not programmes that work, but the resources they offer to enable their subjects to make them work. This process of how subjects interpret the intervention stratagem is known as the programme mechanism' (Pawson, 2002, p. 342). Programme mechanisms can be identified by asking what it is about a programme that generates change (Wong et al., 2012). Thus in developing programme theory, it is necessary to identify its constituent components or 'mechanisms'. Defining mechanisms remains a challenge within the field (Astbury & Leeuw, 2010) as authors describe mechanisms in various ways (Mahoney, 2003; Marchal et al., 2012). Boudon (1994, p. 172) defines mechanisms as 'the well-articulated set of causes responsible for a given social phenomenon'. Others describe mechanisms as intervening variables that explain how one variable influences another (Mahoney, 2003). In this sense, a mechanism is a causal agent that generates relationships between observable events.

Context, Mechanism, Outcome Configurations

Underlying programme theory development is the notion that 'identifying mechanisms that link cause and effect relations is crucial for the development of deeper and more fine-grained explanations of social phenomena' (Astbury & Leeuw, 2010, p. 363). These take the form of CMO configurations. 'A CMO is a hypothesis that the programme works (O) because of the action of some underlying mechanism (M), which only comes into operation in particular contexts (C)' (Pawson, 2013, p. 22). CMOs are testable propositions (Pawson, 2012) containing mechanisms, defined as: 'how it is that X produces Y' (Kiser & Hechter, 1991, p. 5).

2.2. Process

Participant Selection

Organisations or individuals identified as responsible for designing, developing or delivering a peer-led approach to sex education were contacted and invited to participate in Study III. Participants were sourced via convenience sampling and had been identified through the process of conducting Study I. 43 contacts were invited to be interviewed. 25 did not respond to the request, 3 declined. Interviews were conducted with 21 participants, giving a response rate of 48%. Table 10 provides a list participants along with a description of their job role and relationship with peer-led sex education as an educative strategy. To canvass a broad range of different perspectives, respondents who reported that they no longer used peer education were still invited to participate in interviews.

Interview Schedule

An interview schedule was distributed to participants that broadly specified topics to be discussed (Appendix K).

Interviewee Number	Job Role/Relationship with peer-led sex education
INT1	Manager of youth centre utilising peer education
INT2	Youth worker in youth centre utilising peer education
INT3	Sexual health charity worker (not using peer education)
INT4	Sexual health charity worker (using peer education)
INT5	Secondary school SRE teacher (using peer education)
INT6	CEO of company training peer educators in schools
INT7	Sixth form SRE teacher (using peer education)
INT8	Health charity worker (using peer education)
INT9	Sexual health peer educator
INT10	Health charity worker (using peer education)
INT11	Head of peer education charity
INT12	Head of charity (using peer education)
INT13	Academic that has worked on peer education projects
INT14	Head of charity (using peer education)
INT15	Youth worker (using peer education)
INT16	Youth worker (using peer education)
INT17	Youth worker (using peer education)
INT18	Youth worker (using peer education)
INT19	Youth worker (using peer education)
INT20	Youth worker (using peer education)
INT21	Youth worker (using peer education)

Table 10. Study II participants

Interviewees were given the option to have interviews conducted via face-to-face meeting, telephone or Skype to ensure participants were subject to the least inconvenience. If all of these approaches were deemed unsuitable, questions were sent to be answered via email. Interviews were semi-structured, with the researcher posing the following questions to facilitate discussion:

- What is your opinion of peer educators being used to teach young people about sexual health?
- What about using alternative providers such as teachers, school nurses or youth workers to teach young people about sexual health?
- Do you think peer education is an effective approach to deliver sex education to young people? Why?
- What are the strengths of using such an approach?
- What are the limitations of using such an approach?

Semi-structured interviews allowed for an active research approach, whereby the researcher could interject and challenge the interviewee in order to elicit justification for or elaborate on their expressed perspective (Potter & Wetherell, 1995).

2.3. Analysis

Analysis was conducted in two stages. Interview transcripts were subject to thematic analysis to identify major codes and themes that described the educative process of peer-led sex education. These themes were used to build an initial programme theory for peer-led sex education, presented in the form of a concept map. Data from Studies I, II and III was used to identify potential CMOc's for testing.

Thematic Analysis

Interview responses were transcribed and subject to thematic analysis. The titles of thematic and content analysis are often used interchangeably (Vaismoradi *et al.*, 2013) and there is confusion about their similarities and differences (Sandelowski, 2010), as

well as how researchers should choose between them (Braun & Clarke, 2006). In this study, thematic analysis was defined as 'a method for identifying, analysing and reporting patterns (themes) within data' (Braun & Clarke, 2006, 79). Whereas content analysis is a suitable approach to report common issues mentioned in the data as utilised in Study I (Green & Thorogood, 2004), thematic analysis provides a rich, detailed account of the data itself (Braun & Clarke, 2006). Thematic analysis enables the exploration of the behaviour, attitudes and motives of a group of individuals (Ten Have, 2004). As the aim of the study was to explore why practitioners were selecting peer-led approaches to sex education, this was deemed to be a suitable approach. Analysis was driven by the research question (semantic approach) and was conducted following the six phases of thematic analysis developed and recommended by Braun & Clarke (2006). A theme was defined as a coherent integration of the disparate pieces of data that constitute the findings (Sandelowski & Leeman, 2012). Analysis first identified categories that expressed the manifest content of the text, these were then grouped into themes that expressed the latent content of the interviews. Codes were applied to transcripts and once coding was complete, 'data was examined for differences and commonalities both within and across code categories… to identify systems of meaning' (Taylor & Ussher, 2001, p. 297). To generate themes, codes were grouped together as '…different codes may combine to form an overarching theme' (Braun & Clarke, 2006, p. 10). Development of the code structure was an iterative, inductive process. A pre-determined code set was not created to allow data to determine codes, rather than make data fit existing codes. Data was reviewed line by line; as a concept emerged from the transcript, a code was assigned to the relevant excerpt. The researcher continued to assign codes as concepts emerged from the data; highlighting lines, paragraphs, or segments of text that evidenced the concept. Codes were refined to reflect the data set as more transcripts were reviewed and subjected to 'constant comparison': segments that had been coded with the same code were compared to ensure

that text reflected the same concept (Glaser & Strauss, 1967). Using this method, existing codes were refined and new codes identified. Through this process, the code structure evolved to reflect the experiences of participants, rather than the preconceptions of the researcher (Bradley, Curry, & Devers, 2007). Four code types were used to help analyse data: conceptual, relationship, perspective, and contextual.

1. Conceptual codes identify key ideas (and sub-themes) within the dataset
2. Relationship codes identify links between key ideas within the dataset
3. Perspective codes identify whether key ideas are discussed positively or negatively
4. Contextual codes identify key participant characteristics such as their job role and the setting in which they work.

The code structure and codes contained within it were considered finalised when no new concepts emerged from the data, suggesting that theoretical saturation had been achieved (Glaser & Strauss, 1967; Patton, 2002). Data was analysed at two levels: codes were initially assigned using pen and paper, then via data management software (NVivo). Package features such as comparing code frequencies, identifying code co-occurrence and graphically displaying relationships between codes within the data set aided development of themes.

Concept Mapping

Themes derived from practitioner interviews were used to construct a programme theory for peer-led sex education. This process of theoretical development is supported by Pawson & Tilley (1997b) who suggest that the interpretation of actors involved in an intervention can be used to create programme theory. Similarly Marchal et al., (2012, p. 207) echo:

> *'Programme theory… can be described on the basis of interviews using it as a starting point, links can be made both downward to the categories that will be used to develop CMOs during the analysis and upward to the drafting of the MRT'.*

Theory was generated through reviewing data tagged with relationship codes to identify mechanisms, the interrelationships between them, and the means by which they produce

intervention outcomes (Bradley et al., 2007; Gregor, 2006). To assist in eliciting programme theory from practitioner interviews, concept mapping was undertaken (Trochim, 1989). This is a graphic representation of participants' perspectives regarding the topic of interest and the interrelationships between different characteristics of the intervention they deem to be important in producing intervention outcomes. Programme theories are summarised in a diagram showing a causal chain with connecting one-way arrows (McLaughlin & Jordan, 1999). More complex programme theories will delineate a series of intermediate outcomes in multiple strands that are combined to illustrate the production of ultimate outcomes (Rogers, Petrosino, Huebner, & Hacsi, 2000). For the purposes of this study, an initial concept map was produced (Figure 16). After re-reading the data using the initial concept map, themes were reviewed and refined. This led to the production of a final concept map (Figure 17). The addition of sub-themes within the analysis was particularly useful as these gave structure to larger themes and mapped the hierarchy of meanings within the data (Braun & Clarke, 2006).

2.4. Inter-Rater Reliability

Interview transcripts were difficult to peer check due to the use of thematic analysis (Vaismoradi et al., 2013). Lincoln & Guba (1985) argue that credibility, dependability, confirmability and transferability are the most common measures to achieve rigour when utilising this approach. Consequently, the interpretation of interviews was checked by asking participants themselves if their views had been represented correctly and whether they were convinced by the programme theory developed from interview data.

2.5. Ethics

Methods selected for the purpose of investigating the research questions pose a number of ethical issues, all of which have been taken into consideration during study design.

Ethical approval for the study was granted by the School of Education Ethics Committee at Durham University on 16/03/2016 (Appendix A).

Participant comfort

Interviews explored why organisations chose to utilise a peer-led approach to sex education, therefore it was unlikely that responses would be of a sensitive nature or cause participants stress or trauma. As questions concerned participants' place of employment, the researcher felt it was important that interviewees felt comfortable with their responses and understood how these views would be represented in the study. Participants were provided with a *Participant Information Sheet* which included a copy of the *Interview Schedule* and a consent form. Before interviews commenced, interviewees were made aware of their right to refuse to answer any question and withdraw from the interview at any point.

Data protection

For accuracy in representing responses, interviews were audio-recorded with participant permission. Recorded data was stored securely and erased after being transcribed by the researcher. Any information that could personally identify an interviewee, such as their name, was omitted from transcripts. Whilst the name and location of the organisation the interviewee worked for/represented was omitted, the type of organisation (e.g. charity) or the participant's job role (e.g. teacher) was included to aid analysis. This created a small possibility for identification of which participants were made aware.

3. Results

To create a programme theory for peer-led sex education, interviews were conducted with stakeholders to explore their experiences of peer-led sex education and delineate the process by which programme outcomes may be achieved. Thematic analysis resulted in the identification of three themes thought to be key for programme effectiveness: appropriate subject communication, supportive teaching environment and correct educator characteristics (coded yellow on the final thematic map, Figure 17). Each theme's influence on effectiveness was identified as being made possible or hindered through the presence of specific features (coded blue on the final thematic map). A supportive teaching environment for example, was dependent on positive physical, financial, and cultural conditions. Both appropriate subject communication and correct educator characteristics were identified as producing outcomes for participants (coded green on the final thematic map). The way in which they achieved these outcomes was similar, but led to very different outcomes for different populations. Appropriate subject communication was identified as being achieved if the educator had credibility, training and subject-specific knowledge. If these traits were recognised by the target population, particularly with regards to credibility, increased conversation would ensure, producing outcomes for students in the form of increased knowledge, behaviour or attitudinal change. If these traits were not recognised in the educator by the target population, conversation would be limited, preventing the achievement of student outcomes. Similarly, correct educator characteristics was achieved if educators had credibility, training, and subject-specific knowledge. In this instance, the training and subject-specific knowledge given to peer educators led to outcomes for peer educators. The process of delivering training and subject-specific knowledge was identified as being participatory and empowering, resulting in improved self-confidence, knowledge and opportunities for future employment/education. These causal processes were identified

as the beginning of potential CMO configurations within the initial programme theory. Through combining findings from Studies I, II and III, these CMOC's were identified as limited in their current form. As such these presented opportunities for further investigation to contribute to the refinement of the initial programme theory. The following section describes each of the three themes and their individual components in more detail, ending with delineation of the CMO configurations created from scrutiny of the programme theory.

Initial Thematic Map
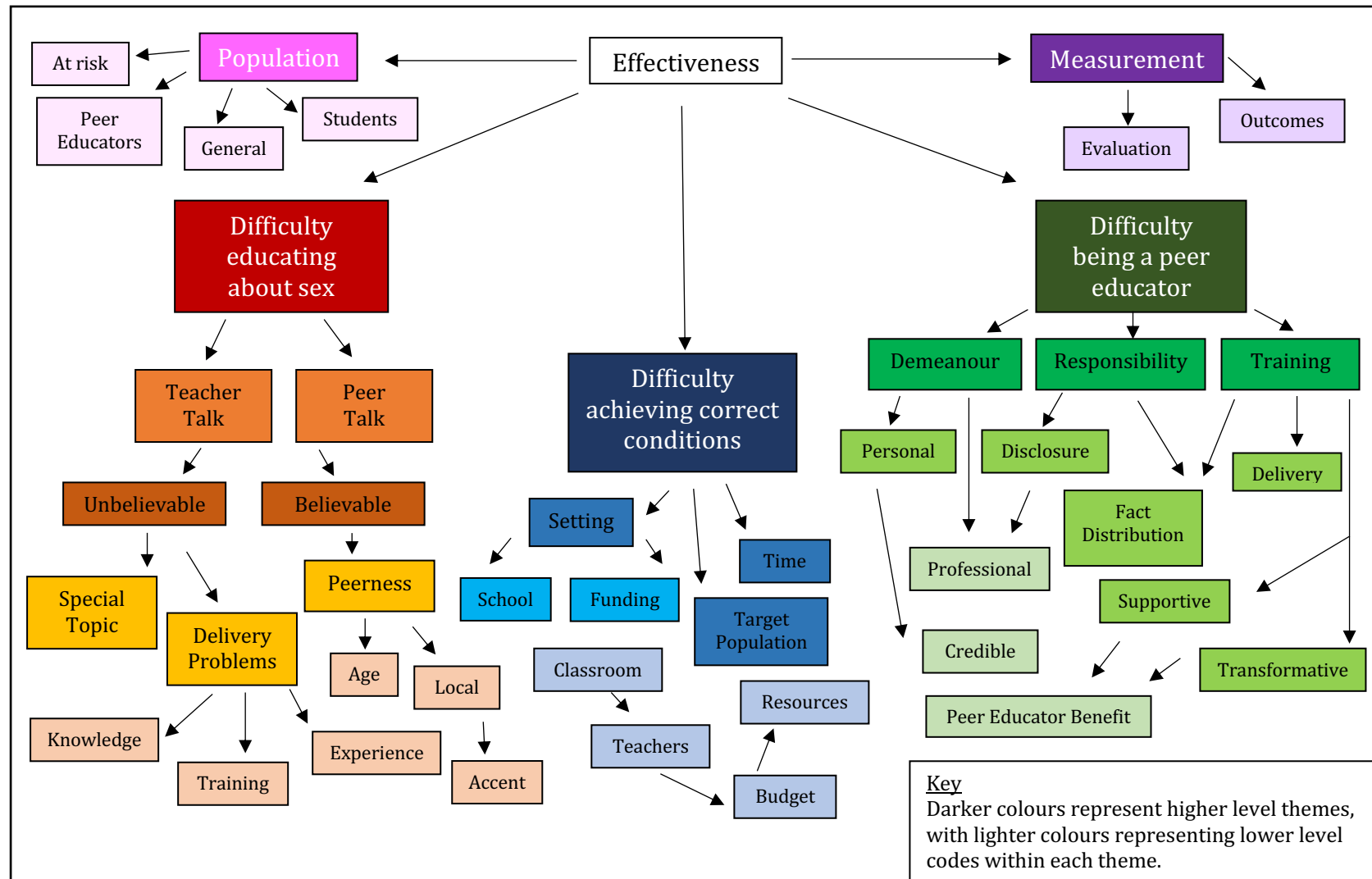
Figure 16. Initial Thematic Map

Final Thematic Map
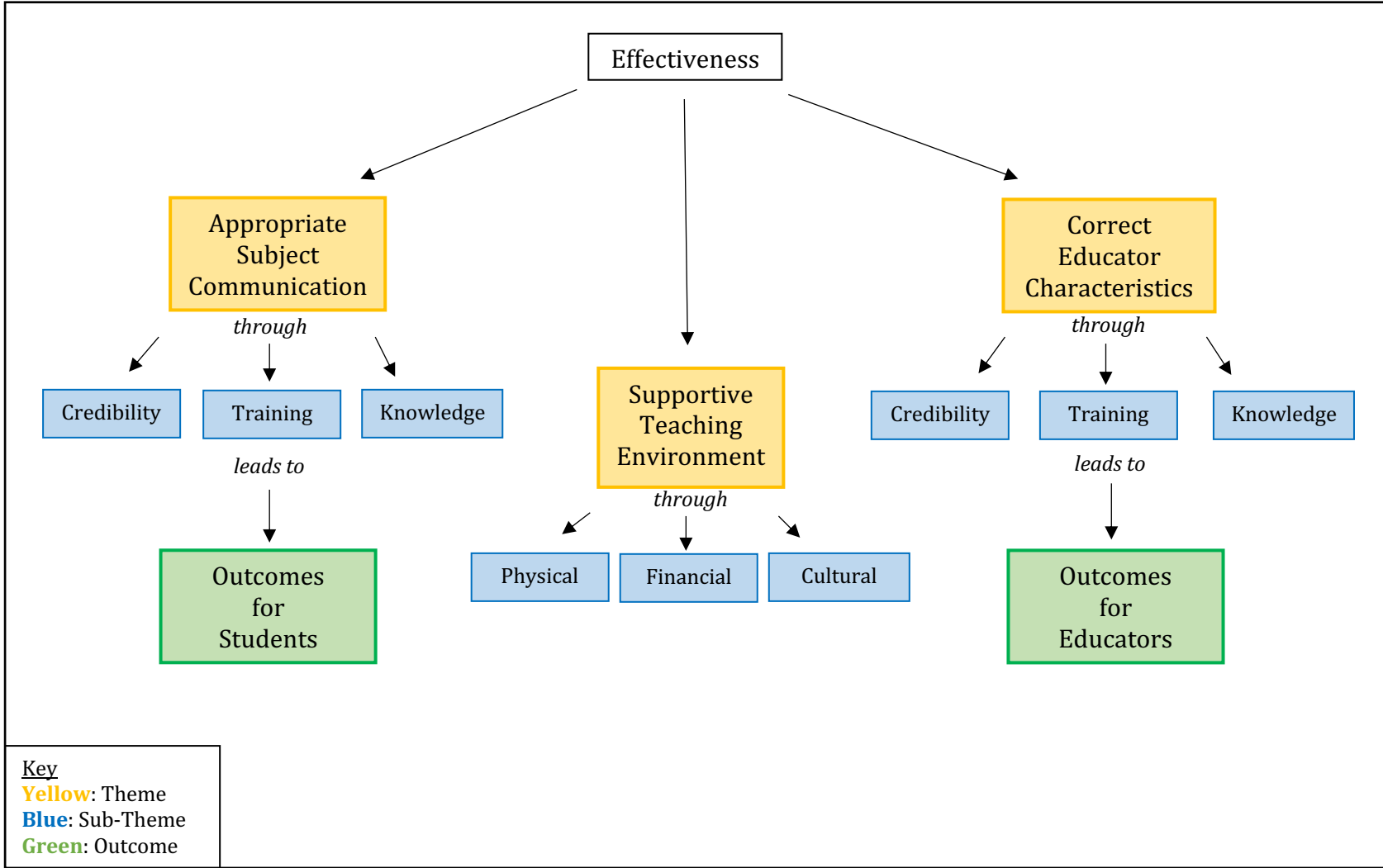
Figure 17. Final thematic map

3.1. Thematic Analysis

Defining effectiveness

The majority of respondents felt that peer education was a highly effective approach with which to educate adolescents about sexual health and wellbeing. Outlining a clear process by which interventions could be effective was thought to be difficult however, due to the highly varied needs of target audiences:

> INT19: *Every school's different, every year's different, and every day is different.*
> INT16: *And every peer educator is different. That requires a lot of flexibility, and being able to manage things in different ways, to wear lots of different hats.*

Upon being asked to name limitations with the approach, very few participants alluded to problems within the educative process itself. Instead, respondents referred to external factors, for example: '*the biggest limitation was the time needed for training and preparation*' (INT13). Peer education was identified as requiring major investment of time and resources (INT2, INT3, INT4, INT5, INT10).

> '*It requires a lot of time to be invested in it to ensure its success*'
> (INT2)
>
> '*Equipping young people with knowledge can be time consuming and reinforcing information learnt with follow-up sessions can slow down timescales*'
> (INT3)
>
> '*Time and resource is often the restrictor of good quality provision*'
> (INT10)

Outcomes

There was some confusion surrounding what the outcomes of peer education should be and who were the main beneficiaries of interventions; the educators or the educated. Amongst respondents there was a general focus on '*benefits not only to the audience but to the peer educators themselves*' (INT3).

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Evidence

When asked how they knew the approach to be effective, participants provided a variety of answers ranging from cultural trends to personal experience or research evidence:

> *'We know it's effective based on the statistical evidence, the cultural change within our school, and local community. In 2010 our school catchment area had one of the highest teenage pregnancy rates. By 2014 our pregnancy rates had dramatically fallen and they continue to do so.'*
> (INT5)

> *'The methodology is tried and tested and works. We have been using this approach for over twenty two years.'*
> (INT10)

A number of respondents felt that as the approach was requested by young people, it addressed an acknowledged need within the target population:

> *'There was research held with young people in 2010 that proved that young people wanted other young people to educate them about sexual health.'*
> (INT11)

> *'It's always mentioned as a preferred approach, it's been emphasised many times in different focus groups with young people.'*
> (INT1)

Evaluation

Peer education was thought to be difficult to evaluate (INT14, INT15). There were frequent allusions to the importance of personal experience over experimental research evidence to assess changes in behaviour, attitude or knowledge. This was seen to be abstracted and too removed from the realities of practice.

> *'It's extremely difficult to measure these types of programmes in terms of their outcomes.'*
> (INT8)

> *'The behaviour change stuff is not something that we've really focussed that much time on to be honest. It's more about the core skills that young people are developing. We can't really measure behaviour change outcomes but we can measure longevity of relationships, skills, information, decision making.'*
> (INT15)

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'Whether or not we would be able to measure it or quantify it I don't know. But in some respects that's less important. There is a danger isn't there that we have an academic gold standard of an RCT or whatever, but is that is that really necessary? Is that really appropriate? When we're talking about soft skills, and negotiation of empathy, of problem solving, of managing relationships, we shouldn't try to quantify those in the same kind of ways that we might quantify people's learning in maths.'
(INT13)

Theme One

Appropriate subject communication

A special subject to teach

Common to many responses was the acknowledgement that sex education is a very difficult subject to teach. It was thought to be markedly different when compared to other subjects in the school curriculum, even when compared to those within the PSHE syllabus. Sex education was described as *'an embarrassing topic'* (INT4) and *'a special topic to teach'* (INT12). Participants identified a need to approach the topic *'in quite an informal manner'* (INT9), *'in a less formal style to allow young people to ask those questions, say the myths and learn what the words things they actually say mean rather than having a bravado that they know everything whilst being too afraid to ask'* (INT3). A number of respondents identified teacher-led provision as failing to achieve the informal learning environment necessary to deliver sex education. Several concerns were raised around teachers communicating with and educating young people about sexual health:

'It is unreasonable to expect a pupil to open up about very personal SRE issues in a supposed non-judgemental environment to a teacher who at other times of the day are a Maths or English teacher. By the very nature of other subjects such as Maths or English the teacher is there to judge grade pupils and are a figure of authority. Expecting pupils to be able to shift perceptions to see the teacher differently is unreasonable and not conducive to open discussions'
(INT8)

> '*Teachers are themselves uncomfortable talking about sex and sexual health with their students. They are focussed on reproduction and comprised mainly to biological facts. Though these are useful to know, the lessons were not always engaging*'
> (INT6)

Teachers were seen to be under-pressure (INT6), over-stretched (INT7, INT13) and lacking in confidence or experience (INT6, INT7). Peer-led provision was positively contrasted with that delivered by teachers:

> '*Peer educators can deliver high end SRE that rivals many a teacher*'
> (INT3)

> '*Peers can provide a degree of rawness. If a teacher appeared confused and bumbling and got it slightly wrong that wouldn't be very good teaching in some respects but for peer educators to do that their very ordinariness makes them credible*'
> (INT13)

Nearly every respondent suggested that peer educators could overcome difficulties within sex education in a way that adult providers could not:

> '*I think that young people are more likely to engage and less embarrassed when learning through peers*'
> (INT7)

> '*People learn best from people they feel they have something in common with. An adolescent is more likely to view a peer in this regard as opposed to a normal worker or teacher*'
> (INT1)

> '*Peer educators can get to it in ways that other educators can't... they just do it better*'
> (INT13)

> '*One group of boys, year nine boys, were getting a bit boisterous. This male peer educator came over and said come on lads stop fucking about. If they'd been a trainee teacher they would have failed and been barred, but he just said come on stop fucking about. He was so cool, it was quiet and done appropriately. They actually listened. So ok it's very anecdotal, and just a tiny, tiny example, but I think it is indicative of ways that young people can work with each other in a way that older adults simply can't*'
> (INT13)

Generally, peer educators were represented as being able to create a '*safe, open learning environment*' (INT11) where the '*informal nature of the lessons allow for the*

environment where a more open discussion can be had' (INT6). This was thought to be

because '*young people feel safe, comfortable and more willing to share experiences*'

(INT4), '*they can also be less scary and sometimes they can just bring a bit more fun*'

(INT14), as '*everything's activity-based*' (INT20). Emphasis was placed on

communicative advantages such as the '*freer discussion of topics*' (INT6) as improving

outcomes.

Identifying others as peers

It was believed that peer educators could promote '*frank and direct discussion*' (INT4)

within sex education by instilling a sense of '*greater confidence and trust*' (INT5).

> *'I think it helps young people to explore quite complicated topics in a way that makes them feel comfortable and not judged'*
> (INT14)

> *'Young people are more likely to listen to their peers. They increase open discussion and make young people more comfortable speaking openly'*
> (INT2)

> *'Young people feel more comfortable with peer educators in or around their age. They will be able to talk more and be able to gain new knowledge.'*
> (INT4)

This was believed to be a pre-established communicative process, as a quote from INT8

suggests:

> '*Peer education is happening whether we like it or not, in the schoolyard and on the Internet. As such educators should harness this powerful natural phenomena and ensure that it is used to convey accurate information and dispel myths and misinformation*'.

Responses described this communicative process as occurring only when students

recognised similarities between the educator and themselves. Students could then draw

parallels between the educators' knowledge and their own experiences of sex and

relationships as young people. Peer educators were conceptualised as someone young

people could '*identify with*' (INT2), '*respect*' (INT1, INT3) or generally '*have something*

in common with' (INT1). Perceived similarity was critical to increase an educator's credibility. Considerable emphasis was placed on the necessity of peer educators being '*someone of similar age or status*' (INT11) or of a '*similar age, background and social culture*' (INT8). There was considerable uncertainty amongst respondents regarding which features signal to students that their educator was similar enough to be deemed a 'peer'.

> ED: *Can you explain the notion of peerness? What makes someone an attractive model or makes young people want to learn from that peer?*
> INT13: *It's very hard. I think behind the question there's something about what is a peer educator.*

The foundations of peerness were identified as being built upon recognised similarities. Most frequently mentioned were age (INT4, INT5, INT7, INT8, INT11, INT13) and the geographical proximity of peer educators from the 'same community' as students (INT5, INT12, INT13). Participants often disagreed or contradicted one another as to which of these shared characteristics was most desirable when selecting peer educators. Whilst the majority of respondents mentioned age as an important factor, there was considerable debate surrounding whether having a peer educator of the same age or more advanced age was most appropriate. Those of the same age were thought to be more 'peer-like', yet it was argued that they lacked credibility, thus making it more appropriate to use older educators.

> '*Students might say why are they the authority on SRE if they're a similar age to us?*' (INT9)

> '*We used peer educators who were sixth form students. A couple of times we tried to use Year Eleven, but that was less effective. Particularly around sex and relationships it is even more powerful to hear from somebody who's a bit older than you rather than someone younger than or the same age as you.*' (INT13)

Accent or dialect was also felt to be an important way in which peer educators could signal to students they came from the same background, creating a sense of peerness between them:

> *'Hearing someone from your area in your dialect or accent is better received. There is more trust. You think this person is like me, we have a shared experience'.*
> (INT12)

In the same way that the correct age for a peer educator was contested, this was also a point on which respondents disagreed.

> *'Students are likely to feel awkward if they believe the peer comes from their area'*
> (INT1)

The ability to signpost that both educator and educated possess similarities, and therefore shared experiences, was believed to influence how presented information was received. Running alongside this was the notion that young people possess a better understanding of what works for young people (INT6). Consequently, information delivered by peer educators is thought to be more relevant and relatable (INT6, INT15), increasing effectiveness.

> *The dialogue and banter between the peer educators and students is more meaningful than it would be if it was us that was giving them the information. They speak in their own language almost, there's a level of understanding because they're of a similar age.*
> (INT21)

There appeared to be almost unanimous agreement amongst respondents on this:

> *'People learn best from people they feel they have something in common with'*
> (INT1)

> *'Young people relate better to someone they feel may have similar experiences to them'*
> (INT9)

The identification of shared experiences, and the increase in dialogue which results from this, was believed to be an essential part of the educative process within peer education. Educators often referred to this as the process by which outcome effects were achieved, be they increased knowledge, behavioural or attitudinal change. The entirety of this process, from the rejection of adult educators to the recognition of similar traits in a peer educator that encouraged open communication was summed up in INT8:

> 'It is natural for young people to seek information and advice from friends and peer groups; particularly for complex topics that have social, emotional, and physical implications. Topics such as sexual health have huge social implications and it is undeniable that social worlds change with every generation. Popular culture changes, influences change, rules change, and society changes. There is truth in the fact that young people from the same age, background, and social culture are able to understand the situation a young pupil is in from a perspective that an adult or someone outside their peer group cannot. Young people relate to each other and this has the potential to open up discussions and allow pupils to ask questions that they may not otherwise'.

Theme Two
Correct educator characteristics

Delivery
There appeared to be tension between the intersection of identifying as a peer, yet having the professional demeanour necessary to educate. This was most obvious in the way respondents described interactions between peer educators and students. Due to the previous emphasis on similarities between the educator and educated, many practitioners advocated that peer educators should adopt a very open, honest approach when engaging in discussion with students, with educators referring to their own personal experiences to further compound their credibility with the target audience:

> 'Through peer education young people will be more forthcoming about their experiences. This will generate opportunity to talk about the risks and dangers that their sexual health is under due to the activities that they undertake. This will then generate an opportunity to get the message out about sexual health and it's done in a manner where young people won't feel embarrassed about the topic.'
> (INT4)

> *'They can be experts in their own experiences, which they can share with pupils to open up discussion.'*
> (INT8)

In this instance however there was direct disagreement amongst respondents, with some arguing completely against the idea of peer educators being personable (INT14). There were concerns that young people could reveal too much of their personal experience, with several respondents arguing that peer educators should not forget the importance of maintaining '*professional boundaries*' (INT10) with students:

> '*I remember a young man being asked 'have you done drugs?' and he says 'well I've done quite a bit really, all sorts of stuff'. He's telling everybody how cool he is when actually we had really clear ground rules about no personal comments. I would argue no personal comments is really important. Having said that I think stories about becoming a teenage mum or whatever can add to the genuineness of the message.'*
> (INT13)

Responsibilities of peers as educators

A common concern amongst participants was that peer educators, as non-professionals, may not know all the necessary facts and could mis-educate students (INT3, INT4, INT8, INT13, INT14). Experiences recorded in INT3 contradict these claims as '*young people's knowledge of sexual health was more accurate than the teacher's*'. An intriguing parallel was offered in INT13, with teachers' in-depth knowledge causing more confusion amongst students than the simpler facts given by peer educators:

> *'Teachers muddied the waters. 'Can you get HIV from kissing?' 'Well', they said, 'if you had a bleeding wound on your mouth, and a bleeding wound on their mouth, and you exchange, then there is technically a chance'. Whereas peer educators said, 'No, no you can't'. The simplicity of their message made for more effective communication.'*

Being placed in the role of educator comes with a number of responsibilities for young people such as '*dealing with sensitive topics, challenging discrimination and answering factual questions*' (INT3). Due to the increased likelihood of a young person making a

disclosure when discussing material of a sexual nature, respondents had concerns regarding child protection (INT2, INT3, INT4, INT8, INT12).

> *'Peer educators may not know how to deal with a disclosure. For peer education to work there needs to be in-depth training and support in place with regular continuous professional development.'*
> (INT12)

Training of peer educators

Respondents emphasised that increased training could mitigate against some of the potential problems with peer-led sex education:

> *'It takes experience and a fair amount of background knowledge. That's why we train them. They need to understand the topic, making sure that they don't just go in and give their own views. They need to be able to facilitate conversation. Managing the group can be challenging and that's where peer educators need support.'*
> (INT14)

> *'They need to be given high quality training to ensure that they can be effective in educating pupils in a classroom environment.'*
> (INT8)

> *'Using peer educators to inform, educate, and teach others about sexual health is a methodology which is highly effective only when they are trained ad supervised appropriately, demonstrating competence and professionalism across the subject.'*
> (INT10)

Respondents described the importance of peer educators being trained (INT1, INT3, INT4, INT5, INT7, INT8, INT10, INT13, INT14, INT15, INT21), selected (INT1, INT4, INT15) or coached/mentored (INT1, INT4). Proficiency was often attributed to peer educators' '*confidence, knowledge and maturity in sessions*' (INT3). This requires specific qualities in a peer educator. Some practitioners made the distinction between the peer group and '*effective peers*' (INT4) who would make the best peer educators (INT1, INT4, INT15). This suggests that whilst everyone may be a peer, not everyone has the potential to educate. Unsurprisingly, given the emphasis on communication, foremost was the ability '*to engage and interact with people in a confident manner*' (INT4).

Respondents referred to the need to increase peer educators '*confidence in delivery*' as '*the idea seems great but the reality of delivering becomes daunting*' (INT3). Several practitioners recognised that '*to be inclusive peer educators should be from a range of backgrounds, cultures, and genders*' (INT7). This could be a tricky negotiating act between practitioners, young people, and schools:

> INT15: *We work really hard with the selection process. We can be inundated. Up to 70 volunteering for 25 places, so there has to be a selection type process. It's about getting the group right. I'm not saying we always get it right. What we're aiming for is a group that reflects the school community. We don't want all the academically bright ones, it's not a full balance, a representation of the community. At times that's quite a frustration. Schools want people who maybe always wear their blazers and that kind of thing. And whilst there's nothing wrong with always wearing your blazer, not every school pupil does. So we have to have a group that reflects that and that can sometimes be a wee bit difficult in some schools.*
>
> INT21: *The limitation is that we can't have everybody who wants to be a peer educator and that is a frustration.*

Empowerment

Participants were mindful of both empowering peer educators as well as catering to the needs of the target population. The difficulty in achieving a balance between '*encouraging empowerment whilst ensuring need is addressed appropriately*' (INT10) was noted by several respondents (INT3, INT5, INT10, INT13). Empowering peer educators was interpreted as investing young people in the educative process for which they were responsible. It was suggested that this could be achieved through participatory practices, such as including young people in the design as well as the delivery of subject material:

> '*Young people need to be invested in the development of the resources. It is really important for young people to feel ownership to increase engagement with it.*'
> (INT15)

Participation produces benefits for peer educators

As a consequence of this participation process, benefits to peer educators included increased confidence and self-esteem (INT3, INT12, INT13), a highly developed skill-set (INT3, INT12, INT13), knowledge gains (INT3, INT11), and accreditation (INT3). These were perceived to be particularly useful outcomes for peer educators as they led to '*opportunities beyond the classroom*' (INT3), referring to the prospect of future employment or admission into Higher Education:

> *'The approach provides social value, builds social capital, and is often the kick-start for many young people working across the health and social care field.'*
> (INT10)

> *'Peer educators gain experience, UCAS material, awards. The outcomes for peer educators are better than those who are educated. It is a confidence boost for peer educators. They also gain skills in public speaking, conflict resolution, group work, and lesson planning, and these are more positive in the long term such as when making college and university applications.'*
> (INT12)

> *'In some high schools we've got head boys and head girls who were peer educators. <u>That they feel was the significant change in their academic life at school. Because they had the belief that they could do things and that's created from the opportunity to be a peer educator.'</u>*
> (INT20)

Theme Three

Supportive teaching environment

Respondents felt that peer education was '*a good method provided the circumstances are correct*' (INT1). Defining these circumstances proved difficult and this difficulty was attributed to a lack of guidance and available research evidence. This was thought to contribute to the ambiguity surrounding the approach, thereby hindering the development of good practice.

> *'It's difficult because there's limited research available'*
> (INT8)

'I've tried to seek out a lot of information and have met up with other peer education providers, but that has been down to me. There's not stuff out there in lovely bound books somewhere. You have to seek it out. People apply it differently so there's not a coherent understanding of what works and how it works'
(INT14)

Structural features supportive of success

Respondents could much more easily identify concrete examples of their own practice which had been helped or hindered by structural features present within the different settings in which they delivered interventions. Intervention sustainability was thought to be dependent on whether '*the correct working environment is established*' (INT3). Environmental factors ranged from the basic level of the physical environment of the classroom to more complex structural aspects of school hierarchies.

'It's dependent on how, where, and when the session is facilitated. If this is done outside education and within social leisure time, where participation is voluntary, you can introduce the topic in a less formal style which can be more successful.'
(INT3)

'We sometimes have to deliver one-off workshops but these do not allow for a) rapport with students, and b) development of discussion and ideas on that particular topic'
(INT6)

Initiatives were also limited by budgetary constraints (INT5, INT6, INT10):

'Schools do not always have the budget for a continuous scheme of work.'
(INT6)

'We did get funding for two years to do sexual health and relationships peer education but it was never sustainable. The money was never going to be available to sustain that.'
(INT15)

3.2. Preliminary Programme Theory

From delineating an initial programme theory for peer-led sex education, two major outcomes for two different populations were identified. Both students receiving peer education and the peer educators themselves were reported as benefitting from participation in peer-led interventions. The causal processes by which these outcomes are achieved were outlined within the initial programme theory. These were identified as the beginning of potential CMO configurations for future study and are described in further detail below. The two CMO configurations (CMOc-1 and CMOc-2) identify key features present within and outline the change process for occurrence of these effects.

CMOc-1

Process

CMOc-1 suggests that so long as the training and knowledge transfer delivered by practitioners to peer educators is based on participatory practice, this process will produce empowered peer educators. This outcome leads to improvements in peer educators' self-confidence, knowledge and life outcomes.

Problems

Findings drawn from Study II support the notion that experiences as a peer educator leads to beneficial outcomes for youth volunteering as peer educators. A number of sources in Study I included interviews with peer educators describing their experience as empowering and attributed this to examples of personal growth and achievement such as increases in self-confidence and gaining admission to university. Claims for peer educator benefit were some of the most prevalent within the literature and, in comparison with other claims, were some of the most researched. This would suggest that there is a fair amount of evidence (despite methodological limitation) to report empowerment of peer educators as an outcome of peer education. Research investigating benefits to peer

educators was largely in the form of outcome evaluation. Participants were either interviewed or surveyed to ascertain whether the experience of volunteering as a peer educator was beneficial and to what effect. There was very little depiction of the process by which this outcome may be achieved. Interviews with stakeholders suggest a potential mechanism; delivering knowledge and training to peer educators using a participatory approach. Due to the lack of reporting on this process, it is unclear what conditions facilitate participatory practice within peer-led sex education interventions, or how practitioners working within these settings could replicate these practices within their own projects. In this sense, CMOc-1 is an incomplete CMO configuration. Having identified a Mechanism (participatory practice) and an Outcome (empowerment of volunteers), it requires a description of the Context that supports this process. This makes CMOc-1 a suitable candidate for further study.

CMOc-2

Process
CMOc-2 suggests that student identification of an educator as a peer will lead to increased communication that is more open and informal. This process will produce students that are more motivated and engaged in the sex education classroom. This outcome leads to knowledge, attitudinal and behavioural change regarding sexual health and wellbeing. If an educator was not identified as a peer by the target population, conversation would be limited, thereby preventing the achievement of student outcomes.

Problems
Alongside peer educator benefits, communication claims were also amongst the most prevalent to be recorded within literature reviewed in Study I. Whilst being one of the most popular claims made to support peer-led sex education, empirical investigation of increased or improved communication in the peer-led sex education classroom was

practically non-existent. The majority of evidence cited in research to support this phenomenon took the form of personal remarks or anecdotal comparisons made on behalf of the researcher, educator or students. There is very little research comparing communicative differences produced as a result of an educator effect within sex education. As one of the most popular claims made to support peer-led sex education, claims of communication differences should be subject to testing. In this sense, CMOc-2 is a complete CMO configuration that is yet to be assessed through rigorous evaluation. This makes CMOc-2 a suitable candidate for further study.

4. Discussion

On a surface level, interviewees unanimously believed peer-led sex education was successful. This led to the identification of three themes thought to be key for effectiveness: appropriate subject communication, supportive teaching environment and correct educator characteristics. Within each theme however there was little agreement as to which specific combination of features were most important to achieve appropriate subject communication, a supportive teaching environment or correct educator characteristics. Thus whilst it has been stated that 3 key themes were identified, an overarching theme appeared to be the complexity inherent within peer-led sex education. Success was dependent on striking a delicate balance of the desirable components underlying identified themes in order to cater to the different needs of each specific population being targeted by the intervention. This suggests that any attempt to develop an over-arching programme theory for peer-led sex education will be arbitrary in that it will not meet the specific needs of practitioners responsible for developing interventions targeting highly heterogeneous groups of young people. It may be more appropriate for individual projects to delineate their own project theory and evaluate the extent to which this reflects their practice on a case-by-case basis. Despite this, attempting to develop a general programme theory for peer-led sex education has been useful in identifying features thought to influence programme outcomes. By no means is this a finalised theory, or one which can be labelled as representative of the field in its entirety as it is bound by the limited sample of the study and the researcher's subjective CMOc creation process. Further evaluation of proposed CMO configurations will help to refine and revise this theory to produce a more nuanced understanding of practice and the process by which peer-led sex education may achieve its outcomes.

4.1. Outcomes of Peer-led Sex Education

Mapping out programme theory suggested that there are two groups of participants who benefit from peer-led sex education: the educators and the educated. These two populations appear to benefit in different ways: peer educators are empowered leading to gains in confidence, skills, and knowledge; whereas students benefit from increased engagement leading to knowledge, behavioural and attitudinal change.

Empowered Peer Educators

Interviews with stakeholders suggest that peer educator benefits can be attributed to the empowerment of peer educators through the participatory processes that underpin peer education pedagogy. Empowerment effects appear to be mediated by the amount of control practitioners cede to young people responsible for delivering interventions. Interviews suggest that as schools are largely in control of the educative process, it can be difficult to allow peer educators to take full control of intervention design and delivery. The influence of the educative environment on outcomes has been noted elsewhere:

> '*Practical constraints in the school context profoundly influence the quality of peer educator-student interaction and the scope for implementation of a peer-delivered programme. These constraints include limits on available classroom space and teaching time, and difficulties in fitting the training of peer educators and the delivery of the programme around complicated teaching and examination timetables*'
>
> (Strange, Forrest, Oakley, & RIPPLE Study Team., 2002, p. 346).

Considering this influence, it is questionable to what extent peer educators can claim ownership of peer-led programmes. Nevertheless, it is commonly held that there are benefits for youth participating in interventions as peer educators. If this is the case, it may be more appropriate to change the target population of interventions from students receiving peer-led sex education to those delivering it. Whilst this would reduce the amount of young people targeted by an intervention, it may increase reporting of intervention effectiveness. Whilst studies of knowledge, attitudinal, and behavioural

change amongst students suggest uneven effectiveness, benefits to peer educators are more frequently observed. The need to conduct more evaluation on the effects of peer education on peer educators themselves has been acknowledged in previous reviews of the approach, with Harden et al., (1999, p. 6) advising that 'the effects of being a peer educator on young people needs to be evaluated as a potentially effective health promotion strategy'. Solely examining this claim through outcome evaluation will not help practitioners to capitalise on this process or replicate similar effects within their own practice. To achieve this, there should also be a focus on the process by which these outcomes can be achieved (as identified in CMOc-1).

> 'As peer education is fundamentally about empowering people to take positive action in their own lives and within their communities and networks, it is frequently the process pf peer education – that is the learning, relationships and engagement – not just the outcome that is most important and has the most impact. It is this fundamental process of engagement and empowerment that is at the basis of peer education'

(Madden, 2009, p. 5)

The identified absence of process-based research describing empowerment and participatory practice within the context of peer-led sex education leaves unanswered questions: What do participatory practices in the context of peer-led sex education look like? How are they enacted? How can they be replicated? And what specific features of participatory practice are empowering for volunteers? Given the identified importance of the environment in promoting and prohibiting peer-led practice, which contextual features may help or hinder this process? These questions will be addressed in an investigation of CMOc-1 in Study IV.

Engaged Students

Interviews suggested that the very act of students identifying an educator as a peer led to improved communication, thereby increasing engagement with lesson content and producing greater behavioural, attitudinal and knowledge change than that achieved by

teachers. The popularity of this claim within theoretical literature suggests that this is a key mechanistic process within peer-led sex education. This claim however is subject to two limitations: firstly, communication claims are contradictory and secondly, there is a lack of research describing these interactions. Interviews conducted with stakeholders suggest that improved communication with the sex education classroom could only be achieved by utilising an educator that could be identified as a peer by students. References to this communication process as a pre-existing, natural communicative pathways between youth implies that teachers cannot be trained to replicate this process. Its specificity to peer educators was emphasised through arguments that peers spoke the same language, were less judgemental and could empathise with their audience having had similar experiences. Description of communication claims present in theoretical literature in Study I would support this contention. Yet whilst much of peer education's appeal rests on the assumption that this communication process is a naturally occurring process between peer educators and students (Mathie & Ford, 1998; Shiner, 1999), interviews with stakeholders also emphasised the importance of training peer educators to communicate effectively with students. The notion that peer educators are not naturally effective communicators is juxtaposed with communication claims, indicating that the rationale for this mechanism, which is a core claim present within peer education literature, is not as clear-cut or straightforward as first suggested. This confusion is exacerbated by the absence of a clear depiction of the interactions that take place between peer educators and students in the sex education classroom. Apart from generic descriptions that conversation is 'more open', 'in the same language' and 'informal' when led by peer educators, research reporting on communicative differences between educators and students does not present examples of this talk. Reporting on interactions

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between peer educators and their students, with a specific focus on the communicative process, will be a focus of CMOc-2 investigation in Study V.

Utility of Research

Many respondents felt that they knew peer education to be successful based on their personal experience. This mirrors findings reported in Study I, that most claims made to support peer-led sex education are based on anecdotal evidence. This has been noted by Shiner (1999), who recorded an emphasis on the validity of lay experience and attitudes across peer education projects. There was a general consensus that experimental research was not suitable verification of practitioner insights. In measuring or recording outcomes identified as being of importance to practitioners (such as enjoyment, participation, wellbeing), some types of research evidence, such as that produced by RCTs, was identified as being incapable of recording noteworthy effects and was therefore deemed completely inappropriate in practice-based contexts (Mellanby, Phelps, & Tripp, 1992). Respondents reported that evaluation was either irrelevant or too difficult to employ effectively to inform their own practice. Beliefs in the futility of undertaking rigorous evaluation are unfortunate as they prevent deeper understanding of the approach and may perpetuate the use of ineffective educative approaches by dissuading practitioners from engaging with or undertaking research. This will continue to limit the availability of research evidence to help understand what works in the context of peer-led sex education. The consequences of such an approach to research evidence may already be affecting the field as conversely, despite feeling that traditional evaluation was at odds with the purpose of peer education, several practitioners believed that a lack of research evidence and guidance contributed to the vagueness surrounding peer education. This was thought to restrict opportunity to improve upon and learn from the practice of others.

4.2. Antecedents of Becoming a Peer Educator

Whilst student outcomes from peer-led sex education were attributed to a specific peer educator effect, respondents experienced considerable difficulty in defining which qualities made an individual a peer of the intervention target population and how this peerness was signalled to programme participants. There appeared to be considerable tension both in defining and in enacting the role of a peer educator. This reflects arguments presented in the background chapter of this thesis: namely that the various descriptions of peer education and peer educator hinders attempts at creating a cohesive and comprehensive model of peer-led sex education.

Identifying Educators as Peers

There was very little agreement amongst respondents regarding how an educator could be identified as a peer by the target population. This mirrors the lack of consensual definition of peer educator within the field more generally. Typically, peerness was presented as being important to establish credibility with the target population. 'The idea that young people find their peers a more credible source of information than adults is one of the most frequently repeated rationales for peer education' (Price & Knibbs, 2009, p. 296). In achieving peerness, respondents suggested that educators needed to have characteristics in common with the target population. Two of the most frequently mentioned characteristics that needed to be aligned with the target population were age and accent. Even within these claims there was disagreement with some respondents arguing for same age peers whereas others claimed that older peers would appear more credible. Similarly, with dialect and accent, some respondents felt it was important for educators to signal they were resident in the same area as students and as such understood the pressures of the environment. This was contested by other respondents who felt that using peer educators who were too familiar or too close to participants would limit

intervention effectiveness as it would increase participants' reluctance to engage in conversation. There was a general consensus that similarity with the target population in some form would have to be achieved to facilitate open communication enabling an intervention to be effective. In assessing this argument it is important to consider Madden's (2009, p. 4) point that 'simply having characteristics in common with another person does not necessarily mean there is an automatic peer connection'. The problem in using criteria such as age similarity to denote peerness is that this works under the assumption that all teenagers of a certain age are a homogenous group. This is unlikely. Different factions within this grouping will be engaged in different levels of sexual activity and as a result will hold different social norms associated with these behaviours. Therefore, 'age does not constitute a master status that overrides all other possible sources of identity' (Shiner, 1999, p. 558). Similarly, Price & Knibbs (Price & Knibbs, 2009) argue that defining peers as members of a similar age or status group is too simplistic a notion of peerness because peer identity amongst young people is derived from multiple sources. There seemed to be little understanding of how peerness was identified amongst young people. This echoes original reviews of peer-led sex education, with Harden et al., (1999) noting that the important characteristics of peer educators were unclear. Given this, it is questionable to what extent someone outside of the peer group, such as a practitioner, would be able to understand which qualities could denote peerness within their intervention target population. Worryingly, Study III and other research on peer educator selection processes suggest that it is largely adults who select which young people volunteer as peer educators within peer-led interventions (Milburn, 1995). Can someone outside the peer group accurately identify an effective peer educator?

Identifying Peers as Educators

Another contradiction within themes emerged upon consideration of the educative responsibilities placed upon peer educators. Volunteers had to embody two different roles: that of a peer alongside that of an educator. These two roles were described very differently. Becoming a peer of the target population was described as a natural process as a result of a characteristic or disposition already possessed by the individual, whereas becoming an effective educator was described as something that had to be learnt through intensive training. There was an emphasis, understandably, on peer educators having to be trained to follow protocol in the event of a disclosure. It is interesting to note however that respondents had also emphasised that the flexibility of peer educators, not bound to protocol, gave them more educative freedom, making them better educators. Teacher-led provision was critiqued for an abundance of professionalism, yet peer educators were encouraged to become more professional in their delivery and interaction with students. Thus there appears to be tension between the necessity for volunteers to be identified as a peer, whilst at the same time having the professional demeanour of an educator. In advocating that peer educators should assume a more adult role within the educative process, one must question whether volunteers are placed more in the role of a peer or an educator. By investing peer educators with such authority, they may no longer be identified by the target population as a peer at all.

4.3. Strengths and Limitations

The methods employed to investigate the research questions are subject to several limitations, however where possible measures have been taken to overcome these. It is the author's belief that regardless of such limitations, these were the most appropriate methods to address the research questions.

Interview schedule

Providing interview participants with the Interview Schedule before interviews were conducted may have allowed participants to prepare/rehearse their answers, particularly as participants were answering questions regarding practice at their place of employment. This may encourage participants to provide answers which may not be in line with their own personal beliefs but reflect the 'official' perspective of their employer. As the study aim was to understand why and how organisations/individuals believed peer-led sex education to be effective, this was not thought to be problematic.

Coding process

Conducting interviews with practitioners provided a deeper contextual understanding of adoption of peer education as thematic analysis gave a more detailed, nuanced account of the data (Braun & Clarke, 2006). As coding is an interpretive process however, themes derived from interviews with stakeholders could be labelled as being largely subjective and not truly representative of the research field. To make analysis more objective the researcher did not specific a-priori codes and allowed themes to emerge from sources during the coding process. Codes were checked for consistency through deviant case analysis and were also subject to member checking to ensure that the perspective presented in the research findings was not solely that of the researcher's but embodied the views of the research participants. A copy of the coding structure, final concept map and narrative description of the programme theory and themes contained within it was distributed to research participants. Participants were encouraged to read, review and refine the theory, themes and CMO configurations so that reported findings reflected their experience. Inviting stakeholders to participate in developing programme theory is thought to be a strength of the research process in that it included voices, experiences and

perspectives that are integral to peer-led sex education interventions that have previously been overlooked.

CMO creation

Similarly the creation of CMO configurations is also an interpretative process and as such, will have been influenced by the individual perspective of the researcher. The subjectivity of this act was limited through the combination of research evidence from Studies I and II to support CMOc identification. Nonetheless, the selection of two CMO configurations for investigation is very specific as 'there are a range of possible mechanism at work for each link in the chain' (Astbury & Leeuw, 2010, p. 372). This is not to suggest that these two configurations are the only two present within the field or the most important for investigation. Rather, the combined findings of Studies I, II and III suggested these were the most appropriate to be subject to investigation as there were flaws or gaps within each proposed combination. The potential number of CMOc's that could be identified is infinite, as such any effort to draw up a list of combinations will be arbitrary (Pawson, 2013). By identifying those combinations which appear to be most popular within justifications to support the approach, or most problematic however, identifying and testing CMOc's will help to extend current understanding of what works, thereby improving the practice of peer-led sex education. It has been argued that such a formulaic approach to identifying CMOc's is not appropriate method with which to investigate complex interventions due to the large number of overlapping potential combinations that could be brought together to formulate CMOc's. (McLaughlin & Jordan, 1999). Given that it is too time consuming to exhaust all possible CMO configurations (Redfern, Christian, & Norman, 2003), a systematic approach to identifying potential CMOc's for investigation represents an effective method to begin evaluating core components of peer-led sex education interventions because it helped to pinpoint areas where theory was

under-developed or untested. This prevented the researcher from getting lost in the complex array of variables thought to be responsible for influencing programme effectiveness. Consequently the identification of a limited number of CMOc's for investigation is thought to be both a strength and limitation of the research.

Sample

Study III has proposed a very basic programme theory for peer-led sex education. This has not been clearly delineated in research efforts, a strength of the research. Furthermore, by outlining the processes by which peer education is thought to be effective, individual programme components can now be subject to investigation to test whether claims work as hypothesised. Results of these investigations can be fed back into the programme theory, updating existing understanding of the approach and informing the practice of peer-led sex education. Due to the small sample included in the research, one cannot suggest that the initial programme theory is representative of the field as a whole or the various perspectives within it. This exercise would need to be undertaken on a much larger scale. Particularly as perspectives even within this limited sample were so contradictory, expanding the sample to include a wider perspective would probably change the programme theory. This can only be beneficial to the field however, and as such, even the production of a limited initial programme theory is useful as it can be refined and reviewed upon consideration of emerging research evidence in future.

4.4. Future Research

Practitioner engagement

In future, interview participants could be asked to engage more in the theory development process by developing their own coding structures to assess research evidence, using these to present their own programme theories. This would not only strengthen and refine

the development of the programme theory for peer-led sex education, this collaborative effort may also help practitioners to gain research skills and feel more positive about researching their own practice. This is an important aim if practitioners are to be encouraged to undertake evaluation.

Peer educator selection

Students within the target population of interventions should be asked to nominate peer educators. Within peer-led sex education programmes, 'developing clear criteria for selecting peer educators who are mutually acceptable to programme organizers and community members is a challenge' (UNAIDS, 2000). Young people could help in developing these criteria. Interview findings suggest that currently these criteria are largely produced by adults. Being outside the peer group of the target population, it is questionable to what extent adult practitioners could successfully identify members of the peer group. Particularly as interviews supported the notion that 'being accepted as a peer is a social process of identifying, and being identified, as part of a group, network, community or culture. It is not a decision that can be made by others outside of that process' (Madden, 2009, p. 2) This also has implications for how empowering peer-led interventions can be for peer educators. If there is little youth input in terms of selecting peer educators, there must be an 'element of teacher discretion if not power' at work, running counter to the participatory pedagogy of peer-led practice (Milburn, 1995, p. 411).

Consensual definitions

Research findings suggest that definitions of peer education and peer educator are no clearer amongst practitioners than they were when research was last conducted. This may be a result of the lack of engagement with research by practitioners. Future research will need to work within this community to produce more comprehensive and consensual

definitions. This may lead to more cohesive practice, which in turn should help produce clearer theorising about the effects of peer-led sex education and in turn, utilisation of similar outcome evaluations which can be combined to assess the effectiveness of the approach.

STUDY IV

PRACTICING THE PEER-LED APPROACH

Study IV is a case study exploring how participatory practices are operationalised within a peer education programme, and which contextual features may support this practice. Data is drawn from approximately 120 hours of observation with the O.P.E.N Project, a peer education initiative promoting the health and wellbeing of young people in Shetland, Scotland. Data was also collected from focus groups, interviews and project documentation. Study findings suggest a number of organisational practices, as well as broader contextual factors that may support participatory practices within peer education programmes. Organisational features such as creation of equal relationships between staff and volunteers, networks of group support and the creation of a safe space to discuss community issues may facilitate participatory practice. Within the broader community context, factors such as population size, attitudes towards volunteering and strategic partnerships between practitioners, policy makers, and the public were identified as supportive of participatory practice.

STUDY IV: PRACTICING THE PEER-LED APPROACH

1. Context

CMOc-1 suggested that participatory practice in peer-led sex education produced empowered peer educators, leading to improved outcomes for volunteers. Yet there was a lack of research describing this process. A case study of existing practice was conducted to provide deeper insight into the issues facing those responsible for peer education projects' design, delivery and dissemination.

1.1. Researching peer education in practice-based settings

A process evaluation of a peer education project in Fife provides some of the most appropriate data for understanding the process by which peer education may empower youth volunteering as peer educators. Having been conducted in the UK it provides UK-specific data, concluding that the progress of the project (and its outcomes) were intimately bound up with the context and culture in which it operated (Backett-Milburn & Wilson, 2000).

The importance of researching context

Research reporting the positive effects of peer education on target populations typically present the approach as 'a technology that can be perfected and then rolled out in a diverse range of settings' (Cornish & Campbell, 2009, p. 124). Yet, peer education is described as 'not easy to establish and sustain' (Melanby, Rees & Tripp, 2000, p. 543). Evaluations rarely contain details of the 'differential effect of intervention context' (Hawe et al., 2004, p. 788), despite peer-led projects being largely shaped by the social conditions and environment in which they are implemented (Hart, Williamson, & Flowers, 2004).

'*Given the highly focused and confined conditions demanded by experimental research design, there is no guarantee that an intervention program will work again at a different time or place, or when managed by different people*'
(Nutbeam, Smith, & Catford, 1990, p. 83).

Whilst there have been a handful of studies reporting on the importance of context in health promotion initiatives (Asthana & Oostvogels, 1996; Busza & Schunter, 2001; Campbell, Foulis, Maimane, & Sibiya, 2005), a review of sexual health literature conducted by Wellings *et al.,* (2006) reported a scarcity of literature examining the influence of social context on project sustainability and recommended situated case studies be conducted to address this. Acting upon this recommendation, Cornish and Campbell (2009) explored peer education as an 'intervention-in-context' in a comparative case study of two projects targeting sex workers in India and South Africa. This approach was based on the notion of 'persons-in-context', drawn from ecological theory (Nelson & Prilleltensky, 2005) which proposes that differences in people's health and wellbeing are not a result of factors specific to the individual, but of those within their social context. In the same way, Cornish & Campbell examined both interventions and their social contexts to identify key issues that helped or hindered project implementation. They postulated that success was facilitated by a more stable and supportive social, material and political context and a community development ethos which devoted significant resources to volunteers' involvement, ownership and empowerment.

The importance of researching constructs

The variety of definitions used to describe peer educators and peer-led practice highlighted in Study III present further obstacles for practitioners when translating peer education theory and research into working practice (Kerr, 2000). Study III findings suggest that peer education is a construct as its definition and purpose differ depending

on the perspective of the individual; thereby influencing beliefs about what it means to 'do' peer education and how this process is enacted. Consequently, the way in which individual projects conceptualise their philosophy of peer education and participatory practice may influence how volunteers view and enact their role as peer educators. This proposition is supported by Cornish & Campbell's (2009) finding that the differing success of the projects they had observed could be:

> '*understood partly in terms of the founders' and leaders' understanding of the processes in which they were engaged. While both projects had the same aims… their underlying conceptualisations of their endeavours was very different*'
> (p. 27).

Thus there is a need to recognise that the sustainability of a peer education project may not only depend on the wider community context in which it is based, but may also depend on the organisational culture created by those working or volunteering within it. Organisational culture refers to the aspects of an organisation that influence its practice and include assumptions, values, behavioural norms, behavioural patterns and artefacts (symbols that express cultural messages such as mission statements and logos) (Glanz, Rimer, & Viswanath, 2008). Despite this, research focussing on those practising peer education, not from the perspective of the peer educators delivering the intervention, which receives a great deal of attention (Ebreo, Feist-Price, Siewe, & Zimmerman, 2002; Jennings, Howard, & Perotte, 2014; Lesko, 2007; Strange, Forrest, Oakley, & The Ripple Study Team, 2002; Tripp, Dixon, Rees, & Kay, 2002), but from the perspective of the practitioners responsible for its development and dissemination, has received little to no attention.

1.2. Delivering peer education to empower

Participatory health education

Adopting participatory approaches to health education, particularly within adolescent health promotion, is recommended by key policy documents (IPPF, 2016; UNAIDS, 2000).

> '*There is a need for the participation of adolescents of both sexes in the design, implementation, monitoring and evaluation of activities that concern them. This is essential in order to ensure that action is effective and appropriate to local cultures*'
> (UNFPA, 1998, p. 19).

Within this literature, peer education is presented as an especially effective method with which to encourage the use of participatory practices as part of health education efforts (Australian Government Department of Health, 2004; DfEE, 2000; IPPF, 2007; Save the Children, 2004; UNICEF, 2012; USAID, 2010; Royal College of Paediatrics and Child Health, 2003; Teenage Pregnancy Unit, 2002; Department for International Development, 2016) as:

> '*peer educational settings promote assimilation or accommodation of a range of individuals' opinions within an evolving group process. Individual inputs weave and clash through the process of dialogue and argument between peers, as they ask one another questions, exchange anecdotes and comment on one another's experiences and points of view*'
> (Campbell & MacPhail, 2002, p. 333).

The principles of participatory health education as suggested by Lewin (1951) are: to start from the problems of the community, use active learning methods and to engage participants in determining their own needs and priorities. It is hypothesised that there are three interlinked processes which make peer education participatory, although it should be noted that the research these are founded on is based on interventions targeting adults

in Africa (Campbell & Williams, 1999). Firstly, taking an active role in project implementation increases knowledge, leading to an enhanced sense of personal efficacy and empowerment. Second, peer education enables renegotiation of the social. Finally, these processes promote the development of 'health enabling communities' (Tawil, Verster, & O'Reilly, 1995); community contexts that sustain and support the empowerment and social identity processes of the first and second stages.

Freirean health education

The frequency with which links are drawn between participatory practice and empowerment make it difficult to discuss these terms without also alluding to Paulo Freire's (1973) work on empowerment and its application to health education (Wallerstein & Bernstein, 1988). There are clear parallels between these theories and peer education. Peer education is presented as an alternative to top-down expert advice, as it is the target population themselves who identify and educate their peers on issues of relevance to their social group. The similarity between educator and educated is thought to produce a more 'egalitarian dialogue' in contrast to expert providers who are presented as being unsuccessful in their endeavours as they are too far removed from the social experiences of the target population (Stephenson et al., 2008). Similarly, the application of Freirean principles to health education prioritises the experience of the target population over experts; encouraging members to identify and address problems in their communities. There is emphasis on collective knowledge created by sharing experiences and engaging in 'authentic dialogue' to understand social issues affecting individual lives (Wallerstein & Bernstein, 1988). Yet it has been argued that peer education may inhibit empowerment as 'young people are being required to be self-efficacious in ways that are predetermined by adults' (Frankham, 1998, p. 191). Problematically, what is meant by empowerment in the context of peer education is ambiguous, with little focus on what

empowerment looks like and how to enact this process within projects utilising peer education (Frankham, 1998). Peer education projects are often critiqued for reflecting adult conceptualisations of young people's health problems (Milburn, 1995). The considerable ambiguity surrounding how participatory practice and the empowerment process work within peer education may further prevent the translation of participatory peer education into practice. In consequence, peer education projects may be difficult to establish as part of health promotion efforts within local communities. This is exacerbated by a lack of research detailing this process. Whilst there have been a small number of studies contributing to research in this area (Mathie, 1994; Backett-Milburn & Wilson, 2000; Campbell et al., 2005; Cornish & Campbell, 2009), these are subject to limitations such as: lacking focus on UK-based projects, targeting adult sex workers rather than youth, examining relatively new projects or those with a short time span, and having been published 10 years ago. Given the emphasis placed upon the importance of contextual factors' influence on project sustainability, research findings may be very different when investigating projects based in different locations/time periods. As a result, it is still the case that:

> '*we need to better understand factors influencing the adoption, successful implementation, and maintenance of efficacious health education/promotion programs by organisational decision makers… the unique effects of setting on programme outcome… the relative effects of context, structure of relationships… on the implementation and effectiveness of programs*'
> (Dolan Mullen et al., 1995, p. 337).

1.3. Research Purpose
Research Aims

Study II demonstrated that little attention has been devoted to describing the participatory practices utilised within peer education projects that are thought to empower youth

volunteering as peer educators. A study of a pre-existing, peer-led adolescent health education project established within a local community would address this gap in the literature. The aim of Study IV therefore is to describe how participatory practices are enacted in a peer education project and identify factors that help or hinder the empowerment of peer educators.

Objectives

The research aim of Study IV is to be achieved by examining the experiences of both staff and volunteers, individually and collectively, as actors within a peer education organisation and the meanings they ascribe to these through:

1. Analysing the macro-level features of the community context in which a peer education project is located to investigate factors that facilitate or hinder participatory practices and empowerment
2. Analysing the micro-level processes of organisational culture within a peer education project to investigate how participatory practice is constructed and enacted by those responsible for its implementation

Here in considering the nature of peer education, the study refers primarily to the purpose, practice, growth and development of peer education from the perspective of those responsible for its implementation (project staff, peer educators, local health practitioners, policymakers). It is not the purpose of this study to look for alternative conceptions of peer education as a phenomenon per se, but rather to explore how current definitions of this construct are operationalised by actors working within a peer education project. As well as addressing a gap in the literature, such a study is useful in understanding what is possible and practical for praxis.

Research questions

The aim of Study IV is to explore the use of participatory practices within peer education in the context of community-based adolescent health promotion. The research questions facilitate exploration of this phenomenon in further detail at the macro-level of the community context and micro-level of the organisational dynamic. The general research question 'What participatory practices are used within peer education projects?' is made up of the following sub-questions:

➢ How do wider contextual factors specific to the community in which a project is located, support and sustain participatory practice? What factors prevent this?
➢ How do staff and volunteers working at a peer education project conceptualise participatory practice?
➢ How is this operationalised in the process of empowering youth volunteering as peer educators?

In answering these questions, data produced in Study IV will be used to help build towards addressing thesis question 4) Can these mechanisms and/or contextual features and their associated effects be observed in practice?

2. Methods

2.1. Design

A case study was selected as the most appropriate research design to answer the research questions according to Yin's (2003) criteria that the focus of the study is how or why questions; the contextual conditions are relevant to the phenomenon under study; and the boundaries between phenomenon and context are unclear. A case study will illustrate the organisational dynamic within a project as it 'focusses on understanding the dynamics present within single settings' (Eisenhardt, 1989, p. 534) and facilitates description of the real-life context in which the phenomenon occurs (Baxter & Jack, 2008; Yin, 2003). This closely aligns with the study aims as stated in the research questions. A single case was selected to produce rich description and understanding (Walsham, 1995) and an inductive approach to analysis was adopted, using an accumulation of descriptive detail to build general patterns and explanatory theories (Angrosino, 2007). The processes underlying peer education are ill-defined, contradictory and confusing. Case studies are recommended to explore 'areas where a phenomenon is dynamic and not yet mature or settled… or where terminology and a common language and set of definitions are not yet clear or widely accepted' (Darke, Shanks, & Broadbent, 1998, p. 279) and are thought to be especially useful when 'research and theory are at their early, formative stage' (Benbasat, Goldstein, & Mead, 1987, p. 369). Case study design therefore is particularly apt to investigate peer education considering the lack of investigation conducted in this area, as detailed in the previous section.

2.2. Methodology

The study employs an ethnographic approach to data collection. Ethnography is not clearly defined and has considerable overlap with case studies (Hammersley, 1998; Yin,

2003). To distinguish between the two: ethnography can be 'both a process and a product: the term can apply to both a methodology and to the written account of a particular ethnographic project' (Savage, 2000, p. 400), whereas a case study is 'not a methodological choice but a choice of object to be studied' (Stake, 1995, p. 86). Angrosino (2007) also differentiates between the 'ethnographic method' (how information about the material products, social relationships, beliefs and values of a community are collected) and the 'ethnographic product'. Helpfully there is an ethnographic method dedicated to the study of organisations. Organisational ethnography focuses on 'a subset of people… organised around an ascriptively recognised set of goals' (Rosen, 1991, p. 4) to 'uncover and explicate the ways in which people in particular work settings come to understand, account for, take action and otherwise manage their day-to-day situation' (Van Maanen, 1979, p. 540). In employing this methodology, the research describes and analyses the setting 'from the perspective of those involved with its performance' (Rosen, 1991, p. 7). This 'forces the researcher to come to grips with the essential ethnographic question of what it is to be rather than to see a member of the organisation' (Van Maanen, 1979, p. 539), mirroring the stated aims of the study and demonstrating that whilst the research may be a case study in its design, its aims are located in an ethnographic methodological approach. Using ethnographic techniques, the researcher observed and documented the natural setting to better understand the reality of employing participatory practices within peer education.

2.3. Framework
Focus
In keeping with the interpretation of peer education as a social construct that is enacted by various actors within an organisation, a constructivist approach to analysis was adopted (Searle, 1995). Whereas previous studies have focussed on outcomes, a

constructivist focus encouraged close collaboration between the researcher and participants, thereby enabling participants to tell their stories (Crabtree & Miller, 1999). Through these stories participants described the reality of practising peer education as they experienced it, allowing the researcher to better understand their actions as observed during the course of the study (Lather, 1992; Robottom & Hart, 1993).

Theoretical framework

Dialectical hermeneutics was selected as the theoretical framework of the study due to its emphasis on: 'both the subjective meanings for individual actors and the social structures which condition and enable such meanings and are constituted by them' (Myers, 1995, p. 57). This is in line with the study aim to explore both the community context and organisational culture. Such an approach to analysis assisted the researcher in understanding what factors combined to help or hinder participatory practice at the macro- and micro-level as 'hermeneutics aims to make sense of the object of study by iterating between understanding of the object as a whole and understanding of its parts' (Darke et al., 1998, p. 285). As the study drew on a wide variety of data sources during data collection and invited a number of different stakeholders to contribute their thoughts on the phenomenon under study, a hermeneutic approach was useful when considering these separate yet interlinked parts and in combining them to produce both micro- and macro-level analyses.

Conceptual framework

To help guide the analysis a basic conceptual framework was drafted, based on that proposed by Campbell and MacPhail (2002):

> *'The interlocking concepts of social identity, empowerment, critical consciousness and social capital provide a useful starting point for theorizing the processes whereby peer education might serve as a mechanism for promoting safe sexual behaviour by youth'*
> (p. 332).

Each of these concepts can be variously defined and there is no common agreement regarding either their definition or how to operationalise them for measurement. For the purposes of this study each has been defined in its most basic sense. This was to keep the conceptual framework at a very general level to allow for theoretical understanding to be built upon concepts as they emerged from the analysis.
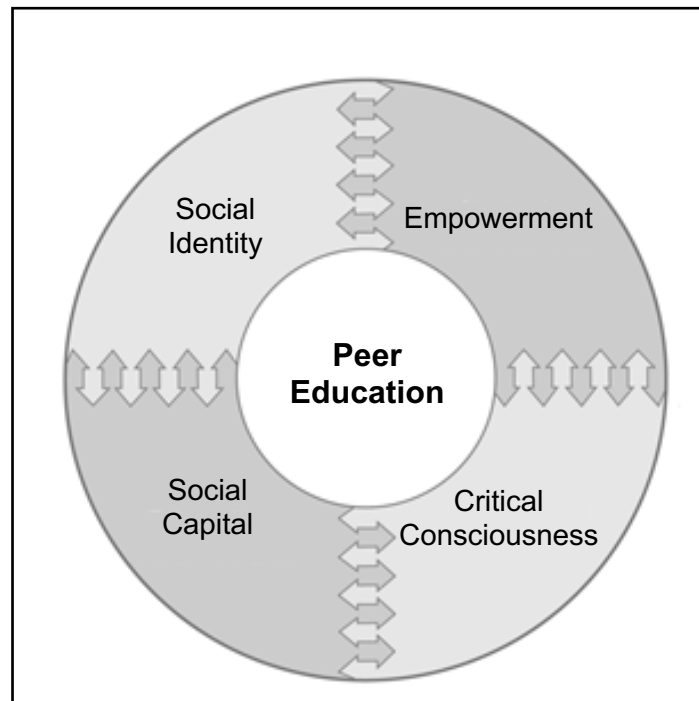
Figure 18. Campbell & MacPhail (2002) Conceptual Framework

Social identity was defined as a person's sense of who they are based on group membership; social capital as the links, shared values and understandings in society that enable individuals and groups to trust each other and work together; critical consciousness as the ability to perceive social, political and economic oppression and take action against it; and empowerment as the process of being given power or authority to do something, leading to increases in confidence in controlling one's life and claiming one's rights. The initial framework was revised upon consideration of themes as they emerged from the analysis. The model developed from this analysis was then filtered through the lens of

participatory health education to determine an understanding of its theoretical relevance to actors within peer education projects.

2.4. Sample

The case explored in this study was the O.P.E.N Project - a peer education project promoting adolescent health and wellbeing in Shetland, Scotland. O.P.E.N was selected as the unit of study because it is a pre-existing peer education project established in the local community, having run for 8 years since 2011. Study participants were those working or volunteering for the project and any others interacting with O.P.E.N during the fieldwork period (such as students receiving O.P.E.N workshops at local schools, school staff, practitioners and other stakeholders). According to Gold's typology of research roles (1958), the researcher was 'observer-as-participant'. Whilst joining in with the general activities of the organisation, the researcher was known and recognised by participants and related to them solely as a researcher.

Data sources

Data providing source material for the study included:

- **Observations** of office behaviour, peer educator meetings and workshops 'to evaluate people in terms of what they actually do… and not merely what they say they do' (Miller, 1997, 16-17). Everyday actions can become automated and taken for granted or difficult to recall. Consequently, behaviour thought to be commonplace but of interest to the researcher may be overlooked. Field notes were used as a description of action.
- **Staff interviews** to access participants' views and interpretation of actions and events (Walsham, 1995). Staff members participated in separate semi-structured interviews conducted by the researcher at the end of the fieldwork period. Interviewing different actors within the same organisation gathered multiple accounts and perspectives to gain a broader sense of the organisation as a whole and facilitate discussion focussed on matters of import to staff. Interview protocols were not developed to allow participants to raise key debates and discuss subject matter in terms of understandings that were their own and not the researcher's. Interviews began with each staff member being asked to describe

their role within and recount their experiences with the organisation. This prompted reflection on practice and how this has been developed. Responses were audio-recorded and transcribed to capture the words and meanings of participants in their original form.

- **Focus groups** with peer educators and students participating in peer-led workshops to gather their views on peer education and its practice.
- **Key documents** such as internal reports and evaluations to 'supplement information obtained from other sources' as these 'reflect the culture within an organisation and the issues which are currently of interest or concern to both management and employees' (Darke et al., 1998, p. 283).

Data also arose from informal conversations between staff, volunteers and the researcher during office hours or on the way to and from workshops and meetings and were recorded as field notes as soon as possible after the event (Forsey, 2010).

Data collection procedure

Fieldwork took place during the month of March, 2017. During this time the researcher spent approximately 120 hours with participants, either in the project office, local schools or attending meetings/events in other settings. Upon arrival at the project offices, the researcher was presented with a timetable of meetings and workshops due to take place over the fieldwork period. Although staff were based in the same office, and there were several collective meetings between staff and volunteers, there were occasions when staff members were engaged in activities in different locations. A timetable was useful in planning which activities would be observed. Decisions on whom the researcher would accompany were generally based on the extent to which staff members and the researcher believed an event to be useful for the purposes of the study or appropriate for observation. Staff briefed colleagues on their excursions at team meetings or informally in the office. Consequently the researcher remained up-to-date on activities even where these had not been directly observed. Most of the data was gathered via direct observational work using a structured observation form as suggested by Creswell (2002). This included noting participants (number, age, gender, identity), setting, role of observer, time, length of

observation. Observations typically involved the researcher sitting at a desk in the staff office or other locations (meeting rooms, classrooms) with a notepad and pen. This was not just being a fly-on-the-wall however; the researcher also took turns making tea and coffee, accompanied staff to lunch and joined in with office chit-chat (usually by asking questions to clarify previous observations). In this way, the researcher immersed themselves in the day-to-day life of the organisation. During periods of inactivity, the researcher perused project documents and wrote up field notes.

2.5. Data Analysis

On return from the field, data collected by the researcher was printed, bound and compiled in one volume. Collating data in this way assisted the researcher in moving between analysis of the case as a corpus in its entirety, as well as scrutiny of its separate individual parts. This is in line with the study's hermeneutic approach, where the working organisation is considered as a whole, and as the sum of all the separate perspectives contained within it, or in this case as captured in each data source. Strategies and techniques for analysis of case data are not well defined (Yin, 1994). Data sources were analysed thematically as they pertained to each of the research questions. An embedded design was adopted with the researcher looking for consistent patterns across units within the case. Sources were studied carefully and repeatedly, singularly and collectively, to grasp their contents and meanings accurately. Analysis commenced with open coding of the corpus. Text to be coded was highlighted and codes written directly onto manuscripts. To determine codes, an incident had to be identified as unique and therefore in need of a new code or reflected in a previous existing code. Wherever there was clear differentiation, a new code was assigned. Data was coded by an initial assignment of broad themes and concepts to selected units e.g. a sentence taken from an interview

transcript. This resulted in the identification of 102 general codes (Appendix N). These were later refined and resulted in the identification of 260 separate codes (Appendix O). These were grouped into related categories. Conceptual relationships between categories were identified and verified against the corpus by constant comparison for similarity and/or difference based on whether they were conceptually aligned with respect to thematic meaning. Categories were integrated to create an interpretive framework to map different categories of understanding. This identified 6 clearly distinct categories which captured the essential conceptual elements deemed to be reflective of the actions of those practising peer education at the organisation and the processes that facilitate this action at an organisational and community level. The initial conceptual framework was used to guide the analysis and refined to incorporate descriptions of peer education present in data sources that did not fit within the existing framework through re-reading and re-sorting explanations, and re-examining and re-defining categories until a sense of 'meaning stabilisation' was established (Hernandez, 2009; Holton, 2007). The final framework with its underlying associated concepts is expanded upon narratively as identified via thematic analysis.

2.6. Reliability and Validity

Two types of bias pose a threat to the study's internal validity: the presence of the researcher influencing events and behaviour at the case study site and the researcher's own beliefs, values and prior assumptions influencing analysis of case study evidence (Hammersley, 1998). Whilst bias arising from observation effects are almost unavoidable (Walsham, 1995), these were limited through prolonged exposure and interaction with the researcher to establish participant rapport. This reduces the potential for social desirability responses (Krefting, 1991; Miles & Huberman, 1984) as it 'allows people to

return to a daily life that one hopes goes beyond what is performed' for the researcher (Miller, 1997, p. 17). The similarity of the researcher to participants (age and gender) is beneficial as 'the age, gender, social class and professional identity of the researcher… may affect what people do and say when they are being observed' (Hammersley, 1998, p. 86-7). The second threat to internal validity is the potential for bias in the researcher's analysis and presentation of case data as 'the researcher is presenting their interpretation of other people's interpretations' (Walsham, 1995, p. 78). This was counteracted by using multiple sources of evidence and audio-recording observations and interviews where possible for fuller and more accurate reporting (Hammersley, 1998; Miles & Huberman, 1984). Long verbatim quotations have been included to 'convey a sense of immediacy to the reader' (Fetterman, 1998, p. 124) and provide them with sufficient data to determine for themselves whether the study's interpretations and conclusions are warranted. External validity is harder to achieve with case study design (Yin, 1994). This was not a concern as the study did not seek to generalise, test or find relationships across variables. The collection of data from multiple sources however was thought to enhance the credibility of the study (Patton, 1990; Yin, 2003). To further establish credibility and transferability, multiple perspectives were collected and verified against each other and the study was subject to 'member checking' (Baxter & Jack, 2008). Participants were given an earlier draft of the study and asked to discuss and clarify data interpretation and contribute any new or additional perspectives they felt to be important. In this way, the researcher ensured that emergent categories and concepts resonated with participants and represented an accurate reflection of their thoughts and behaviours.

2.7. Ethics

Risk of harm to participating staff and volunteers at the project were small as observed activities were part of day-to-day practice. Unlike experiments or surveys however, where the research intervention is temporally limited and standardised protocols can be developed, the nature of the research design prevented the production of protocols (it being difficult to foresee exactly which questions would arise over the course of the study). As a result, all those who would be in contact with the project during the period of observation were pre-emptively contacted by a project co-ordinator who distributed participant information sheets and consent forms to staff, volunteers, practitioners and local schools well in advance of study commencement (Appendix M). The researcher also personally introduced themselves to participants, explained the aims and procedure of the study to them and why they were asked to participate in the research. Education centre consent forms were completed by participating schools and O.P.E.N, giving the researcher permission to observe and interview the young people present within the setting. This was deemed acceptable as risk of harm to participants was low. Schools regularly receive peer education from O.P.E.N, students were participating in educational activities as part of normal timetabled PSHE curriculum and sessions were not controlled or manipulated in any way. Due to the nature of the education being observed (health education including discussion of drug use and sexual health/wellbeing), the presence of an observer may have deterred student participation. To combat this, the researcher was always introduced to students before the lesson. Students were informed that their identity would be anonymised and that alternative parallel sessions where a researcher was not present were available if they did not wish to be observed. Any data that could identify participants was stored securely on an encrypted hard drive. Files were password protected and stored securely. During transcription, names of participants, schools and

other identifying features were removed, and once transcription was complete, recordings were destroyed. Possibility of identification for those participating in the study was likely as the organisation is the only project of its kind within the locality. This concern was dismissed by staff and volunteers however, who requested that the organisation be identified in reporting. In accordance with these wishes, the names of staff and that of the project have not been removed from the study write-up. The names of young people volunteering as peer educators have been anonymised. As the study focus was on a place of work, staff and volunteers may have felt obligated to participate, or worried about voicing an opinion that could have repercussions for their employment. To allay these fears, it was emphasised that participants were free to withdraw from the study at any point or refuse to answer a question without repercussion. Finally, O.P.E.N received electronic copies of the study before submission to verify that their views had been represented accurately and fairly. Ethical permission for the study was granted by Durham University School of Education Ethics Committee on 06/03/2017 (Appendix L) and data collection began after this date.

3. Results: The Case

3.1. Overview

O.P.E.N is an acronym for 'Our Peer Education Network', a peer education project based in Lerwick, whose volunteers design and deliver workshops to promote adolescent health and wellbeing. Workshops are delivered in schools and youth clubs across Shetland in Lerwick, Scalloway, Brae, Sandwick, Whalsay and Yell.
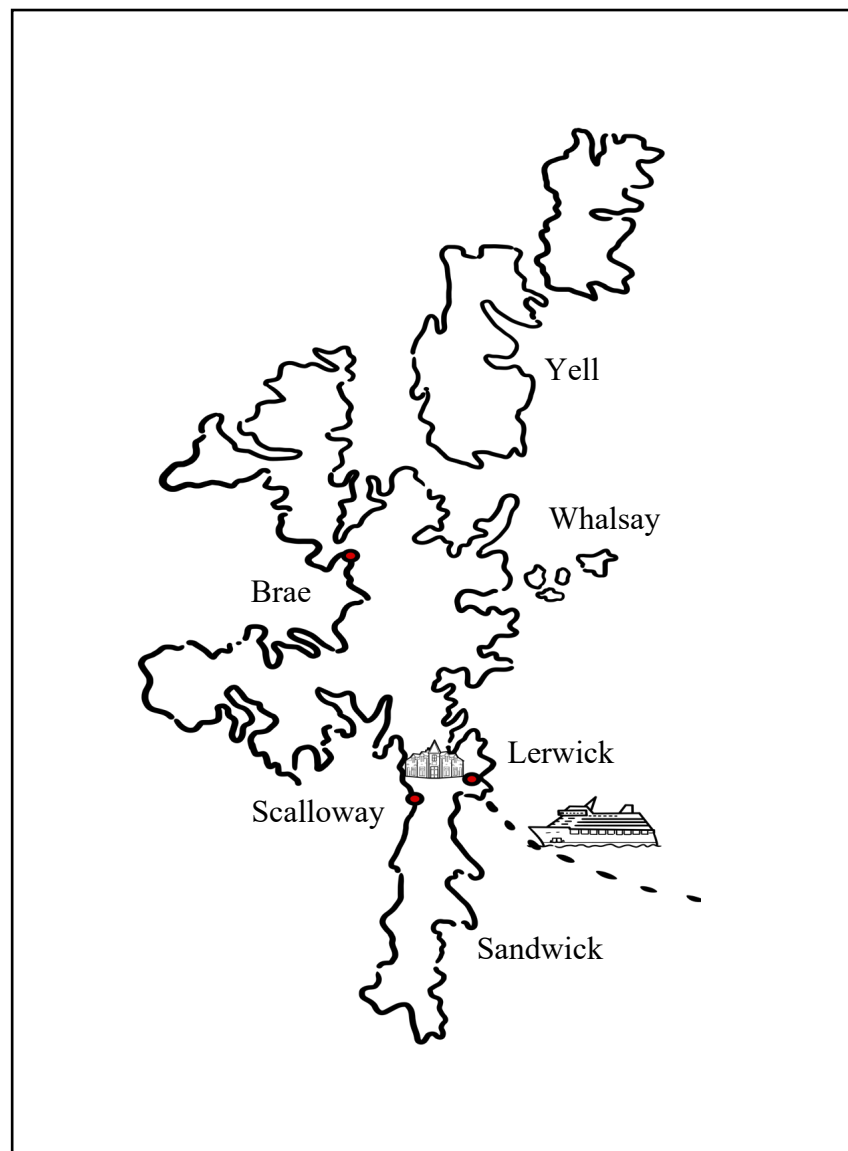
Figure 19. Map of Shetland

O.P.E.N is not only an acronym; it was selected to reflect the project's aim to encourage young people to talk openly about issues affecting adolescent health and wellbeing. Each workshop is entitled 'OPEN about…' followed by the subject matter. Seven workshops are currently available, advertised as being 'designed by young people, for young people'.

OPEN Online
Internet Safety and Online Bullying (S1, 11-12 years)

OPEN about Drugs
Harm Reduction to reduce Risky Behaviour (S2, 12-13 years)

OPEN about Alcohol
Harm Reduction to reduce Risky Behaviour (S2, 12-13 years)

OPEN about Sexual Health
Contraception, STIs and Services (S3, 13-14 years)

OPEN about the Sexual Health Clinic
Access to Services (S3, 13-14 years)

OPEN about Parenthood and Relationships
Healthy Relationships (S3, 13-14 years)

Mentally OPEN
Mental Health and Wellbeing to reduce Stigma (S4, 14-15 years)

Figure 20. OPEN Workshops

Working at O.P.E.N are four part-time staff members (Una [UM], Saul [SD], Tasha [TW] and Wayne [WL]) and a group of twelve young people volunteering as peer educators, aged between 16-25.

> *'Tasha and Wayne were both originally peer educators that have grown into their roles… because they were taking such a lead we made it into a post because we felt that was the next step. To try and make the young people recognised for delivering the training to everybody else' (UM).*

Location

Shetland is the most northerly of the Scottish local authorities. 220km north of the Scottish mainland, it has a small population of approximately 23,000 (National Records of Scotland, 2016) made up of many small remote communities. Approximately 6,400 young people under the age of 25 are resident in Shetland; 54% of which live in the larger centres of Lerwick, South and North Mainland. The remaining 46% live in rural communities. This raises specific issues for the provision of information, advice, and support to young people as transport and distance limit accessibility of centrally based services. Whilst there are very high employment levels and relatively high earning, there are pockets of poverty and health inequality. Crime rates are low, but a high percentage of these crimes are alcohol and drug-related. Prevalence of problem drug misuse in Shetland (2.2%) is higher than the Scottish national average (1.7%). In terms of sexual health and wellbeing, Shetland experiences similar issues to Scotland, albeit with much smaller numbers and generally lower rates of teenage pregnancy and STIs. 'Reducing the incidence of STIs in Shetland really means reducing the incidence of Chlamydia because other STIs are so uncommon' (Sexual Health and Blood Borne Virus Strategy Group, 2015, 1). Rates for under 25s are much lower compared to those in Scotland and rates of teenage pregnancy are also lower than the Scottish national average (NHS Shetland, 2014). Peer education is identified in policy documents as a key strategy for drugs, alcohol and sexual health education in Shetland. 'Having peer education in all schools' is listed as an action point to 'support the provision of effective sexual health promotion and relationship education' (NHS Shetland, 2014, 3). In the same way, the Shetland Drug and Alcohol Partnership Strategy 2015-2020 (2015, 4) states that 'using peer education as a methodology of raising awareness and positive choices, especially with the issue of substance misuse' will help 'reduce alcohol and drug-related harm to younger people'.

Timeline

The project was conceptualised as a response to the needs of young people in the community.

'Through speaking with the young folk I was very aware that nobody was speaking about any issues with them… There wasn't any participation going on. I was interested in looking at what actually does exist up here. Is there anybody doing any sort of sexual health or drugs peer education?' (UM)

Six months before O.P.E.N began, Una started researching existing provision, how to run a peer education project and what resources this required.

'It was obvious there wasn't any peer education in Shetland… That's why we originally set it up: because there was an identified need for it and reports that PSHE teachers don't want to do it and the pupils don't want them doing it' (UM)

Once a gap in provision had been identified, funding was secured for the first O.P.E.N meeting in 2011.

Young people were recruited from SYIS and the local area. They developed the first workshops (Sexual Health and Relationships, Drugs, Sexual Health Clinics, Mental Health).

In 2014 O.P.E.N was endorsed by the Schools Management Team and head teachers.

OPEN Online workshop was developed.

In 2015 O.P.E.N worked in partnership with NHS Shetland.

This led to the development of the OPEN about Alcohol workshop.

In 2016 O.P.E.N was approached by the Wave Trust to develop OPEN about Positive Parenting.

An LGBT workshop was designed by a volunteer the same year.

In 2017, O.P.E.N delivered 75 workshops to 750 young people across Shetland.

3.2. Peer Education at O.P.E.N

What is O.P.E.N peer education?

Aim

The stated aim of O.P.E.N is to 'increase confidence, skills and knowledge of young people' in becoming peer educators and to 'establish peer education methodology as part of Shetland's health and education services for young people'. Project documents describe peer education as:

> '*based on the belief that young adults often learn effectively when the message is given by other young people. This way of working is also beneficial to the personal and social development of the peer educator*'
> (End of year report, 15/16).

The communicative mechanism between young people and its positive influence on intervention effectiveness is emphasised:

> '*We are hoping to establish peer education as a way of exchanging information that is completely different to how young people normally learn. Because we believe that young people take more notice if young people are talking*'
> (WL)

> '*What we're trying to achieve is embedding peer education as an accessible method of learning across Shetland… to get young people to engage and discuss things that they perhaps wouldn't normally, with their teachers, with their parents. To talk about issues that affect them that they would have felt less inclined to discuss with others*'
> (SD)

Who are the O.P.E.N peer educators?

Characteristics

Since the project's inception, 86 young people have been trained as O.P.E.N peer educators. Peer educators are aged between 16-25 years and volunteer between 10-20

hours a week. Once a volunteer reaches 25 they are no longer allowed to lead workshops, in line with definitions of adolescence used in youth/social work. Currently the majority of volunteers are under 21. Upon enquiring what would happen when volunteers turn 25, Una suggests: 'a steering committee so that people that were over 25 could help younger ones develop workshops… almost peer educating the under 25s to deliver the project'. The project is described as attracting those not in education, employment or training and almost a third of volunteers have children. O.P.E.N is seen to provide a useful service to 'those that aren't engaging well in education or are struggling with things' (Advocacy and Participation Worker) as volunteers with few or no qualifications can gain skills, training and accreditation.

Recruitment

Volunteers are overwhelmingly female. Male recruitment has been identified as an issue by both staff and volunteers who are concerned that the overtly female presence may introduce gender-biased perspectives on issues discussed in workshops. Recruitment occurs largely via word of mouth through friendship or familial networks. It is rare for recruitment to occur by other means. Some volunteers are referred to the project as a result of being identified as in need of support e.g. via child protection orders, but typically volunteers have a link with an existing member: 'I started as a volunteer through my sister. She asked me to come along one night and I just never left' (TW, WL), 'my friend persuaded me to come' (PE9, PE10, PE11).

Contact

Despite this, not all volunteers know each other prior to contact with O.P.E.N. The Shetland community is spread over several islands which can limit opportunities for contact between young people. Volunteers commend O.P.E.N's capacity to bridge this gap:

'*There's been people that have come to the meetings before that I thought I would never ever talk to. A different kind of group from different areas. But O.P.E.N honestly links the community together.*'
(PE1)

'*The type of people here, you don't think you'll speak to. But once you get comfortable with them you start speaking to them more... there's a variety of people here, all from different social groups*'
(PE9).

How is O.P.E.N evaluated?

Evaluation

Volunteers are asked to contribute their opinion on O.P.E.N through one-to-ones, weekly

meetings and retreats:

'*to focus on the monitoring and evaluation of the project... we use the information gathered from peer educators' learning and experiences, working with them to make decisions about our next step/strategy*'
(End of Year Report 15/16).

In addition to this data; volunteers, school students and staff, and O.P.E.N staff evaluate

the workshops delivered at local schools.

'*By evaluating the programme with pupils, peer educators, PSE staff and O.P.E.N staff we will be able to develop our programme to meet their requirements*'
(End of Year Report 15/16)

This demonstrates that the purpose of evaluation at O.P.E.N is to assess whether they

meet community needs.

Measurement

To assess the appropriateness of provision, O.P.E.N rely largely upon feedback from

students and volunteers.

'*I measure the success not only on the feedback from the schools, but principally from the feedback that we will receive from the young people*'
(SD).

This is gathered using 'evaluation bodies' which encourage students to comment on the workshop they have received and rate their increased awareness on a numerical scale.

Figure 21. Evaluation Bodies

Pre-post questionnaires to measure knowledge/attitudinal change were trialled for approximately 12 months, but discarded due to time-constraints and difficulties making sense of and presenting numerical data to reflect change. Staff do not feel these are appropriate measures of success or adequately capture what they do. To demonstrate this, Una retells a story where students in a workshop 'took over' its delivery, 'and you cannot evaluate that, you know? They can write on their sheets, yeah it was good or whatever they do, but when you actually see that… that was a moment'. Similarly, staff voiced concerns that a visit by inspectors from Education Scotland would include 'too much of a focus on evidence', with 'rigid-tick box approaches'. This was not thought to easily

align with the nature of peer education, as stressed by Una: 'We're circles, not boxes. We bop about!'.

Evidencing effectiveness

Regardless of these reservations, such data is important to funders. Recently O.P.E.N experienced a rejection by a funder citing a lack of evidence of effectiveness for peer education. Staff were surprised at the suggestion that peer education was lacking in evidence as they strongly believe it to be an effective approach with which to educate:

> '*I've seen it. That doesn't really prove why I believe in it does it? I suppose it's because the peer educators I've worked with over the last twenty-five years have gone on to do quite amazing things. And the ones in the workshops just speak to you. I don't know whether that's   gathering evidence really is it? Just because it's young people working with other young folk. How can that not work?*'
> (UM)

> '*Not only the evaluations, but the feedback we receive from them and the manner in which they engage, in often very sensitive subjects, you know it really gives you a very raw indication of how successful this is being on the ground. Engaging with the young people, the conversations you have with them, the learning that they feedback to you, all very much reinforces that fact to me that what we do is successful*'
> (SD).

O.P.E.N sought the assistance of the Scottish Peer Education Network (SPEN) to support their endeavours to evidence effectiveness. Issues raised within the email to SPEN are pertinent to understand aspects of practice O.P.E.N identify as needing further clarity/support:

> '*What is the local and national structure/strategy for peer education in Scotland? Can we work better together for the benefit of developing a national strategy? What works locally? What are our success stories? What are our barriers? How can we share information that would benefit others? How do others demonstrate the value of peer education work with young people? Are there evaluation tools that we could share that show the long term outcomes of peer education? Can we share good working practices in evaluation?*'

Staff believe that having access to research would be useful, but methods of access are non-existent; making efforts to find existing research to improve evaluation 'impossible'.

> '*It's so hard to find… We've looked for peer education training or anything related to that and really struggled*'
> (UM)

It is felt that working within community partnerships helps fill this void to some extent:

> '*There is shared knowledge and expertise and you know what to access… Locally and nationally you hear what people are up to*'
> (UM)

But this is:

> '*…the only method of re-evaluating our practice, apart from being told that the workshops aren't working through feedback*'
> (WL).

4. Results: Conceptual Framework

The conceptual framework proposed in the Methods section was modified upon consideration of themes as they emerged from the data. The final framework is useful to conceptualise the contextual features and organisational processes which may facilitate participatory practice, supporting empowerment of youth volunteering as peer educators. The community context and organisational culture work together to facilitate the processes by which Campbell and MacPhail (2002) believe peer education to be effective (social identity, social capital, critical consciousness). This is not to say that any of these features create these processes, as one cannot infer causality from a case study, but there are elements of these processes that can be identified within specific aspects of the case.

Concept	Definition	Community Context	Organisational Culture
Social Identity	A person's sense of who they are based on group membership	Shetland's size means that its population has to be self-reliant; increasing the community's awareness of issues and creating an environment where everybody helps each other	Youth volunteering at O.P.E.N form networks of social support for each other. Identifying as a peer educator allows individuals to develop or reclaim a positive sense of identity as helpers in their community
Social Capital	Links, shared values and understanding in society that enable individuals and groups to trust each other and work together	A 'culture of volunteering' and the community's celebration of youth activity in this arena demonstrate that volunteering is valuable to and valued by the community	Youth volunteering at O.P.E.N are treated as equal to and valued by staff. This creates a sense of collective ownership of the project and shared responsibility for outcomes
Critical Consciousness	The ability to perceive social, political and economic oppression and to take action against it	Strategic partnerships provide the community with opportunities to come together to identify and resolve issues	O.P.E.N meetings provide youth with a forum to identify issues experienced by their peers in the community and design workshops to educate on these topics

Table 11. Study IV Conceptual Framework

The fourth element of Campbell and MacPhail's framework, that of empowerment, was moved towards the centre of the conceptual framework as it was constructed by participants in this study and Study III as an outcome of the processes discussed above. Empowerment was presented as being produced by the processes taking place at the macro- and micro-levels of community context and organisational culture. This analysis begins at the macro-level of the community and identifies features that facilitate O.P.E.N's participatory practice. These include: Shetland's demography, culture and celebration of volunteering, and strategic partnerships. This then leads to an examination of the micro-level processes of O.P.E.N's organisational culture:

- ➢ The purpose of O.P.E.N is to help young people identify issues that are pertinent to their social group and assist them in addressing these issues through O.P.E.N meetings and developing educational workshops
- ➢ This is made possible through the organisational culture at O.P.E.N, which is based upon models of participatory practice and includes treating everyone as equals, listening to others, and valuing their contribution to the project; creating a sense of collective ownership amongst staff and volunteers
- ➢ In this way, the organisation serves as a form of group support and is associated with increases in confidence, community engagement and positive sense of identity amongst volunteers

Volunteers describe these processes as making engagement with O.P.E.N an empowering experience. In the same way that the community empowers O.P.E.N, the organisation empowers the community. This brings the process full circle, demonstrating that there is a reciprocal relationship between organisational culture and community context and their subsequent effect on projects operating within them; with each element of the framework enabling the empowerment of the others. Consequently the conceptual framework presented in the Methods was updated to reflect the experiences of participants in the

study, leading to the production of the final conceptual framework below. The original

framework is reproduced next to this for comparison. The following Results section will

begin at the macro-level of the community, before looking within the organisational

culture of O.P.E.N to describe the processes by which participatory practices are enacted

and youth volunteering as peer educators are empowered.
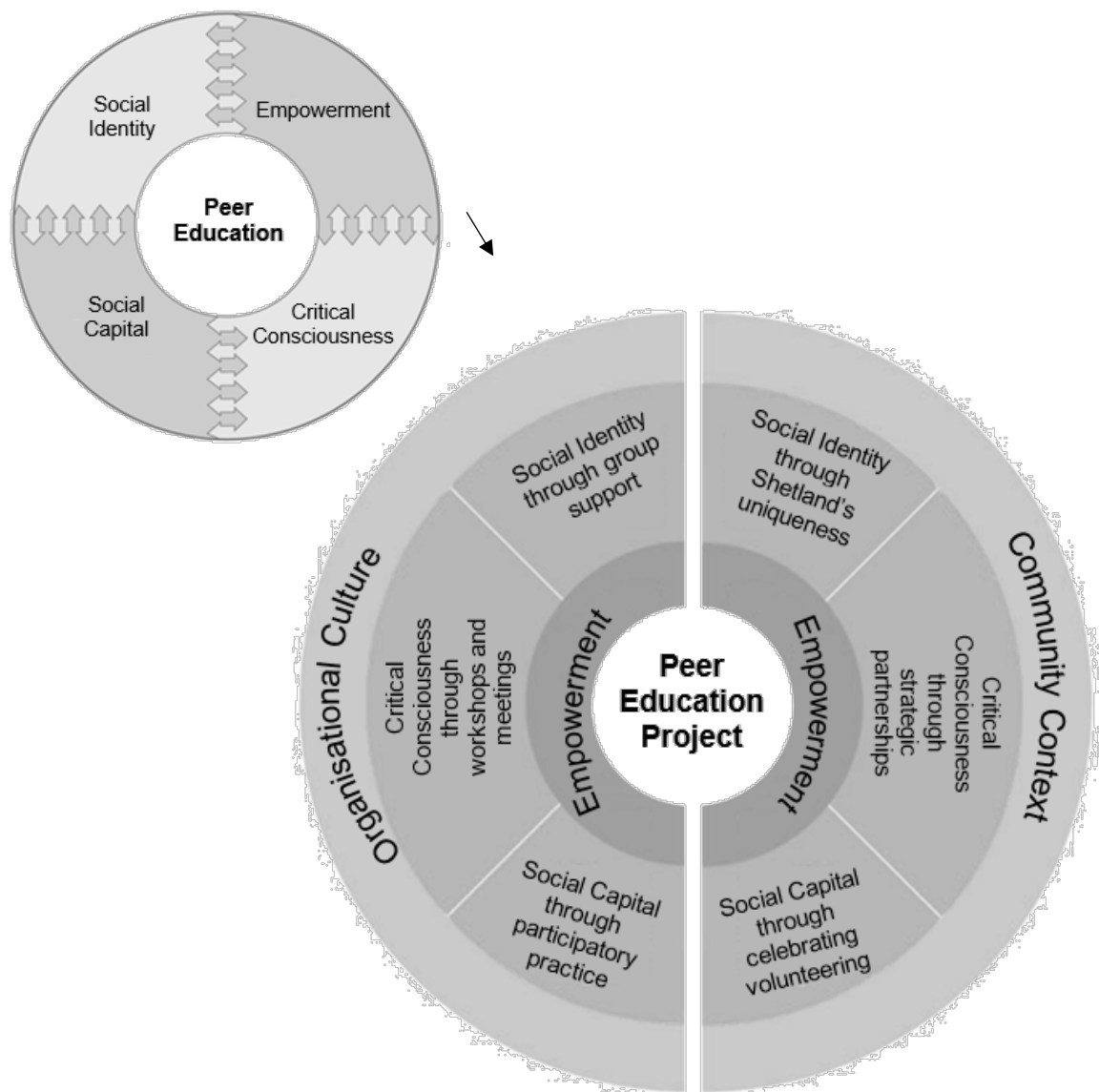
Figure 22. Revised Conceptual Framework

4.1. Community Context

Size

The size of the community was frequently identified as a contributing factor in O.P.E.N's success:

> '*One of the reasons why I think fundamentally it's so successful in Shetland is the fact that we have a very close-knit community... and a relatively small population. I think there's greater understanding of what's available to young people and to the general public in terms of local services*'
> (SD)

O.P.E.N is unique, being the only service of its kind in Shetland.

> '*In Shetland we are the only peer education service. We are the only people trying to achieve what we are trying to do and not only that, it's not been done anywhere else on the island yet*'
> (SD)

> '*We're a small island community and quite isolated from the rest of the world, so we don't really have the opportunity for someone else to come from say the next town over and help... there's not much other choice*'
> (TW)

It is suggested that as Shetland is a small community, there is a heightened awareness of the issues that exist within it, creating 'a culture where everybody helps each other' (UM). Shetland's size may also facilitate increased uptake, due to the speed at which novel ideas can spread:

> '*When we've been working with one school, and one school is in close partnership or communication with another, they can see ok well this could be rolled out in this school and this school. It's had this domino effect where we're now in all local high schools. This would have been a much more difficult thing to achieve had there been a larger local authority with a greater number of schools*'
> (SD)

Volunteering

Shetland is described as having a 'great culture of volunteering' (SD). 48% of Shetlanders surveyed in 2014 were actively volunteering in the community; the highest of any area in Scotland. 7 out of every 10 young people in Shetland are involved in some form of voluntary activity; with approximately 22,780 hours of volunteering completed by youth volunteers in 2016-17 (VAS Volunteer). An awards ceremony, the 'Saltire Awards' is held annually to acknowledge the contribution of youth volunteering to the community. This is held at the local arts centre with a preceding buffet, drinks reception and live music. Volunteers are sent invitations and collect certificates onstage in a hall packed with a several hundred strong audience. Saltire Awards are distributed across Scotland, but Shetland is the only locality to hold a ceremony of this magnitude. In this way, volunteers' contribution to the community is acknowledged and shown to be of value to those within it. Speeches describing the individual and the impact of their volunteering on a personal and community level are given upon receipt of an award:

> '*NAME attends weekly O.P.E.N meetings, has completed her induction training and takes a lead in planning agendas around issues of interest in O.P.E.N meetings. She is a committed and reliable volunteer, attending weekly meetings and taking an active role in leading discussion on topics of interest. She participates in planning and reviewing the project, identifying issues that young adults feel are important, and developing methods to raise awareness. She is a valued team member, confident in helping others to participate and naturally supportive to those around her. Her attitude is always very positive and she is beginning to take a lead in delivering workshops to other young people. She is keen to learn and take up opportunities to develop her personal skills to become an able peer educator. We value her input in all aspects of the project*'

> '*NAME has been involved in the O.P.E.N project since her very first meeting in May 2011. She is a committed attendee of weekly O.P.E.N meetings, has completed all her training and gone on to help others volunteer with the project. She has developed her personal skills and works well with other peer educators to identify key issues and incorporate them as messages into workshops. Being involved with the project for over six years is an amazing commitment. She remained committed to the project during its transition to VAS and has encouraged other to participate as peer educators. She has had a wee girl and settled down with her partner and still continues to take a lead in the development of the project. It has been a privilege and a pleasure to watch her confidence grow and she is a valued and well-respected member of the project.*'
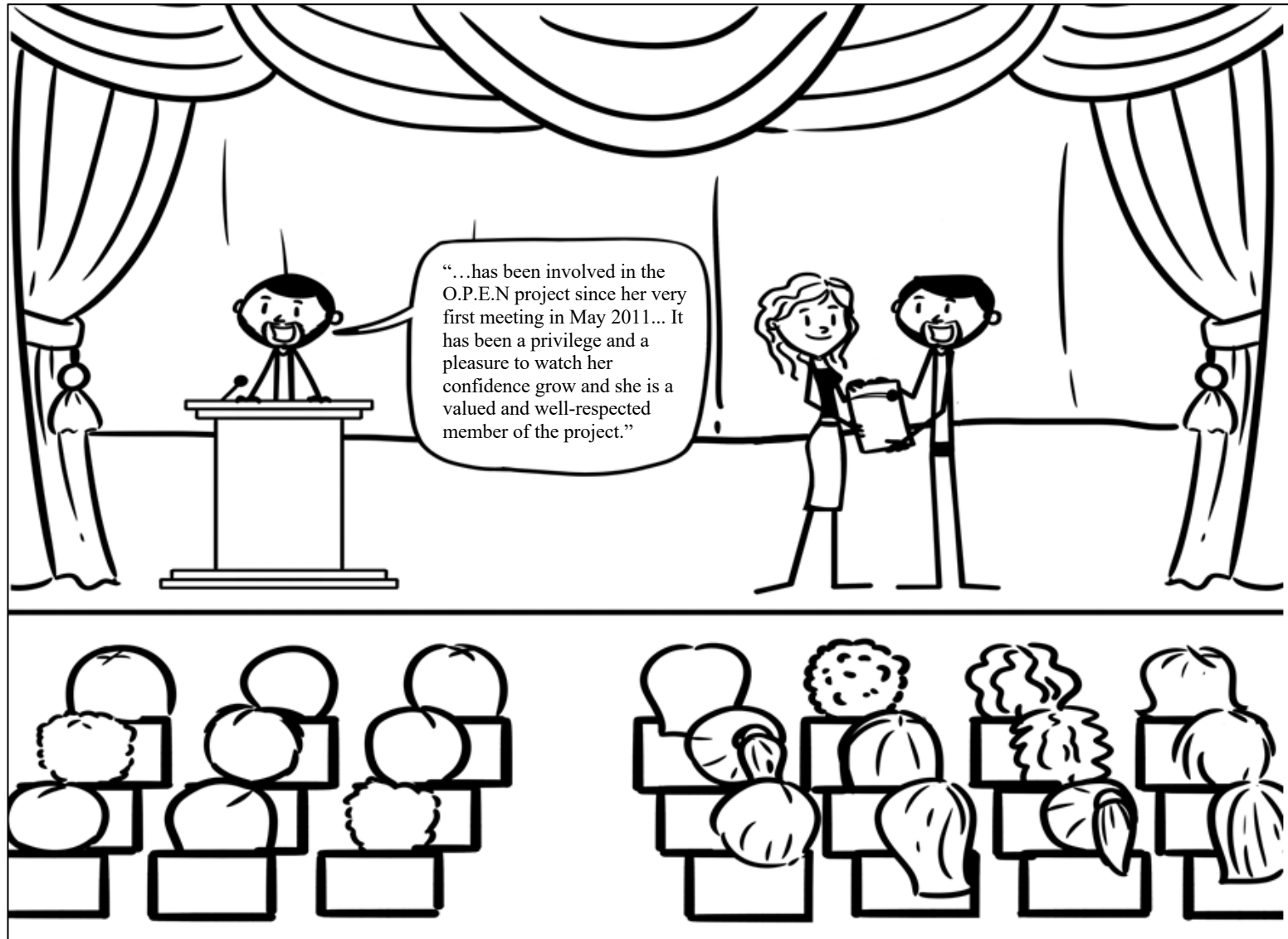
Figure 23. Saltire Awards Ceremony

Awards not only gain recognition for individual O.P.E.N volunteers, but for the organisation in its entirety.

> '*All of these things are all very well publicised so I think we have established a very positive and well recognised name for ourselves which has helped us to do new and challenging things. We've been approached with more open eyes and ears about what we can do*'
> (SD)

Strategic Partnerships

O.P.E.N are part of several strategic partnerships. Regular meetings provide an arena where professionals and community leaders can come together to discuss issues concerning prevention, promotion and practice. These partnerships are of great value to O.P.E.N:

> '*Good working practice is definitely about getting the multi-agency approach right*'
> (UM)

and create opportunities for collaboration with other projects/services (e.g. 2015 collaboration with NHS Shetland to develop an alcohol workshop, see timeline p238). To identify gaps in provision, O.P.E.N work closely with the community. During O.P.E.N's initial development, a Peer Education Network of Services (PENS) was established, incorporating youth, health, education and employment services:

> '*...to get them together and make sure they got the concept of peer education and what we were trying to do and that we weren't trying to create something that was going to take away from what they did*'
> (UM)

A Drugs & Alcohol Education Group was also convened to map existing educational provision for young people in Shetland. From this, practitioners could identify gaps and

draw a logical timeline of provision, progressing year by year as young people move through school.

4.2. Organisational Culture

Youth voice

Volunteers are given opportunities to identify issues that affect their social group through collective discussion and debate in O.P.E.N meetings. They find and present solutions to these problems in the design of educational workshops for their peers.

> '*We're here so that the issues raised by young people are met and they are given the facts that young people want. We go into schools based solely on issues that young people come to tell us*'
> (TW)

Workshop design

Workshops are advertised as being: 'designed by young people, for young people… to contribute towards developing services and resources to meet their needs' (End of Year Report, 15/16). Volunteers brainstorm issues they associate with a topic to 'frame the topic in terms of the needs and language of the young people' (TW). The group then select three key messages they would like students to take away from the workshop. Volunteers present a case as to why their key message should be part of the workshop and this is decided by consensus vote. The group then plan activities to convey each of the key messages. Again, these are decided by consensus vote. Volunteers present their ideas to staff who try to fit these activities into a structure suitable for schools.

> '*I wish we could have done it more informally, but we've conformed the project to fit in with what is needed strategically as well as what was needed for young folk*'
> (UM)

An example of this trade-off is the age at which students receive workshops.

'*We have identified a target age group for each workshop, but we are keen to fit in with… what each school feels is the most appropriate workshop for that year group*'
(End of Year Report, 15/16)

Volunteers suggest age groups based on what they feel they would have liked in school, but find it:

'*difficult negotiating which year gets which workshop because schools don't want the first-years having drugs and they don't want sixth-years having sex because it's too late*'
(TW)

Figure 24. Volunteers at OPEN meeting

Whilst acquiescing to these requests, staff emphasise that it is youth voice being projected by the project.

'*It's got to be that the young folk want to take a lead. It's not about me teaching them to take a   lead, it's about young people being given the opportunity to do it and take a lead in it themselves. I know in some ways that looks twofaced because quite often I'll be like, right NHS Shetland want us to do something on foetal harm, and everyone will go yeah let's do it. So am I feeding them with information that is actually our agenda? It's about that drip of information and how we do it. But it's also about giving them the chance to speak about that and discover… and find facts that are important. So it's finding a balance*'
(UM)

Workshop modification

The most recent addition to O.P.E.N's programme is an LGBT workshop developed by a volunteer:

> *'They went off on their own and produced a format for an LGBT workshop without any of us (staff). It was obvious that they didn't really need us interfering, they could go and complete that on their own… and they did and it was great. It was something they were passionate about'*
> (TW)

Volunteers are encouraged to design and develop resources whenever they feel motivated, inspired, bored, spot a gap or want to do something new with existing material. Workshop content and delivery is modified largely on volunteer reviews as staff believe that for peer education to be successful, 'it cannot be stagnant. It has to change with the young people' (UM).

> '*We take into consideration what our volunteers find important because they are young people. They are exactly the same as the young people we teach in schools. What they find important is always important to us'*
> (TW)

> *'If the young people are doing the training and they say they don't like something then I would say yes, let's have a look at it and update it to how they would like it. But it happens naturally most of the time. If the peer educators, myself or Tasha are delivering a workshop and we think that something's not working, the young people aren't reacting in the same way as before, or they've already got that knowledge and they don't need it again, then we take that into consideration and say we need to do something, change a couple of workshops'*
> (WL)

This flexibility and responsiveness is not only present in classroom interactions, but also within the organisation. Tasha introduced staff to the concept of 'The Needs Tree', based on Maslow's Hierarchy of Needs (1943). As a result, a previously unfamiliar concept now forms a central part of the project's approach when delivering workshops.

> '*I think I had just started volunteering. We'd been talking about it and I think everyone agreed that it sounded like a really good idea. It was in the booklet for mental health but no one had a clue what it was so they ignored it. Whereas I had picked up on it and said actually you know this is great, let's do it... Una just let me run with it. I proposed it to the group and everyone liked it so we threw it in there with the mental health stuff*'
> (TW)

Innovation on the part of volunteers happens on a regular basis:

> '*If anyone in the group comes across something interesting and raises it then we will have a discussion about it. The volunteers can run with whatever they want. If they find something that they think is really important and they really want to work with it then we can do our best to accommodate it, so long as it meets the goals of the workshop*'
> (TW)

Youth Voice

This focus on youth voice places young people foremost in O.P.E.N's practice. O.P.E.N's participatory practice was identified by staff and volunteers as being responsible for its success:

> '*It's successful because we do everything. Everything we do, even if they want a new workshop or whatever, they come to us and ask us what we think about it and we do it*'
> (PE2)

> '*It's focussed on the participation of the young people... It's not us telling them anything, it's them telling us*'
> (UM)

This philosophy is demonstrated in many aspects of the organisational dynamic: through treating staff and volunteers as equals, being youth-led, and valuing the contribution of youth to the project. The sense of collective ownership this creates between staff and volunteers helps them come together to achieve common goals, with the goals of volunteers being shared by staff.

Treating everyone as equal

O.P.E.N's organisational culture is described as being 'all about equality' (UM).

> '*We're close knit. Even though we are paid workers, when we're in the meetings (with volunteers), they all have a chance to contribute to the debate, so there's not too much of a split*'
> (TW)

In O.P.E.N meetings, staff are honest about lacking knowledge: 'I don't know a lot about it' (TW), 'I don't know very much' (UM), 'It's alright, we're all learning' (WL) and volunteers receive the same training in health promotion, public speaking, leadership, teamwork and factual knowledge as staff. This is believed to help bestow equal status upon volunteers, thereby entitling them to equal input in decision-making.

> '*We have a lot of information that we give to the peer educators so they know as much as we do*'
> (WL)

> '*I can't think I'll make something or deliver it better than people who have the same training*'
> (UM)

Volunteers describe staff as 'more like friends' (PE9) and volunteers have transitioned to working for the project as members of staff.

> '*When I made that transition from being a volunteer to being a staff member, there wasn't ever a division. It wasn't like there's volunteers and there's staff. We're all a big team*'
> (WL)

This was not as seamless as first appears however.

> '*It was weird to begin with… I'd been a volunteer and able to do what the volunteers do, and then moved and had to find that whole identity of a paid member of staff*'
> (TW)

'*It was quite transparent they were like right ok, how do I change from a peer educator into a paid member of staff?*'
(UM)

'*When I first became a worker there was still that mind-set that I wasn't a worker. I was still kind of a volunteer and the rest of the volunteers didn't see me as a worker at that point... when I took on more and more responsibilities such as planning the meetings and writing agendas and doing exercises, they saw me taking more of a role of a staff member*'
(WL)

Youth-led

Staff act on youth voice and try to balance the needs of the project with those of volunteers. An obvious example, due to its physical presence in the O.P.E.N office is the 'word wall' (depicted in Figure 25). The central wall of the office is decorated with brightly coloured words; print-outs of words volunteers used to describe the project as part of a group exercise. Upon being asked why staff had chosen to decorate the office with these words, a space largely used by staff and not volunteers, Una replies:

'*Because I think they're brilliant... It makes people look at it, it makes you think about different things and it shows how we're reaching people in different ways. They're nice and bright and inspiring*'

This demonstrates how young people are placed at the heart of the organisation, in both a philosophical and physical sense, as their words are visible for staff reflection and inspiration. Volunteer perspectives are taken into account when staff are making decisions that affect the organisation: 'I check myself and think wait, I'm making a decision and I haven't asked the young people' (UM), 'It's more whether the peer educators would want to take a lead in developing it' (WL). Volunteers are encouraged to become actively involved in decision-making, discussing funding sources and attending meetings with practitioners: 'Even if they haven't been invited, if they want to come then I'll take them anyway' (UM).
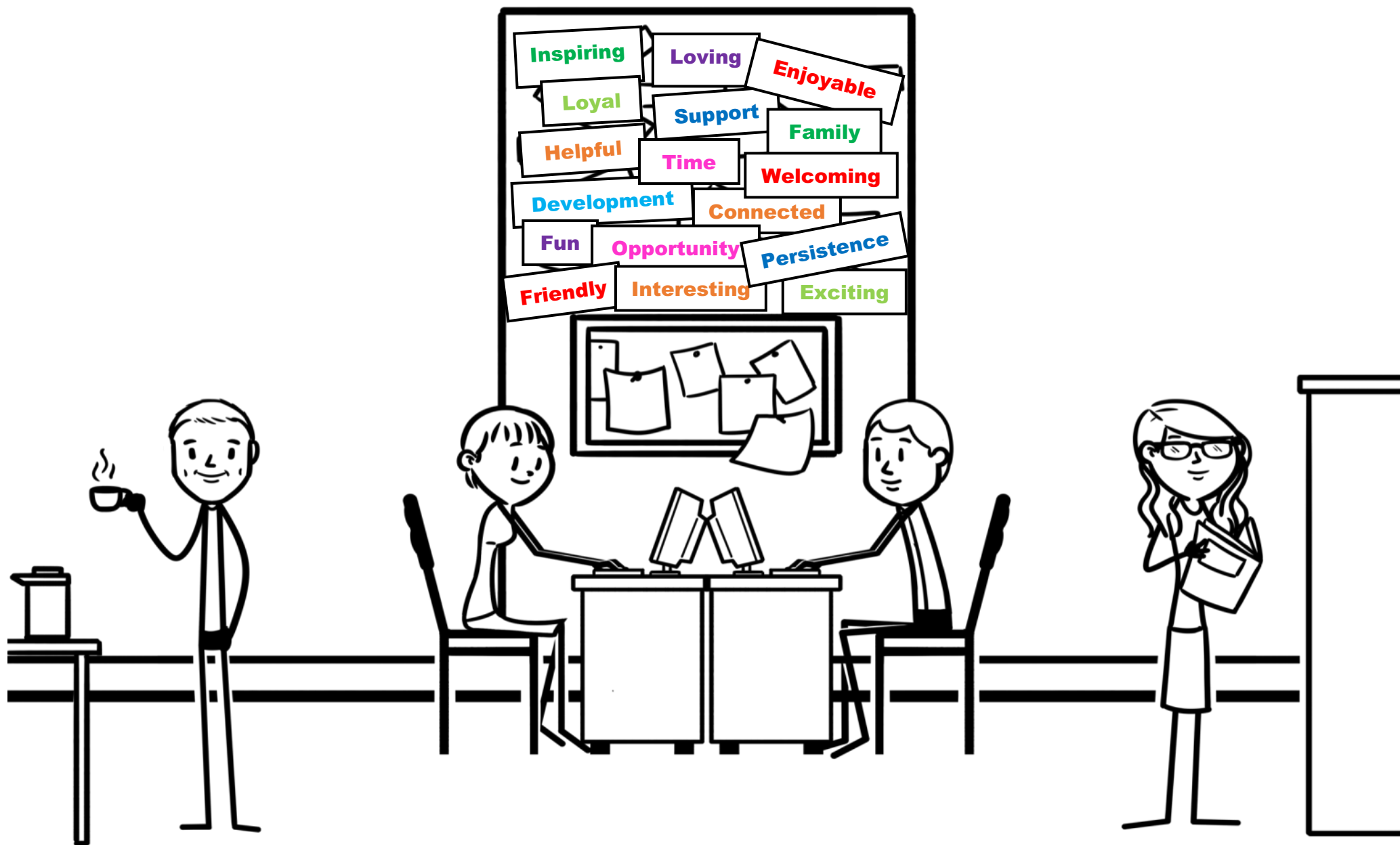
Figure 25. Word wall in OPEN office

Valuing everyone's contribution

To maintain equal relations between staff and volunteers, staff maintain that every person's contribution to the project is important and influential.

> *'Everyone has an equal say, even those who have less hours. I value their job role regardless. They're very important… the hours and the work the volunteers do is recognised as being part of the running of the project. We wouldn't have a project if everyone didn't come on Tuesday nights and didn't want to train or do it'*
> (UM)

> *'Your personal achievement might just be turning up to meetings every week and that's great'*
> (TW)

> *'Everyone's welcome to join the project and do the training and the developing of the workshops and even prep the workshops or do admin stuff, but maybe they would rather not deliver the workshops, which is totally fine'*
> (WL)

Collective ownership

O.P.E.N stands for 'Our Peer Education Network', and when discussing their work or the organisation, both staff and volunteers frequently use collective shared pronouns such as 'our' and 'we', for example: 'we created all the workshops' (WL), 'the whole project, us as a team' (TW). There is sometimes a sense of personal ownership, 'as long as they don't change my drugs workshop' (WL), 'everyone gets possessive over their baby' (UM) but the emphasis is on the collective.

> *'Good working practice is making sure the young folk feel ownership and that it's their community and their issues and their ideas that are going to make a change for other young folk'*
> (UM)

> '*Una's always said the main goal of the project, her vision for it, is it being run by the young people*'
> (WL)

'I don't want to end up with founder's syndrome… where you don't let things grow because you're like well I set this up so it's got to be this way. I quite like the fact that I don't feel, I feel ownership in wanting it to succeed but I don't feel ownership on it succeeding without me. My ideal aim would be that the young folk involved would be able to have the funding in place and take off and make the project whatever they wanted it to be'
(UM)

Growth and Support

Young people volunteering with O.P.E.N acquire skills and training as well as an additional network of social support which they identify as assisting in the formation or reclamation of a positive sense of personal identity, as well as increasing their engagement with the community. Project documents report:

'*Young adults that train as peer educators develop confidence, skills and knowledge to deliver workshops and activities. This process increases their self-esteem, personal development and helps them gain skills that are transferable to future work or training… Young adults have the support to be able to achieve their hopes and aspirations as volunteers. This will benefit them in their everyday lives and help them to feel like they are contributing towards and having their voices heard within their local community'*
(End of Year Report, 15/16)

Personal growth

Examples of this process and its positive effect on volunteers are given on numerous occasions.

'*From someone who could come in to an initial meeting and not say a word, to see them two years down the line, taking a lead and delivering a workshop in somewhere like a school, it's amazing. Seeing them go through that journey and developing confidence and self-esteem and obviously acquire all that knowledge that comes with that training and experience, it's fantastic.*'
(SD)

'*You can see somebody that is so shy, absolutely flourish'*
(TW)

Volunteers echo these views and note how their experiences have led to positive personal change and community engagement:

> '*We attended the meetings and the induction training and what not, learning more about myself and as I progressed I got more confident. I realised that through working as part of the project I wanted to work with young people or young adults. One of the main goals that I wanted was to have another youth café open up and for me to run it because youth in Shetland, particularly Lerwick, need another youth café*'
> (WL)

> '*It's definitely got my confidence up and made me want to come back*'
> (PE9)

> '*It was really interesting because we got to hear about the reasons behind what they think is a child protection issue. So I was involved with child protection and at the time I was like why are they doing this to me? Then when I actually got the training and heard the reasons behind it, looking at it from who I am now, I was obviously a child protection issue. It would be better for a lot of young people to hear about the reasons that adults see child protection as they do*'
> (PE3)

> '*I enjoy it because I feel like it's built my confidence and I've learnt a lot of stuff. I feel more like an active person in the community*'
> (PE6)

Social support

There is strong emphasis on supporting and nurturing peer educators. This is established at the very start of a young person's contact with O.P.E.N as part of their induction training, identified as:

> '*...good for team bonding. Everyone gets to know each other and is happy to be with each other and that creates a support network for them. They support each other throughout the project*'
> (WL)

Objectives of exercises included in the induction training workbook target: 'getting to know the group better', 'sharing with the group' and 'to show participants that O.P.E.N

staff can support them wherever possible'. Induction activities are described as session where volunteers can identify their needs 'to help us check that we are providing training that is useful and that is giving you what you want and what you need'. Wayne and Tasha's transition to staff is also described in terms of growth and support:

> '*When I first started taking on more responsibility, doing petty cash maybe or doing something else, she (Una) was constantly supporting me to go through all these different stages'*
> (WL)

This ethos is also reflected in staff relations with volunteers: 'I support volunteers to create, develop and deliver workshops in Shetland' (WL). For example, when a volunteer introduces themselves with the caveat 'I don't do workshops yet' (PE3), Tasha responds, 'Yeah, but we're getting there. We're working on it'. Similarly, PE8 begins: 'I'm PE8 and I'm a peer educator and I just come along to meetings'. Wayne and Una re-join, 'and participate and help us develop training' (WL), 'and has contributed more hours than anyone else in the room' (UM). Volunteers describe how O.P.E.N functions as a support network:

> '*I feel since I started I can be comfortable with almost anyone in the room and if I had a problem, I could actually speak about it to them'*
> (PE6)

> *'We speak about stuff that troubles you'*
> (PE4)

> *'When my mum passed away I've never had such good support'*
> (PE3)

> *'Even just getting pregnant at a young age, everyone here was just so supportive'*
> (PE2)

Empowerment

Being a peer educator is credited with endowing volunteers with 'a sense of belonging and achievement' (UM). Peer educators volunteering with O.P.E.N identified their work as empowering and important in helping them reclaim a sense of identity and self-worth, especially amongst those with children:

> '*Everybody was saying 'Oh I really enjoyed that'. That was really good. You're sat there thinking, I did that*'
> (PE8)

> '*You're not just a mum. Or you're not just a mum anymore. Because you're returning to do something you did previously, before becoming a mum. Something that you were confident that you were good at. Especially compared to parenting which is so scary, there's so much unknown!*'
> (PE1)

O.P.E.N reimburse travel and childcare costs so volunteers do not experience these as barriers to participation. No one is prevented from volunteering based on personal circumstances. Being located in Lerwick does not limit attendance as many volunteers travel to attend meetings and deliver workshops. Interestingly, O.P.E.N do not like to use the term 'empowerment' when discussing the benefits of participating in peer education for young people, despite this being perhaps the most obvious term to label the processes of change volunteers describe as a consequence of their time volunteering with O.P.E.N.

> '*To empower someone means that you have power over someone in the first place, so many people want to own or control the young people. It's not just saying that we're empowering young people, but letting young people be the leaders. It's all about empowerment and participation, but without those words*'
> (UM)

5. Discussion

This study examined staff and volunteers' conceptions about the nature of peer education and what it means to work as part of a peer education project. Its research goal was not to evaluate O.P.E.N's peer education activities, but rather to focus on the context in which this activity is being conducted to explore factors which may affect participatory practice and volunteer empowerment. The approach O.P.E.N has adopted to facilitate this process is overtly Freirean. To demonstrate how O.P.E.N's practice mirrors Freirean ideals, the following discussion will be structured analysing each of Freire's principles for education and exploring how the organisational culture supports these practices. It also acknowledges the processes by which youth are empowered and the contextual conditions specific to Shetland that expedite this. Discussion of the research findings incorporates an examination of the strengths and limitations of the study and recommendations for practice.

5.1. Freire's Principles for Education

Analysis of O.P.E.N's organisational culture suggest that there are specific actions that assist in the creation and maintenance of the participatory practice believed to support peer education efforts. The benefits in adopting a Freirean approach to health promotion (Wallerstein & Bernstein, 1988) have been discussed elsewhere. Freire proposes a three-stage process through which empowering education can be produced: listening to the needs of the community, initiating participatory dialogue about community issues, and planning action to support the problems identified during this dialogue. Each of these is discussed in terms of their similarity to the case described within this study, along with the strengths and limitations of adopting such an approach and implications for practice.

Listening to the needs of the community

Freire posits that the initial listening stage should be conducted in equal partnership with community members to identify felt needs and priorities for action. In the case of O.P.E.N, both the community context and organisational culture support this process through the use of strategic partnerships and prioritisation of youth voice.

Listening through strategic partnerships

Community organising theory has long advocated the importance of coalitions between programs, practitioners, health professionals and policymakers in health promotion efforts, with Walker & Avis (1999, 576) going so far as to advocate that 'the most successful peer education projects will be those which seek involvement from a broad range of agencies'. In Shetland, these partnerships support peer education efforts as there is a shared vision and collective agenda for local provision. O.P.E.N has been able to match their services to the needs of the community by using these forums to identify gaps, map existing provision and meet with stakeholders to ensure they align with local health promotion efforts. This is useful in two ways: firstly, it prevents specific groups of students being overlooked or receiving the same material in the same way, and secondly, it increases community awareness and goodwill towards the organisation. Engaging with groups who exert power over volunteers is important for sustainability, but divergent interests within stakeholder groups can increase difficulties around commitment to and consensus on provision (Backett-Milburn & Wilson, 2000; Cornish & Campbell, 2009). In the same way, the identified needs of youth in this case were tempered by the needs of the schools in which the programme is delivered; for example, by selecting the 'most appropriate' age group to receive workshops. This does not always align with the wishes of O.P.E.N volunteers and places limits upon the project's youth-led approach. If these requests were not accommodated however, the project may not be sustainable, as Clark

& Peterson (1984, 291) note: 'Teachers' belief systems can be ignored only at the innovator's peril'. Despite this, youth voice within the community is clearly powerful as volunteers have independently taken the initiative to develop workshops and have been approached by practitioners and policymakers to work together in developing curricula to educate on issues such as parenting, relationships and alcohol use. This may have important consequences for youth empowerment as young people are more likely to feel in control of their health if they have experience of being effective in other areas and receive recognition from others (Wallerstein, 1992).

Listening through feedback
O.P.E.N are constantly engaged in reviewing and revising their practice. There is a sense of willingness to change as staff constantly search for ways to improve provision. The five stages of health diffusion suggest this is a linear process, with initiatives moving through each stage in ordered progression: innovation, development, dissemination, adoption, implementation and maintenance (Oldenburg, Hardcastle, & Kok, 1997). This implies that projects reach a static place with practitioners maintaining status-quo. O.P.E.N constantly renew this process, undergoing cycles of re-evaluation and re-design based on feedback from peer educators, teachers and students to ensure their materials and agenda are relevant. As change is not initiated until it is requested via feedback, O.P.E.N are reliant upon other practitioners within their network to alert them of updates in practice or pedagogical innovation. This demonstrates both the benefits and drawbacks of strategic partnerships. It is useful to share updates and funding amongst practitioners, but the limitation of such an approach is that innovation is limited to the remit of Shetland-based partnerships and their inclination or ability to pass on newly acquired knowledge or training to others within the network. Practitioners cannot depend solely upon these collaborations to support them in this arena and need access to research to stay abreast of

changes and recommendations for practice. Programme evaluation and development of the O.P.E.N project is based largely on student feedback which suggest these voices are valued. The flexibility of such an approach allows for the natural evolution of projects and educational programmes that are both sensitive and responsive to the needs of the young people they serve. This is a strength of the project as health promotion research often points to gaps in knowledge about the views and perceived needs of youth (Kathryn Milburn, 1995; Nutbeam, Aaro, & Wold, 1991). The limitation of such an approach is that different classes may receive varying degrees of the same programme; with important content which may be beneficial to specific individuals within classes that appear not to require such knowledge, being replaced or removed. This is prevented to some extent through set aims and objectives for each workshop, with a supervising member of staff present to ensure these are met. On a more cautionary note however, the reliance on youth feedback is predicated upon the assumption that young people always know what is best for young people. Consequently, if volunteers are bored with a workshop they are encouraged to change its content or delivery. But does boredom equal ineffectiveness? Whilst it is important that young people receive education that is agreeable to them, and that their voices are prioritised within promotion efforts, practitioners should be careful this is not at the cost of listening to other voices. In this case, the emphasis on the lived experiences of youth has led to their prioritisation over theoretical and empirical literature. Any evidence produced by the project is dependent on subjective experience and cannot be used to claim effectiveness. There have been several cases in Education and Health where approaches thought to be effective were later found to produce the opposite effect (Brinkman et al., 2016). Whilst this is not to pass judgement on the effectiveness of O.P.E.N, findings suggest that a need to utilise more rigorous evaluative procedures to obtain measures of effectiveness. O.P.E.N staff demonstrated a willingness

to engage with these processes, but were hampered in their efforts by a perceived lack of knowledge concerning how to access, understand and conduct research. This feeds beliefs that there are aspects of provision that cannot be evidenced and therefore are resistant to evaluation, creating considerable anxiety around these topics. This has been highlighted in research studies conducted twenty years ago (D'Onofrio, 1992), suggesting that this is an issue within health promotion still to be addressed.

Initiating participatory dialogue

In a Freirean approach, knowledge is not thought to be held solely by experts. Instead, the emphasis is on the collective knowledge that emerges from a group sharing experiences and understanding the social influences that effect their lives. O.P.E.N offer Shetland youth an opportunity to engage in this dialogue by inviting volunteers to attend meetings and participate in the working processes of the organisation as equals with staff.

Participatory dialogue through O.P.E.N meetings

To facilitate participatory dialogue, Freire proposes using codes; introducing objects to the group that represent a community issue to engage assembled members in discussion. The 'topic of the week' serves this function at O.P.E.N meetings. In a Freirean approach, groups are asked to: describe what they see and feel, define the many levels of the problem, share similar experiences from their lives, question why the problem exists, and develop action plans to address it (Wallerstein & Bernstein, 1988). This process mirrors that observed within O.P.E.N meetings, where volunteers are encouraged to think critically, ask questions about, and inform the educative process; following recommendations for participatory youth-led programmes to create a context where youth can engage in dialogue and debate (Campbell & MacPhail, 2002; Campbell, 2003). Volunteers identify and explore issues they collectively feel are common to their experiences of community and education, and suggest methods in which these problems

could be addressed. Regular meetings are thought to assist the creation of a strong and united group of volunteers (Cornish & Campbell, 2009). It was observed in this study that volunteer contributions in meetings were validated by the empathetic listening of the group, thereby serving to function as a form of social support.

Participatory dialogue through equality

It is posited that participatory dialogue is most likely to occur in an atmosphere of trust and solidarity amongst volunteers who feel they have common life goals and face common life problems (Campbell & MacPhail, 2002). Freire proposes that dialogue-based approaches are those in which everyone participates as equals, enabling learners to be actors in their own lives and society. To facilitate this, groups must come together as co-learners, creating knowledge and raising themes for mutual reflection. The creation of a sense of solidarity amongst participants has been recommended elsewhere as important to facilitate participatory peer education programmes (Campbell, 2003). This is achieved by offering the same training opportunities to everyone within the organisation, regardless of whether they are staff or volunteers. Staff and volunteers at O.P.E.N position themselves as co-learners, united by a common purpose. Staff do not privilege their knowledge or position themselves as superior to volunteers, 'We're all learners here' (WL). In this way, discussion in O.P.E.N meetings is an example of Freire's 'authentic dialogue' as it is an alternative to authority figures imposing their own views. Knowledge is constructed with volunteers as equals. A sense of collective ownership is reinforced by referring to the organisation and its products with collective pronouns such as 'we' and 'our'. This may further strengthen feelings of equality between staff and volunteers as it suggests all members of the organisation are united in working towards a common purpose. Despite those volunteering at O.P.E.N being separated by geographical distance, volunteers credited the organisation with uniting the community, despite previous

research reporting that divisions between groups of young people undermined a sense of common identity (Campbell et al., 2005). Furthermore, the prioritisation of youth voice in project planning and management, and giving youth access to areas/aspects of promotion activities, typically seen to be the sole remit of adults e.g. expenditure, finance, funding, budgeting, publicity and meeting with professionals, allows O.P.E.N volunteers to truly participate in the working practice of the organisation.

Action

A Freirean programme emphasises that action and reflection are key outcomes of Education. As a result, a Freirean approach to health promotion should encourage group members to develop their own curricula and undertake action to address self-identified problems in their community. O.P.E.N achieves this ideal by giving volunteers the opportunity to work in community partnerships to develop health education curricula for local youth and formulating solutions to community issues in O.P.E.N meetings.

Action through workshop design

Drawing directly on the experiences of the target population, in this case Shetland youth, is part of constituent-involving strategies that have been identified as useful in health promotion efforts and facilitating participatory processes (Altpeter, Earp, Bishop, & Eng, 1999; Green & Kreuter, 1999; Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2002; Thomas, Eng, Clark, Robinson, & Blumenthal, 1998). Advertising project materials as being 'designed by young people, for young people' may help in making them appear culturally appropriate, overtly conveying relevance to the target population (Kreuter et al., 2002). Material that is familiar and comfortable to young people is thought to increase receptivity to and acceptance of the message being promoted (Bechtel & Davidhizar, 2000; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999). Underlying such approaches is an implicit assumption however that there is sufficient

homogeneity between those designing materials and the target population. This is problematic because 'although culture is shared, individuals within a given culture can have varying levels of certain cultural beliefs' (Kreuter et al., 2002, p. 137), with culture seldom being uniformly expressed by all members (Rogler, Malgady, Constantino, & Blumenthal, 1987). Even if it can be assumed that Shetland youth as a social grouping are homogenous, it is questionable to what extent O.P.E.N volunteers accurately represent this group. There are several reasons why existing volunteers may not be sufficiently similar to those they are teaching. Firstly, the lack of male volunteers needs to be addressed. This may be explained in light of findings that young men are less comfortable discussing sexual health matters and consulting friends for sexual health information (Sriranganathan et al., 2010). If this is the case, this makes male recruitment all the more important. Secondly, depending upon the recruitment of volunteers via word of mouth could lead to volunteers being too similar to each other as part of existing friendship/familial networks; thereby representing the experiences of a cross-section of Shetland youth, rather than the population more generally. There are higher pregnancy rates amongst volunteers compared to the general trend for Shetland. In addition, volunteers are usually older than those they are teaching, with the age range 15-24 being critiqued as too wide (Sriranganathan et al., 2010). It is not currently known whether this makes volunteers more or less peer-like or credible and in consequence, provision more or less effective. Currently, culture is assumed rather than assessed (Kreuter et al., 2002), with little research examining precisely which qualities of similarity are most important (Brack, Millard, & Shah, 2008; Simoni et al., 2011). O.P.E.N may need to develop measures to assess whether students consider volunteers to be peers, or whether educators need be peers at all.

Action through personal development

Engaging populations in participatory learning processes is thought to foster empowerment (Simoni et al., 2011). It was encouraging to find that so many volunteers spoke positively of their experience at O.P.E.N, particularly in terms of personal development and social support; especially as the organisation engage youth traditionally seen as being disempowered. Participation in the project acts as a gateway for access to work, education, representation, respect, recognition and participation in formal/informal community networks. When evaluating outcomes, O.P.E.N's focus on students attending workshops could be a secondary outcome, with the primary outcome being the effect on those volunteering as peer educators. Whilst it could be argued this would reduce funding opportunities as the intervention would target a smaller population, evidence on peer educators' influence on students is contradictory and limited (Kim & Free, 2008a; Milburn, 1995; Tolli, 2012), whereas there is a dearth of research propounding benefits to peer educators (Backett-Milburn, 2000; Badura, Millard, Johnson, Stewart, & Bartolomei, 2003; Badura, Millard, Peluso, & Ortman, 2000; Ebreo et al., 2002; Maticka-Tyndale, 2006; Mellanby, Phelps, Crichton, & Tripp, 1995; Pearlman, Camberg, Wallace, Symons, & Finison, 2002; Strange et al., 2002).

Action through socially responsible leadership

By giving volunteers the opportunity to transition to staff, O.P.E.N fosters socially responsible leadership. Other peer-led projects have identified the importance of allowing volunteers to increasingly take on leadership roles (Cornish & Campbell, 2009) through increased training, mentoring and development of management experience. Research suggests that using peer educators from previous years to undertake the training of future volunteers is beneficial (Mathie, 1994). The way in which volunteers described this experience in the current study would suggest that the sense of equality amongst those

working within the organisation is not as pervasive as would first appear. The appointment of volunteers to a paid position was presented as a move that required a change in mind-set, suggesting there is a distinction between what it means to be a member of staff and a volunteer. It also raises questions concerning what will happen to those volunteers who are not offered a place amongst staff members. Despite this, such practices further facilitate the transfer of decision-making to volunteers. This is a step towards achieving the project's aspiration to be totally youth-led, as it enables volunteers' progression from participant to proponent.

5.2. Relocating empowerment in the conceptual framework

Glanz, Rimer & Vaswanath (2008, p. 321) report that 'factors influencing diffusion are not just static features of the innovation or of the adopters. Rather, there is usually a dynamic interaction among features of the innovation, intended adopters, and the context or setting where the process is occurring'. Similarly, this study describes how processes within both the community context and organisational culture work together to support the practice of peer education. The Saltire Awards, for example, were credited by volunteers for giving them a sense of achievement. If the community were not willing to come together and witness these award ceremonies, youth may remain unaware of the value of their volunteering to the community. At the same time, if voluntary organisations like O.P.E.N did not exist, the purpose of the community awards ceremony may be very different. This corresponds largely with the framework proposed by Campbell & MacPhail (2002), but was adapted to accommodate participants' views that empowerment was an outcome of participating in peer education, rather than a process that could be enacted to promote its practice. This follows definitions of empowerment

as suggested by health promotion theory (Israel, Checkoway, Schulz, & Zimmerman, 1994).

> *'Through community participation, people develop new beliefs in their ability to influence the personal and social spheres. Empowerment embodies a broad process that encompasses prevention as well as other goals of community connectedness, self-development, improved quality of life, and social justice'*
> (Wallerstein & Bernstein, 1988, p. 380)

In this study, empowerment is presented as a multi-level construct (Zimmerman, 2000). Empowerment is thought to take place on three inter-connected levels: that of the individual, the organisation and the community (Israel, Checkoway, Schulz, & Zimmerman, 1994).

Individual empowerment

Individual empowerment combines personal efficacy, competence, a sense of mastery and control, and the ability to influence institutions and decisions (Zimmerman, 1990). In line with findings from previous studies (Backett-Milburn, 2000; Campbell & Mzaidume, 2001), O.P.E.N peer educators extensively described personal development they believed occurred as an outcome of volunteering with O.P.E.N. Each of these identified 'improvements' correspond with the definition of individual empowerment given above. For example, personal efficacy and competence are demonstrated through volunteer testimonies of their increased confidence and expanding skill-set. Bestowing awards, helping young mums to find or reclaim a sense of identity, using fellow volunteers as a support network to manage difficult life events and widening understanding/awareness of social issues through debate and discussion in O.P.E.N meetings suggest mastery and control. The ability to influence institutions is demonstrated on a community level through volunteers being invited to collaborate with other professionals to develop promotion programmes. Giving peer educators input into

programme design and operation helps in gaining a sense of personal responsibility, as well as demonstrating recognition from their community (Sriranganathan et al., 2010). Turner & Shepherd (1999) suggest that volunteers are already empowered if they have the confidence to volunteer for a peer education project. Volunteer accounts within Study IV suggest the opposite as volunteers describe newly-acquired motivation to work with the community and a keener sense of social justice in wanting to help other youth, for example identifying the need for a youth café and aspiring to make this a reality; mirroring Kieffer's (1984) definition of personal empowerment as the experience of gaining control and influence in daily life and community participation.

Organisational empowerment

Organisational empowerment is defined as organisations that are 'democratically managed in which members share information and power, utilise co-operative decision-making processes and are involved in the design, implementation and control of efforts toward mutually defined goals' (Israel, Checkoway, Schulz, & Zimmerman, 1994, p. 152). Staff and volunteers at O.P.E.N relate to each other as equals. There is co-operative decision-making through voting on issues in meetings, and volunteers are always consulted on aspects of project implementation such as funding. Whilst O.P.E.N do not like to be described as empowering youth, their justification for their dislike of the term, that to empower someone means you have power over them, is strikingly similar to Wallerstein & Bernstein's (1988, p. 380) definition of empowerment: 'Empowerment is not characterised as achieving power to dominate others, but rather power to act with others to effect change'.

Community empowerment

Community empowerment is a 'community in which individuals and organisations apply their skills and resources in collective efforts to meet their respective needs. Through such

participation, individuals and organisations within an empowered community provide enhanced support for each other, address conflicts within the community and gain increased influence and control over the quality of life in their community' (Israel et al., 1994, p. 153). O.P.E.N are keen to share their training, knowledge and resources with others practising health promotion in the community. In turn, they are invited to sit on forums to identify community needs and suggest plans of action to address these. By actively working alongside policymakers and professionals in their locality, the project ensures it fits with wider strategies and so is willingly adopted by service users and stakeholders alike. Awards for volunteering contribute to a positive sense of community identity and raises O.P.E.N's profile. Campbell, Wood & Kelly (1999, p. 144) suggest that the most important dimension of health-enhancing communities is 'perceived citizen power'; where people feel that their needs and views are respected and valued and where they have channels to participate in making decisions that affect their community. Strategic partnerships enable this process as members of the public, service users and professionals can all attend meetings. These could be most aptly described as 'community coalitions'; coalitions of community leaders that effect community-wide change (Flynn, 1992). Advantages of the community partnerships O.P.E.N work in mirror those of community coalitions reported in research (Alter & Hage, 1993; Black, 1983; Butterfoss, Goodman, & Wandersman, 1993; Crozier Kegler, Steckler, McLeroy, & Herndon, 1998) and include: maximising power and influence on community issues, pooling resources and expertise, sharing responsibility for problems and any resulting provision, facilitating co-ordinated action and minimising duplication of services. This creates one cohesive movement for peer education across services throughout the locality. It also suggests that O.P.E.N could not empower volunteers without the support of its empowering community.

5.3. Shetland Context

It would be impossible to present a discussion of the findings without an acknowledgement of the uniqueness of the Shetland context. To echo Cornish & Campbell (2009), this study supports the notion that interventions are always 'interventions-in-context'. It is undeniable that the project and its associated activities have gained significance as a result of the particular context of the Shetland Islands in which they operate. In contrast to previous research studies situated in marginalised, disempowered communities (Cornish & Campbell, 2009), Shetland is a 'health-enabling community' (Tawil et al., 1995): a social and community context that enables or supports the renegotiation of social identities and the development of empowerment and critical consciousness. It is suggested that changes in health behaviour are more likely to occur within communities where there is trust, reciprocal help and support, a positive community identity and high levels of involvement in local organisations and community networks (Baum, 1999; Campbell & Jovchelovitch, 2000; Campbell, 2000). The existence of bonding and bridging social capital in the community in which the programme is implemented is believed to help facilitate participatory peer education programmes (Campbell, 2003) as peer education 'relies for success on tapping into existing processes and structures' (Backett-Milburn & Wilson, 2000, p. 96). Thus, the potential for a peer education project to be sustainable is much greater in Shetland than it may be in other localities as there is a stronger history of social organisation within the community which may support O.P.E.N's efforts to establish authority, solidarity and collaborative partnerships. Shetland is a unique location; as an isolated community the locality is very different compared to previous cases examined in peer education literature. The community is more self-reliant due to the limited opportunities for external practitioners to visit the islands. This may account for the higher tendency towards

volunteering, as there are different expectations of citizenship compared to other localities. The smallness of the community was repeatedly identified by participants as being beneficial for health promotion efforts as it is easier to mobilise, lobby and enact change. It also assists in the identification of issues that are importance to the community. Community networks are not always positive however (Baum, 1999; Portes & Landolt, 1996). The small size of the community may lead to greater stigma around certain health issues and prevent action within these areas. In contrast to the location of other situated studies, which report a lack of youth representation within local political and community development structures (Campbell, Foulis, Maimane, & Sibiya, 2005), in Shetland young people participate in community decision-making. As Shetland does not currently utilise other forms of peer education, this means there is one comprehensive definition of and cohesive movement for the peer education operating within the locality. This assists the organisation, community and volunteers in working together as there is a shared goal and vocabulary surrounding peer education, with no confusion or conflict regarding provision, in contrast to the rest of the field (Kerr, 2000), where there is no commonly accepted definition of peer education (Southgate & Aggleton, 2017). 'One of the main difficulties in assessing and reviewing the field of peer education is reflected in the plethora of terms which are used in the different projects. On an operational level this is highly significant since an important part of clearly delineating work in this area involves deciding which terms, and their implied roles, are appropriate' (Milburn, 1995, p. 412). This is mirrored in the similarity between how staff and project documents describe the process of peer education and volunteer accounts describing how they experienced this. Given the uniqueness of the location however, such an approach to project implementation may be difficult to reproduce: 'there may be little that programme

designers can do other than conclude that participatory approaches such as peer education are not suited to disempowering environments' (Cornish & Campbell, 2009, p. 133).

5.4. Recommendations

Whether case studies can and should inform practice is a matter of debate (Baxter & Jack, 2008). Nonetheless, this study may be of use to those utilising peer education in similar scenarios. Whilst it cannot be used to predict future situations (Walsham, 1995), it may be useful in helping practitioners to re-examine and refine existing practice (Pope, 2005). Analysis of O.P.E.N's organisational dynamic enabled the identification of features that are supportive of peer education and participatory practice. Detailed description of how these are created and maintained by staff and volunteers should help others in replicating similar processes within other organisations and support claims made in former studies (Campbell & MacPhail, 2002; Campbell et al., 2007), that 'project mechanisms can be designed to create some of the social conditions supportive of peer education' (Cornish & Campbell, 2009, p. 133).

Educator credibility

O.P.E.N have made positive moves towards allowing youth volunteers to truly lead the project, rather than just being voice-pieces for adults. One question remains however: how representative is the youth voice generated by the project compared to the rest of the Shetland youth population? To check that peer educators are felt to be peers by the target population, it may be worth including an item on feedback forms for students to indicate how 'like them' they felt the educator to be, with prior research emphasising the importance of defining 'what is a peer' (Milburn, 1995). Research has reported participants in peer-led promotion being made to feel both comfortable and uncomfortable discussing health issues with peer educators that are known to them

(Maticka-Tyndale & Barnett, 2010). This highlights the importance of conducting a needs assessment with the target population to understand which peers would be most acceptable and effective. Students could be asked who they would have liked to teach them about the particular topic that was the subject of the workshop they had received, as it may be that this changes depending on the topic under discussion.

Volunteer wellbeing

It may be useful if O.P.E.N were to employ measures of volunteer wellbeing as part of evaluation efforts. Measuring wellbeing longitudinally over the duration of a volunteer's interaction with the project could be a new direction in evaluation. The empowerment described by volunteers was a long-term process; therefore measuring volunteers' self-esteem or participation in community organising efforts throughout their time at O.P.E.N may provide clearer indication of this effect on volunteers. Self-report measures of individuals cannot completely capture this process however and monitoring these changes poses a challenge to evaluators. Further evaluation such as referee or parental feedback, or comparing volunteer feedback with that of other projects may be needed to support such an approach. Triangulating feedback from three sources (clients, referees and parents) has been recommended in other case studies evaluating youth wellbeing programmes (Godfrey, Devine-Wright, & Taylor, 2015). These are still subject to limitations however and do not negate the necessity to evaluate outcomes through adopting a more experimental approach to evaluation.

Evaluating empowerment

Demonstrating the value of this intervention through evaluation is an important goal, particularly given the focus on evidence of effectiveness within Education and Health. There is a definite need for employing adequate comparison groups or randomly allocating schools to receive workshops to improve the rigour of evaluation efforts and

to support causal claims that youth can be empowered through participation in peer education.

Research retrieval

That utilising pre-post questionnaires was perceived as being problematic not only demonstrates how practitioners have differing views on the purpose and practice of evaluation, but also suggests a need for better access to research and training in preparation to undertake more rigorous evaluation efforts. O.P.E.N could undertake more concentrated efforts to seek out current research and thereby update their practice, for example through setting aside one day a month or term to review literature, or setting alerts when new research relevant to the organisation is published. This is not a direct critique of the organisation however, in that it is not a weakness of the organisation's making and is beyond their current scope to act upon. Staff exhibited great enthusiasm to learn of alternative forms of evaluation and read research, but this is almost impossible if research remains behind paywalls and journal subscriptions. Within academia, there needs to be more effort made to engage with practitioners and make research and its practice accessible to all, rather than merely gate-keeping.

Assessing community context

Evidence from this study would suggest that those wishing to develop peer-led projects in other areas need to look to the community context in which the project is to be based. Structural and organisational features identified in this study as supporting implementation could be used as an indication of whether a new project would be viable and sustainable in a different setting. As Wallerstein & Bernstein (1988) posit, empowerment models can only exist through working with the reality and resources of the community. This study has highlighted the importance of establishing strong working

partnerships with practitioners and the target population to identify needs, share resources and work collectively towards a common goal.

Future research

It may be useful to conduct case studies of projects as they are in the process of establishing themselves within the community to identify issues as they appear and are dealt with in real time, rather than providing a reflective account as is presented in this study.

5.5. Strengths and Limitations

Whilst this study is subject to a number of limitations, it is hoped these are balanced by its strengths.

Case study design

Firstly, the strength of study findings are tempered by the individuality of the case selected as its focus. O.P.E.N and the uniqueness of the location in which it is based may not be representative of other peer education projects or other communities. The celebration of volunteering in Shetland would suggest this environment is pre-disposed towards supporting a project of this nature. Further to this, results are limited to the physically bounded location of the project office and participating schools. Consequently, there will be locations and aspects of the phenomenon that were not explored. Whilst this boundary was determined by the research focus on organisational dynamics, which extends previous research focussing solely on community contexts, it results in 'an inevitable degree of filtering on the basis of what is and is not perceived to be relevant' (Hillyard, 2010, p. 3).

Coding

Upon consideration of study findings, one should be mindful therefore that these are constructions based in the language and theory of the researcher (Rosen, 1991). As a 'second-order recounting' (Geertz, 1975), such interpretation is conditional and may have been understood differently by another (Angrosino, 2007). This was addressed to an extent by the iterative nature of the coding process which minimised the risk of omission of any latent ideas. The wide array of identified codes presented an efficient method of data labelling and retrieval that served as an analytically robust and conceptually meaningful approach to analysis (Miles & Huberman, 1984). In addition, participants were given the opportunity to discuss and validate observations and their subsequent interpretation. A wide array of data sources were drawn upon to gather many different perspectives and cross-referenced to identify areas of (dis)agreement with findings. This is beneficial as:

> *'using a variety of data sources ensures that the issue is not explored through one lens but rather through a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood'*

(Baxter & Jack, 2008, p. 544).

Such multi-perspectival analysis enabled the researcher to consider the voice and perspective of actors both as individuals and as a collective group within the organisation (Tellis, 1997). The convergence of sources into one manuscript strengthened findings as 'the various strands of data are braided together to promote a greater understanding of the case (Baxter & Jack, 2008, p. 554).

Observer effects

The extended time the researcher undertook in the field observing participants is hoped to have made their presence a commonality amongst participants. The study was

conducted in naturalistic settings and participants were asked to go about their everyday life as normal, the researcher did not intervene or impose practices that were out of the ordinary. Despite this, even the most unobtrusive observation can have unintended observer effects. The inclusion of 'key documents' in the corpus mediates the influence of these effects on findings as such sources are non-reactive and largely corroborated participant accounts/observations. The inclusion of such sources increased confidence on accounts given by participants as they were used to comparatively assess the accuracy of interviews and observations.

Conceptual framework

It has been argued that a key condition to develop a structurally sound theory is the ability of the researcher to maintain theoretical sensitivity (Glaser & Strauss, 1967; Holton, 2007). This requires the phenomenon under study to be examined devoid of any preconceived theoretical constructs that may frame and influence the interpretation and prevent themes arising naturally from the data. As a pre-existing conceptual framework was used to guide analysis, the researcher constantly referred back to the data to check that themes matched the dataset and revised the original framework to fit data, rather than the opposite. Of note, the study cannot generalise, test, or find relationships across variables; nor did it seek to. Though volunteers easily talk of changes in themselves and in their relations with peers and the wider community, this is merely reported as an observation. It is not within the remit of this study to suggest that these were specific outcomes of their participation in the project. This study was exploratory in scope, making case study design appropriate. Impact on personal and community-level development should be explored through experimental designs that can establish causality.

Research relevance

Finally, despite Cornish & Campbell's (2009, p. 31) contention that 'one intervention can(not) simply represent another', similarities identified between this study and others committed in widely differing localities and populations suggest that there are some aspects of peer-led provision which may be universal, making this study of relevance to researchers and practitioners alike.

5.6. Summary

Study findings suggest a number of organisational practices, as well as broader contextual factors that may support participatory practices within peer education. Organisational features such as the creation of equal relationships between staff and volunteers, networks of group support and the creation of a safe space to discuss community issues may facilitate participatory practice. Within the broader community context, factors such as population size, attitudes towards volunteering and strategic partnerships between practitioners, policy makers and the public were identified as supportive of participatory efforts. By providing young people with the opportunity to choose curriculum content and engage with other aspects of provision typically perceived as being within the remit of adults, such as discussing funding sources and meeting with stakeholders, O.P.E.N demonstrate to their volunteers how they can act with others to directly influence and effect change within their own lives and wider community. Such efforts to create participatory peer-led practice do not go unrewarded. Young people volunteering with O.P.E.N are overwhelmingly positive about their experiences and attribute them to increasing self-confidence and bringing the community together. This is especially important as youth volunteering with O.P.E.N are from backgrounds typically seen as being disadvantaged or disempowered from the perspective of both a Health and Social context. It is hoped that in portraying the O.P.E.N Project, the study has extended

understanding of how the interactions, behaviours, attitudes and beliefs of actors within a peer education project shape and sustain participatory practice. More research is necessary to verify that these factors are present within different contexts.

STUDY V

COMMUNICATING USING THE PEER-LED APPROACH

Study V was designed to be a feasibility study of a trial to compare sex education lessons delivered by peer educators and teachers. The aim was to explore the extent to which 'open communication' is specific to peer-led sex education. 12 schools were randomised to intervention (peer-led) or control (teacher-led) conditions. Schools unanimously expressed a preference for allocation to the peer-led condition and as a result, all teacher-led schools withdrew from the study. Consequently, this chapter presents methods of data collection and analysis for investigating classroom talk in the context of sex education, describes the strengths and limitations of the research methodology, and discusses the implication of teachers' reluctance to deliver sex education for future research efforts and the impending implementation of compulsory RSE.

STUDY V: COMMUNICATING USING THE PEER-LED APPROACH

1. Context

As identified in Study III, it is thought that similarities between peer educators and students enable peer educators to convey information in a way that is more open, credible and appealing than that provided by teachers (Wight, 2011). Conversation is 'non-judgemental and supportive', focussed on 'problems that are common to both parties, in the vernacular without any overtones of social control or authoritarianism' (Topping, 1996, p. 24). This 'egalitarian communication' is more 'open and sub-culturally relevant' (Stephenson et al., 2008). Whilst communication claims are popular, there is little investigation or description of this phenomena in empirical literature. As such, it is difficult to understand what this communication looks like and whether it is substantially different to that with teachers.

1.1. Classroom Communication

When engaging in classroom talk it is only the figure of the teacher that has the authority to control, direct, and manage communication (Walsh, 2011). This creates an unequal power relationship between teachers and students (Mathie & Ford, 1998). The dominant role taken by teachers constrains communicative options available to pupils (Edwards & Westgate, 1994). It is suggested that for school-based sex education to be effective the subject needs to be delivered in an open and informal manner, rather than the traditional didactic methods used to teach other areas of the curriculum. This can be problematic for teachers as their professionalism necessitates hierarchical teacher-student relationships

and formal teaching methods that are difficult to disregard on a topic-by-topic basis (Allen, 2005; Kehily, 2002).

Communication in the sex education classroom

Communicating with teachers

Talking with someone of a similar age is presented as having the potential to overcome communicative issues in the sex education (Allen, 2009). Proponents of peer-led sex education point to evidence of teachers' discomfort discussing topics of a sexual nature with students to further justify this approach (Forrest et al., 2002; Gordon & Gere, 2016). Teachers are described as awkward and embarrassed when delivering sex education (Allen, 2009; Forrest et al., 2002b; Lupton & Tulloch, 1996; Measor et al., 2000; O'Higgins & Gabhainn, 2010; Thomson & Scott, 1991). Students complain that teachers are unwilling or unable to discuss matters of sexual health and wellbeing forthrightly (Lester & Allan, 2006). Several studies have described 'defensive teaching', where teachers keep to 'safe' topics and avoid controversy (Buston et al., 2001; Kidger, 2002; Trudell, 1992, 1993).

> '*Although there is plenty of 'sex talk' which takes place in schools, the way sexuality figures in most interactions between students and teachers involves strategies of control and resistance, and often antagonism… of the sex education class cannot be made immune from the general dynamic of these interactions, simply by giving permission for discussion about sex/sexuality in that particular school context and only that context. It is, therefore, unsurprising that within sex education lessons, talk about sex is often difficult and strained*'
>
> (Epstein & Johnson, 1998)

Restricting communication in this way is 'unlikely to result in a comfortable experience for either teachers or pupils, nor is it likely to achieve positive behavioural change' (Buston et al., 2001, p. 367). Open, relaxed or informal communication is frequently mentioned as an essential component of effective sex education (Allen, 2005), with young people themselves specifically requesting discussion of a more open nature (Langille et

al., 2001; Lupton & Tulloch, 1996; Measor et al., 2000). Thus the claim that 'open and sub-culturally relevant communication' (Stephenson et al., 2008) is more likely to occur between peer educators and students make peer-led sex education an attractive alternative to teacher-led provision.

Communicating with peers

Peer educators are described as possessing the ability to: create trust and comfort with students when discussing sensitive topics (Campbell & MacPhail, 2002); speak/use the same social language (Palmer, 1993; Perry & Grant, 1989; Russell, 1991; Waldock, 1991); appear non-threatening (Mathie & Ford, 1998); and 'talk in an open, non-judgemental and supportive fashion about the kinds of problems and concerns which are common to both parties' (Carrera, 1976, p. 54). These qualities combine to produce open communication with the target population, increasing engagement with lesson content and the likelihood of attitudinal or behavioural change (Kidger, 2004).

Limitations to peer-led communication

Portraying the educative process of peers in this way has been critiqued as a 'simplistic model of social relations' (Price & Knibbs, 2009, p. 291). Peer-led communication is not as straightforward as its presentation in theoretical literature or as suggested by stakeholder interviews conducted in Study III.

Teaching peers to talk

Participants in Study III were divided over whether open communication between peer educators and students was a natural process or one that had to be developed via training. The notion that improved communication can be achieved via training is problematic for two reasons: firstly, it suggests that communication may not be peer educator specific as anyone could potentially receive training to improve their communication with students. This is supported by student interviews conducted by Allen (2009, p. 45) who reported

that 'the finding that being able to relate to young people was a quality that participants attributed to all educator types gives credence to the idea this this need not be the preserve of one educator type'. Secondly, increased formal training may limit the informal atmosphere created by peer educators, imbuing them with the same sense of professionalism as a teacher. It was observed by Harden et al., (1999) that when peer training is translated into action, peer educators are often taught standard teaching practice methods, turning them into 'mini-teachers'.

Peer teachers vs. Peer educators

Similarly, Regis (1996) noted that charging peer educators with the delivery of educational information in a classroom-based context resulted in the creation of 'pseudo-teachers'. Adoption of this authoritarian role may create unequal relationships between peer educators and students, limiting opportunities for open and equal communication, and therefore negating any argument for the greater communicative advantage of peers over teachers in delivering sex education. It is hypothesised that when made responsible for the delivery of educational material, young people will imitate a model that has been observed in a similar role, which in all likelihood will be that of a teacher. This phenomenon was recorded by Frankham (1998) who observed peer educators trying to emulate experts in order to feel confident enough to enact the role of educator. Peer educators copied the behaviour of their trainers when delivering material in the classroom, resulting in the use of didactic teaching methods. Frankham noted this This led to an over-reliance on Initiation-Response-Feedback (IRF) sequences within peer-led lessons. IRF sequences describe routines where teachers ask a question, wait for a student to respond and either evaluate the correctness of this response or provide their own response if an answer has not been suggested by the class. This method is typically found in classrooms where the teacher is in strict control of communication structure and

content (Cazden, 1986, 1988; Mehan, 1979; Sinclair & Coulthard, 1975) and has been found to increase the hesitancy of students to vocalise their opinion (Edwards & Mercer, 1987). In a study of Cambodian peer education, O'Leary & Nee (2001, p. 45) found that both peer educators' and participants' expectations of educational practice, having been constantly reinforced throughout students' school experience, impeded use of more informal communicative methods:

> '*While many peer education sessions were conducted in a lively way and some peer educators proved to be talented educators, their practice was built on a didactic model of knowledge transmission. This derives from the pervasive influence of experiences of a schools system in which factual knowledge is highly prized, rote learning is emphasised, questioning authority is frowned upon, and teachers are accorded high respect.*'

Whilst this observation is taken from a different educative context to that of the UK, it bears striking similarity to UK-based accounts of peer-educator-produced barriers to open communication in peer-led sex education classrooms.

Negative communication

A further limitation of communication claims in the context of peer-led sex education is the presumption that talk between young people is positive. This presents an idealised view of relationships between young people, in which interactions are assumed to be positive and altruistic (DiIorio, Kelley, & Hockenberry-Eaton, 1999). Not all interactions within the peer-led sex education classroom are positive. In the same way that teachers describe students misbehaving during sex education, Howick (1998) witnessed female peer educators being verbally harassed by male students. This challenges the assumption that all peer interactions are positive and supportive.

1.2. Previous Research

Researching peer-led communication

Two decades ago it was observed that 'one of the most notable gaps in current research is the lack of detailed analyses of the sorts of interactions that actually take place between

young people under the guise of peer education' (Frankham, 1998, p. 187). Little research has addressed communication within sex education classrooms (Forrest, Strange, Oakley, & The RIPPLE Study Team, 2004; Measor et al., 2000). Findings from Study II suggest that this is still the case. The closest evidence to draw upon is the identification of a 'special communication process' in student and practitioner evaluation of factors believed to contribute to the success of peer-led sex education (Allen, 2009; Forrest et al., 2002b; Layzer, Rosapep, & Barr, 2014; Mellanby, 2000; Morgan, Robbins, & Tripp, 2004; Paul, Bell, Fitzpatrick, & Smith, 2010; Strange, Forrest, Oakley, & The Ripple Study Team, 2002). The majority of this work is questionnaire-based and conducted post-intervention, with no observation or description of how these interactions work in real-time. Thus there is a lack of evidence to suggest this communication process is effective, how it works, or if it can be replicated within sex education.

Researching peer conversation

Whilst there is little research analysing peer-led communication in the sex education classroom, there is some research on young people's conversations about sexual health and wellbeing with friends (Frankham, 1998; Walker, 1994; Walker, 1997). Despite a general belief that 'young people tend to talk with their peers about most subjects, including sensitive issues such as reproductive health and HIV' (Tolli & Tolli, 2012, 904), existing studies reveal a number of difficulties in equating these conversations with knowledge transfer.

Communication expectations

Walker (1994) reported that in conversations with friends teenagers wanted the opportunity to verify their ideas and feelings with someone deemed to be in a similar situation to that of themselves. This was in pursuit of support and validation from the peer group, not disconfirmation or disagreement (Walker, 1994). This suggests that young

people use these conversations to confirm existing social norms and beliefs around sexual behaviour, they do not expect their views to be contradicted. Possible consequences of such an approach are suggested by Merton's (1968) writings on Reference Group Theory. A group's attitudes, beliefs or behaviour will be dictated by their choice of comparison point. At times, an out-group can be convinced to change its behaviour by the influence of a persuasive in-group. However, if the in-group are perceived as being too dissimilar to the population of the out-group, the comparison point will continue to be external, and outgroup loyalty will be hardened. Similar views to those described in Walker's (1994) research were also reported by Frankham (1998). Upon talking to young people about their conversations about sex, Frankham noted that young people's 'expectations and experiences of friendships are such that they do not expect their friends to impose views or values upon them. It seems that peer education may be trying to operate counter to this culture rather than within it' (p. 190). As such it is questionable to what extent peer-led communication can mirror informal conversations about sexual health and wellbeing amongst friends.

Communication content

Frankham (1998) also gathered evidence about the *content* of adolescent conversations about sex. Most focussed on relationships rather than sex. Young people were highly unlikely to acknowledge ignorance in these instances. Similar studies of conversation between groups of young men describe conversation as being equally limited (Holland, Ramazanoglu, & Sharpe, 1993; Rachel Thomson & Scott, 1991); based on jokes rather than reliable facts about sex. As a result, conversations between peers are rarely educational opportunities, suggesting that communication within the peer-led sex education classroom is not a natural discursive process in the same vein as other conversations between peers.

'Although most young people say that they have learned most about sex from their friends; they find it very difficult to recall any facts they have learned in this way. It seems as if friends are used more as sounding boards for ideas and snippets of information. These are then assimilated into the picture or rejected, depending on their 'fit' with an individual's picture of the world and their place in it... it has been assumed that all young people talk to each other freely and easily about sex. This appears to be far from the case'

(Walker, 1994, p. 107).

This evidence raises questions around whether peer educators can inspire more open communication with students, and whether students would be willing to engage with this process.

1.3. Research Purpose

Research aims

There is a need to explore the communicative mechanism within peer-led sex education. This is a central, yet contradictory claim within the field. Subjecting communication in the sex education classroom to investigation will provide evidence to assess whether communication within these lessons is comparatively different to that in teacher-led classrooms.

Test CMOc-2

The theory of change describing how peer-led sex education generates outcomes for students as suggested in Study III hypothesises that: by identifying an educator as a peer, students will participate in more open communication, resulting in increased engagement with lesson content. This outcome leads to positive knowledge/attitudinal change. Claims of open communication between peer educators and students producing positive intervention effects is a fundamental assumption within peer-led sex education. Take for example, Perry et al.,'s (1986, p. 62) proposition that 'the peer educator/receiver relationship, based on a 'give and take' friendship and not on authoritarian-pupil model,

appears to be the major reason for the positive impact of the peer education process on achievement'. Yet interviews with young people provide limited and sometimes oppositional evidence that young people find it easy to talk to one another about sex (Walker, 1994). Many projects currently take it for granted that young people are ready-made experts in communicating about sexual health with their peers (Frankham, 1998), rather than subjecting this assumption to evaluation. Study V aimed to address this gap in the research field by:

Generating research evidence

There is little evidence to support the specificity of open communication to peer-led sex education and its absence in teacher-led classrooms. This raises the question: are peer educators better at communicating openly with students in sex education than other practitioners? And does this encourage student participation? It could be that this communication process, once depicted, could be broken down into a set of skills that could be taught to any educator to support the delivery of sex education. Alternatively, it could be that this type of communication can only be evoked by an innate sense of peerness felt between educator and student. These questions need to be addressed in order to understand who is best placed to communicate with and thereby encourage young people to be sexually healthy.

Assessing the quality of communication

If it is the case that the 'rules of participation established in classroom routines resonate through schooling' (Fisher & Larkin, 2008, p. 3), can peer educators break this established routine? When peer-led sex education takes place in a heavily regulated context such as that of the school environment, peer educators and students may fall back on pre-established communicative patterns; preventing open, informal conversation. This is supported by Aleksandrzak (2013, p. 142) who writes: 'Any attempts at copying or

imitating interaction seem unrealistic, as the classroom creates its own dynamic and unique environment governed by rules, goals and mechanisms, different from those prevailing in natural settings'. Without observing and comparing communication in both teacher and peer-led sex education classrooms it is unknown to what extent conversations with peer educators differ to those with teachers.

Objectives

The objective of Study V was to explore the notion of open communication within peer-led sex education by examining educator-student discussion in peer- and teacher-led sex education classrooms.

Research questions

Study V sought to achieve the aforementioned aims and objectives by answering the general research question: What is the effect on educator-student communication when different educators (peer educators and teachers) are used to deliver lesson content within the sex education classroom? The general research question was made up of the following sub-questions:

- ➢ What is the effect on student knowledge/attitudinal change when different educators (peer educators and teachers) are used to deliver lesson content?
- ➢ Are there differences in how teacher-led students describe their experience of receiving sex education compared to students receiving peer-led provision?
- ➢ Are there differences in how teachers describe their experience of delivering sex education compared to the responses of peer educators?

In attempting to answer these questions, data produced in Study V was to address thesis question 4) Can the effect of identified mechanisms/contextual features be observed in practice?

2. Methods

The communicative mechanism identified within CMOc-2 should be subject to investigation to test whether open communication is educator-specific and explore what effect this may have on knowledge and attitudinal change. As the trial was unsuccessful, in that it could not recruit schools into the control (teacher-led) condition, the following section presents the preliminary design stages of a feasibility trial the researcher wished to conduct.

2.1. Design

The most appropriate research design to test CMOc-2 is to utilise an experiment with an equivalent comparator. This led to the creation of two groups: a peer-led and teacher-led condition. Both groups in the experiment were to receive the same amount of sex education, the same curriculum, and the same resources (active control). This was to isolate and attribute any observed differences between conditions to an educator effect. By observing both teacher and peer-led classrooms, and comparing the communication and outcomes produced in each of these environments 'the evaluation can show the series of steps that lead from inputs to outcomes… If the posited steps are not born out by the data, then the study can show where the expected sequence of steps break down' (Weiss, 1997, 70).

2.2. Process

Sample

Study V was a feasibility study. Its aim was to ascertain whether a controlled test of a sex education programme could be successfully rolled out at a larger scale in future and to ensure that collected data was suitable to answer the research questions. As such, it was

decided that the study would initially include a small sample of students (no power calculations were conducted). The sample was limited to secondary schools based within the geographical boundary of the Local Education Authority (LEA). It was hoped that this approach would guarantee that participating schools and their students would be similar enough for study, holding similar social values, attitudes, and behaviours regarding sexual health and wellbeing. Pre-questionnaires would be administered to all students to test students' similarity at baseline.

Recruitment

30 secondary schools in the catchment area of the Local Education Authority (LEA) were sent invitation letters to participate in the trial. Eligible schools were mixed-sex academies or maintained secondary schools. Special education schools and independent schools were excluded from the sample. Accompanying school invitations was an information booklet describing the study design, curriculum content, and research process (Appendix R). Schools were asked to read a participant information sheet and sign and return the attached consent form to indicate their willingness to participate in the study. After consent was obtained from schools, participating educators (either teachers or peer educators) were asked to read a participant information sheet and return a consent form. Finally, students in Year 9 (13-14 years) in participating schools were asked to take a participant information sheet home to their parents. Accompanying this was an 'opt-out' form: if a parent wanted to withdraw their child from participation in the study they were asked to sign and return the 'opt-out' form (Appendix Q). Peer educators were recruited from a peer-led sex education student society that had been created by local university students.

Randomisation

12 schools returned their consent to participate, an inclusion rate of 40%. To prevent selection bias, the randomisation process was blinded. Randomisation was conducted electronically using computer software. Randomisation was conducted at school-level; with half of the participating schools forming the intervention (peer-led n=6) group and half forming the control (teacher-led n=6). Those in the control group were offered the opportunity to receive the intervention the following year with the next student cohort.

Curriculum development

As there is no set curriculum for sex education, the researcher designed a curriculum in partnership with the LEA to ensure that all schools delivered the same curriculum. Topics were chosen through consultation with the SRE lead for the LEA. The SRE lead identified an appropriate year group (Year Nine students, 13-14 years) and areas where schools were in need of support or where previous provision had been patchy. For example, puberty and reproduction is usually taught at primary school in Year Six (10-11 years). There was a concern that not all schools had delivered this education, and as a result, the LEA asked that this topic be included in the curriculum. Through this process a total of 6 topic areas were brought together under a programme entitled 'The Provision Project'. Topics were translated into one-hour lessons on: puberty, sexuality and gender identity, healthy relationships, consent, STIs and contraception, and sex in the media. Translating general topics into a coherent set of lesson objectives and associated content/resources was the result of a collaborative design process that included the researcher, sex education charities, the local SRE lead, secondary school teachers and peer educators. A number of SRE providers were contacted and asked to share any educational resources related to identified topic areas. Once these had been received, resources were reviewed by the researcher and SRE lead to identify approaches that could be used within the Provision

Project. These were re-worked, combined and edited by the researcher until they were satisfied that lesson content reflected the lesson objectives identified by the SRE lead. The preliminary curriculum was then presented to school teachers and peer educators. Feedback from this presentation was used to further refine the curriculum and to ensure that it was suitable for delivery in schools (for example, schools and the LEA did not want a certain provider's resources on pornography to be included as these were thought to be too explicit).

Curriculum delivery

Schools would deliver one topic for one hour a week (covering a 6 week period). To support educators in their delivery and make both arms of the trial as comparable as possible, a curriculum guide including lesson content, educator prompts, PowerPoint presentations (Appendix S) and a resource copy book (Appendix T) was created to be used in sex education lessons. In addition, to eliminate the possibility for provision to be limited by budgetary constraints, any resources that required a purchase e.g. condoms, demonstration models etc. were to be delivered to participating schools.

Educator training

Participating teachers and peer educators were invited to attend training sessions to practice content knowledge and delivery in an effort to keep educator competence/confidence consistent across conditions. Sessions were scheduled for weekends and evenings one month before delivery.

Knowledge assessment

To determine whether differences in provision produced different learning outcomes for students, pre-post questionnaires were designed to assess knowledge in each of the topic areas. Students were to be given a pre-questionnaire booklet a month before trial commencement. This would assess prior knowledge in each of the topic areas and ensure

intervention and control group equivalence (Appendix U). An anonymous identification code was created for students using students' birth month, birth date and postcode (e.g. Jan12AB123CD). Students were asked to create this code before completing the pre-questionnaire (space provided on front of pre-questionnaires). These codes would help to link participant data pre- and post-intervention and preserve confidentiality. Immediately upon lesson completion, students would complete a questionnaire for the topic they had received (Appendix U). These were to be repeated 6 months post-intervention.

Evaluating educative experience

Immediately upon lesson completion students would complete a questionnaire to gather their views and experiences of participating in the lesson received (Appendix U). This was to evaluate their response to the educator and to explore whether this response was subject-dependent.

Evaluating teaching experience

Immediately upon lesson completion educators (peer or teacher) would be asked to complete a questionnaire to gather their views and experiences of delivering the lesson (Appendix V). This was to evaluate their opinion of students' reception of and engagement with the lesson and to explore whether this response was subject-dependent.

Recording educator-student communication

Before lesson commencement educators would be asked to record the lesson using an audio recording device supplied by the researcher. These were to be returned for analysis at the end of the trial period.

2.4. Measures

Pre-post knowledge questionnaire

A search was conducted to identify studies utilising similar measures to assess intervention topics. A number of sex education research units and providers were also contacted and asked to share any questionnaires or measurement tools relevant to intervention topics. Sources subject to consultation included those used in the RIPPLE Study, APAUSE Project and the Schools Health and Education Unit (SHEU), and questionnaires designed by Downing & Cook (2006), Hoff, Greene, & Davis, (2003), and Jomeen & Whitfield (2010). Whilst not directly relevant in terms of subject matter, these sources were useful in suggesting how to phrase/structure questions and record responses. To create subject specific questions, the researcher worked closely with the SRE lead in the LEA to base questions on identified lesson objectives from topics included in the intervention. 10 questions were included for each topic and respondents were asked to rate their knowledge on a 5 point Likert scale ranging from: 'I think this is false', 'I think this is false but I'm not sure', 'I don't know', 'I think this is true but I'm not sure' and 'I think this is true'. A focus group of Year 10 students (15-16 years) at a participating school was conducted to ensure the wording of questionnaires was relevant, and formatting/layout was clear and accessible. The questionnaire was also considered by a group of peer educators during a training session. Feedback was largely positive, with the suggestion that questions needed to be worded in a way that was neutral to enable participants to provide a response regardless of their gender/sexuality.

Student experience questionnaire

Questionnaires to gather students' views of the educator and lesson received were adapted from those utilised in the RIPPLE Study by Forrest et al., (2002). Respondents were asked

to respond to statements using a 5 point Likert scale ranging from Strongly Agree to Strongly Disagree.

Educator experience questionnaire

Questionnaires to gather educators' views of students' response to the lesson received were adapted from those utilised in the RIPPLE Study by Strange et al., (2002). Respondents were asked to respond to statements using a 5 point Likert scale ranging from Strongly Agree to Strongly Disagree.

2.5. Analysis

Knowledge questionnaires

To measure student knowledge, data obtained from pre-post questionnaires would be analysed by creating a knowledge score for each topic in the curriculum. Knowledge scores were derived by scoring individual questionnaire items from 1-5 with 5 representing a correct response and 1 representing an incorrect response. For example, when responding to the statement 'Pornography is edited' a student would score 5 for 'I think this is true', 3 for 'I don't know' and 1 for 'I think this is false'. 'I don't know' would receive a higher score than a student believing the incorrect response to be true as this suggested uncertainty rather than incorrect knowledge. A total knowledge score for each student would be generated to calculate overall improvement, compare improvement rates between groups and also analyse whether there were subject-specific differences between groups. A higher score represented a higher level of knowledge. Analysis would be conducted on the basis of intention to treat, whereby all pupils initially recruited to the trial would be analysed on post-test, regardless of whether they completed the trial. Effect sizes would be calculated using Cohen's D alongside 95% confidence intervals.

Experience questionnaires

To measure student and educator experience, data obtained from experience questionnaires would be analysed by creating a satisfaction score for each topic in the curriculum. Satisfaction scores would be derived by scoring individual questionnaire items from 1-5 with 5 representing a satisfied response and 1 representing an unsatisfied response. A total satisfaction score would be generated to calculate overall satisfaction, compare satisfaction rates between peer- and teacher-led groups and peer educators and teacher as well as analysing whether there were subject-specific differences between groups. A higher score represented a higher level of satisfaction.

Lesson recordings

Lesson recordings would be transcribed by the researcher. All student and school names, alongside any other identifying data would be removed. A coding scheme developed to analyse classroom talk in the context of sex education would be used to determine whether there were differences in communication between teacher and peer-led student exchanges (Dobson, Beckmann, & Forrest, 2017). Positive codes included: students asking direct questions related to subject material (Svenson & Bertinato, 1998); students responding to questions related to subject material (Svenson & Bertinato, 1998); educator asking questions to give students an opportunity to respond to subject material (Forrest et al., 2002); educator answering students' questions related to subject material (Measor et al., 2000); the use of humour (Allen, 2014; Strange, Forrest, Oakley, & The Ripple Study Team, 2002; Strange, Oakley, Forrest, & The RIPPLE Study Team, 2003); use of colloquial language or slang (Svenson & Bertinato, 1998); and praise (Morgan, Robbins, & Tripp, 2004). Negative codes include: overuse of biomedical vocabulary (Alldred & David, 2007; Forrest et al., 2002; Langille et al., 2001; Selwyn & Powell, 2007; Svenson & Bertinato, 1998); students not answering questions (Forrest et al., 2002); educator not

answering students' questions about subject material (Measor et al., 2000), students 'speaking out' in a way that disrupted the lesson, and prescriptive statements or moralising (Forrest et al., 2002; Halstead & Reiss, 2003; Measor et al., 2000). To identify and characterise open communication in both the peer and teacher-led sessions, the coding scheme would be applied to transcripts. For convenience and precision of measurement, a frequency analysis would be conducted to count the relative frequency of instances where a code was applied to a transcript. These frequencies were to be plotted for the duration of the SRE session and inferences drawn from emergent trends.

2.6. Ethics

Ethical approval for the study was granted by the School of Education Ethics Committee at Durham University on 30/06/2017 (Appendix O). Issues of confidentiality were addressed by creating anonymous identifiers for students and removing names from lesson transcripts. To further decrease possibility for identification, sessions were subject to audio rather than video recording. All participants over the age of 18 were given participant information sheets and signed consent forms agreeing to participate in the study. Parents were given participant information sheets and made aware of their right to withdraw their child from the study at any point. Students were made aware that they would be recorded for study. To prevent this adversely impacting on student engagement, students could receive lessons in an unrecorded classroom.

3. Results

Participating schools unanimously expressed a preference for allocation to the peer-led experimental condition. Despite assurances that teachers would receive the same training and resources as peer educators, and that their next Year Nine cohort could receive peer-led sex education, schools were only willing to participate in the study on the condition that they were placed in the peer-led arm of the trial. When the researcher explained that this would not be possible (as schools had to be subject to randomisation), all schools in the teacher-led arm of the trial withdrew from the study. Without an equivalent comparator it was decided to postpone the trial. The following section describes teachers' beliefs regarding the greater potential success of peer educators and barriers to intervention implementation experienced by the researcher over the course of the study.

3.1. Preference for Peer Educators

Teachers were so convinced of the greater effectiveness of peer educators, they would only continue to participate in the trial if placed in the peer-led condition. Despite the assurances of the researcher that the effects of peer education were currently inconclusive, teachers could not be persuaded that peer-led sex education may be less successful than teacher-led provision. Teachers felt uncomfortable at the thought of being compared to an approach they believed to be more effective than their own. Across the board, teachers believed that students would prefer to receive sex education from peer educators, and would more readily listen to and engage with lesson content. This was sometimes attributed to the novelty of the approach as none of the schools in the local area had used peer education to deliver RSE. There were also frequent allusions to the greater capability of peers as educators within the sex education classroom. Teachers felt that as peer educators were closer in age to the target population they would know which issues were

important for young people to discuss and how to frame these discussion in language that would be non-threatening, inoffensive and credible to students. In addition to the attractive characteristics of peer educators, teacher also referred to personal or logistical benefits associated with the approach. Some were relieved at not having to deliver lesson content, joking that they could 'hide behind my marking at the back of the classroom' so they wouldn't have to 'get involved'. Others valued the 'free time' which could be used to 'catch up with marking'.

3.2. Barriers to Implementation

During the course of curriculum design and delivery, several issues arose which may have influenced teachers' unwillingness to participate in the trial. These are described in more detail below. Schools had been involved in the design of the intervention curriculum, being invited to review the curriculum guide and suggest changes to materials. Thus it could be argued that the curriculum offered to schools was in part produced by teachers. As such, it is unlikely that teachers objected to the curriculum content in itself. Upon learning that they would be responsible for its delivery however, many teachers asked whether peer educators could be 'brought in to do the tricky bits'.

Concealing condoms

An example of a 'tricky bit' thought best addressed by a peer educator was that of the condom demonstration. Teachers did not wish to be seen holding condoms or demonstration models and referred to having to 'hide' materials or 'lock them away in cupboards' if made responsible for delivery. They were of the opinion that peer educators, as young people, could be seen holding 'sexual objects' in front of pupils, whereas teachers could not. Peer-led schools also experienced issues around condom demonstration. Peer educators were instructed that all condoms had to be counted out and counted in again upon their return by students, due to concerns about misbehaviour. Any

wrappers were to be removed from classrooms and disposed of outside of school grounds or wrapped in tissue paper to disguise on-site disposal, preventing 'silliness or students messing round with them'.

'Inappropriate' images

The unit on puberty and reproduction included a PowerPoint presentation with diagrams of both the male and female reproductive systems. These were to be labelled by educators and/or students. The male illustration included an internal and external representation of the genitalia, whereas the female illustration was limited to an internal view of the ovaries, fallopian tubes, and uterus. Previous studies spanning a period of thirty years have noted the tendency of sex education to neglect parts of female anatomy and sexuality related to pleasure (Fine, 1988; Measor, Tiffin & Miller, 2000; Pound et al., 2017). To rectify this within the current programme, an illustration of female external genitalia was included alongside the 'traditional' diagrams present on teaching slides. Teachers reported feeling uncomfortable at the thought of using an image of female external genitalia in their lessons as this was 'too rude for a teacher to show to students in a classroom'. Teachers also refused to label the image. There was particular anxiety surrounding the identification and discussion of the labia and clitoris. These anxieties were not present to the same degree when labelling external parts of the male reproductive system such as the penis, scrotum, or foreskin.

LGBT terminology

Many teachers had identified students within their classrooms who were questioning their gender, in the process of transitioning, or experiencing homophobic bullying after disclosing their sexuality. Staff felt strongly that these students should be given greater support and believed RSE was the best method to dispel myths and discourage stereotyping/prejudice within their school. Despite this, teachers were reluctant to discuss 'the LGBT topic' (Gender and Sexuality unit) with their students. This was often

attributed to a fear of 'getting it wrong' or 'using the wrong label', potentially upsetting LGBT pupils. Many teachers expressed a desire for peer educators to handle these topics as they believed that peer educators would 'know more about that stuff than us oldies'. Teachers frequently described feeling ill-equipped to disseminate accurate information, claiming that students 'already know more about the labels and the process than we do from watching stuff on YouTube'. These statements were often used to justify beliefs that peer educators were the 'more appropriate' educator in this context. There were also concerns that subject matter relating to the sexual health and wellbeing of LGBT students was 'too mature' for teacher-led discussion. This was based on the notion that talking about homosexuality would necessarily lead to alternatives to vaginal penetrative sex such as oral and anal sex. These subjects were deemed to be beyond teachers' educative remit and 'inappropriate' topics for discussion.

Policing Content

Participating pupils were invited to submit anonymous questions about curriculum content. These would be answered by the researcher and returned at the end of the programme in the form of a 'Frequently Asked Questions' (FAQ) booklet. Booklets were to be given to each student so they could find the answer to their question at a time of their choosing; in private, with family, or amongst friends. They could also read questions that had been submitted by their peers; reinforcing the notion that no one 'knows it all' and providing answers to queries common amongst the peer group. Participating schools (those in the peer-led condition) requested that submitted questions and proposed answers be subject to approval by staff before their return to students. Several questions and topic areas were redacted from booklets upon review by teaching staff.

4. Discussion

Teachers' reluctance to participate in Study V suggests there are underlying issues that need to be addressed before future attempts at researching RSE or implementing a compulsory RSE curriculum can be undertaken.

4.1. RSE Reluctance

The difficulties experienced in recruiting schools to participate in Study V, whilst disappointing, serve to demonstrate the considerable unease with which teachers view sex education. Teachers were happy with the content, timing, and assessment of the proposed curriculum but were unwilling to be made responsible for its delivery. This suggests that sex education is an area of provision where teachers are in need of support, the necessity of which will only increase when the compulsory RSE curriculum comes into effect in 2020. Teachers were given the same training and access to resources as their peer educator counterparts, who were considerably less experienced in delivering educative material. Yet teachers could not be persuaded to deliver the curriculum. Findings indicate that currently teachers are not only unprepared but unwilling to deliver a compulsory curriculum. From where does this reluctance originate? Difficulties inherent in teaching RSE have been widely documented (Abbott et al., 2016). Given the historical context, previous legislative threats and negative media reporting of sex education, it is not surprising that teachers are sometimes reluctant to engage in the delivery of RSE.

Historical Context

Historically, the focus of RSE has been preventative, presenting young people as vulnerable to and thus dutifully arming them against the threat of AIDS/HIV; teenage pregnancy; and STIs. In an analysis of English policy, Kidger (2005) identifies two

dominant discourses: harm reduction and moralism. In this way, RSE serves to prescribe appropriate behaviour (Allen, 2001), portraying student sexuality as a problem to be managed or contained (Allen, 2007). To this extent, teachers may feel that it is their job to educate *against* student sexuality, rather than educating *for* students' sexual health and wellbeing. Given that the Provision Project curriculum tried to incorporate a number of topics that celebrated youth sexuality (e.g. discussion of gender and sexuality, consideration of positive and negative features of pornography) this may have increased teachers' reluctance to participate in the trial. As sex education is typically presented as a preventative force, teachers may have been wary of accusations of promoting engagement in sexual activity.

Legislative Threats

Those responsible for teaching RSE have been subject to a number of legislative threats. An example of this is the now infamous 'Section 28' of the 1988 Local Government Act, which forbade the promotion of homosexuality as an acceptable alternative to heterosexual relationships. Section 28, though never resulting in prosecution, incited teachers to censor the sex education classroom for fear of criminalisation (Nixon & Givens, 2007). Whilst these laws are no longer in effect, their influence remains. As Section 28 was only repealed in 2003, there may still be staff teaching in schools who recall and are mindful of the repercussions of teaching a more inclusive curriculum, suggesting another possible reason for teachers' reluctance to participate in Study V.

Moralistic Media

Not only may teachers be wary of legal repercussion or parental complaint, the media have also played a large part in encouraging public condemnation of RSE curricula. Positive press coverage of the APAUSE programme for example, was overshadowed by highly critical, graphic headlines accusing the programme of promoting oral sex lessons for teenagers (Kingori, Wellings & French, 2004). Perhaps more seriously, in 2005, *The*

Telegraph published an article entitled '*Outrage over explicit sex lessons*' in which a specific school, head teacher, and the individual responsible for delivering what was deemed to be an 'offensive' RSE programme, were publicly 'named and shamed'. Accordingly:

> '*the most prominent external factor cited as a barrier to service development or provision is fear of the media. High-profile cases of schools and individuals being targeted by a sensationalistic or antagonistic press appear to have left the majority of service providers with feelings of fear or trepidation in relation to potential negative media coverage'*
> (Formby et al., 2010, p430).

This may explain teachers' instinct to hide curriculum materials such as condoms or exclude diagrams of female genitalia.

4.2. Educative Conflict

Educative purpose

Each of the issues identified above is closely tied to societal beliefs surrounding what education is for and whether sex education should feature within this process. This is a fraught debate that can polarise opinion. On the one hand, there are those that see sex education as a human right in that it prepares children for adulthood, akin to any other school subject. On the other, there are those who argue that schools have a duty to protect children. Sex education, by introducing an 'adult' issue into the classroom, disrupts the sanctity of this setting. The expectation that teachers should assume the role of both protective nurturer and uninhibited sex educator therefore may be an impossible request.

Educative identity

Certainly within this study, teachers felt that the role of sex educator could not be easily assimilated within their role as an educator. Much like the educative environment, the teacher acts in a protective capacity in loco parentis. Thus, the relationship between teachers and students is de-sexualised. As a result, discussing sexual issues with students

may be perceived by teachers as a negligent or, given the threats discussed above, risky act. Findings from this study support that teachers' sense of identity as an educator (and which actions are appropriate/inappropriate to perform within this role) has important consequences for the provision of RSE. A number of subject areas were identified as unacceptable topics for teacher-led discussion. These were thought to be more appropriate for peer educators to address, implying that these were inappropriate for teachers. The reluctance of teachers to deliver the gender and sexuality unit is an example of how notions of 'appropriateness' inhibit teacher-led RSE. Teachers' responses to teaching this unit was not unusual, as the inclusion and acknowledgement of sexual diversity in RSE often presents difficulties for teachers (Kehily, 2002). In Study V this was not due to teachers' disinclination to educate their students. Staff wanted to include this content in the curriculum but felt unable to personally discuss subject material. This was due to a fear of getting it wrong or causing offence. The offer of additional training and information was not enough to assuage these concerns suggesting that there is a deeper underlying issue inhibiting teacher-led RSE that cannot be simply overcome through the provision of training/resources alone. Findings from Study V suggest that established societal expectations of the responsibilities of educators prevent teachers from fully engaging in the delivery of RSE.

Educative environment

In addition to the difficulties outlined above, RSE takes place in a setting that is governed by strict rules to reinforce the identities of and boundaries between teachers and students. RSE necessitates discussion of issues normally prohibited within the school classroom. For example, using terms for genitalia may be met with a sanction in maths, but is encouraged within sex education. This disrupts the teacher-pupil binary (Allen, 2005; 2009; Langille et al., 2001; Lester & Allen, 2006). Both teachers and students have to

negotiate new rules specifically for the sex education classroom. As sex education is typically a one-off affair, these rules do not apply to the rest of the school environment or the majority of staff/students' time within it. Perhaps as peer educators are external to the school teachers feel their presence signal to pupils that these lessons are 'out of the ordinary' or 'special' in some way, and as such are not to be associated or conflated with the normal educative environment. Teachers may feel more comfortable allowing rule-breaking to take place in this context as it is the visitor that has disrupted the status-quo. The teacher does not need to create rifts and then repair the normative environment by jumping between the promotion and prohibition of taboo discussion. Instead as soon as the visitor leaves the classroom the teacher can assume their usual educative role and reinstate the rules that support this.

4.3. Recommendations

Implications for the introduction of a compulsory RSE curriculum

Teacher engagement
Whilst it is important that young people receive RSE, within this educative context it appears that the teachers are in need of support as much as their students. A survey conducted by the National Confederation of Parent Teacher Associations, National Association of Head Teachers and National Governors Association stated that 80% of respondents did not feel trained and confident to deliver RSE, with only 9% rating available teaching materials as useful. Similarly, Westwood & Mullen (2007) reported that one third of teachers disliked teaching RSE. The majority did not feel they had adequate resources to teach the topic and didn't feel sufficiently prepared to teach the subject. Yet in this case, teachers and participating schools were given resources and training to support their delivery of the curriculum. This suggests that the provision of concrete materials to assist delivery is not enough to overcome teachers' reluctance to

deliver RSE. It is not teacher aptitude but rather wider attitudes around the provision of sex education to adolescents that hinder RSE. In this sense, it is questionable whether legislative change will be enough to motivate teachers to deliver RSE without also addressing wider societal issues around the provision of sex education. Thus it may be the case that other factors need to be addressed to encourage teachers to deliver RSE, for example through interventions to increase teacher confidence or build community support for teaching RSE in schools. This may require public campaigns to raise awareness surrounding which topics are appropriate for schools to discuss within the remit of the RSE curriculum or a strategy similar to the TPS, where media outlets could asked to run features on the beneficial impact of RSE for young people or the good work of sex educators within the community. Without such action, teachers will continue to deliver content based on what they feel comfortable delivering and what they believe to be appropriate within the classroom (Abbott, Ellis & Abbott, 2015; Abbott et al., 2016; Buston & Hart, 2001; Kehily, 2002; Walker & Milton, 2006; Warwick, Aggleton & Aggleton, 2004).

Student engagement
Several studies have noted the use of defensive teaching by teachers to avoid controversial topics in RSE (Buston & Hart, 2001; Buston, Wight & Hart, 2002; Buston, Wight & Scott, 2001; Forrest et al., 2002; Kidger, 2002). Within this study, teachers justified the censorship of student FAQ booklets by arguing that questions were examples of students 'messing around', deduced from phrasing or subject matter. Alternatively, it could be argued that questions serve to demonstrate the vast and increasingly complex sexual landscape young people are trying to navigate. Restricting questioning in RSE limits pupil agency as: 'In order to have questions answered, pupils not only have to know what to ask… they must know what is appropriate to ask and how to ask appropriately'

(Corteen, 2006, p89). This grey area around acceptability and appropriateness limits both teacher and student participation in RSE. Furthermore, censoring FAQ booklets forces students to look elsewhere to find the answers to their 'prohibited' questions. There is no way of knowing whether the information students find will be accurate or reliable, or whether students will continue to search for answers at all. After having their questions removed from the 'approved' list, there is a worrying possibility that students may decide that their question was too naughty, silly or abnormal to be worthy of a response; encouraging pupils to view their gender/sexual identity in a negative manner (Abbott, Ellis & Abbott, 2015), and thereby dissuading them from asking for help or support in future. It may be useful for teachers to have access to a database of 'approved' resources or information sources they would feel comfortable distributing to students if this information cannot be provided within schools.

Implications for researching RSE

There are a number of lessons to be learnt from the failure of Study V to recruit teachers to deliver RSE. If the trial were to be conducted again, perhaps a smaller curriculum could be used. If, instead of 6 sessions, teachers would only have to deliver 1 session they may be more inclined to participate as this may reduce their feelings of anxiety to one period, rather than extending their 'risk' over a longer period. Further to this, if just one session of RSE was to be delivered, teachers could select the lesson they would feel most comfortable delivering to students, then peer educators could be asked to deliver the same session. Alternatively, if the trial were to be conducted after the introduction of compulsory RSE, teachers' confidence may have increased through their having to regularly deliver subject content. The introduction of compulsory RSE would also provide a standardised curriculum for educators to follow which could further help to alleviate teachers' fears around the appropriateness of lesson content. Despite these

suggestions, results from this study suggest that until wider attitudes around the appropriateness of school-based sex education change, teachers will remain uncomfortable delivering a subject that can lead to conflict. As such, difficulties in persuading teachers to engage with RSE research may continue. In the case of peer education, to test whether young people communicate in a way that is significantly different to that with adults, it may be more appropriate to compare peer educators with alternative adult educators such as school nurses or youth workers. As these educators would be external visitors to the school, teachers may experience the same enthusiasm to harness the skills of these educators as that associated with peer educators. There would be no obligation for teachers to deliver content, no additional teaching/time requirements giving teachers time for the completion of other tasks, and no need to restructure the classroom rules they use to maintain their relationship with students. Finally, perhaps the focus of research efforts should change from measuring the acceptability of different approaches to students to also including acceptability to other stakeholder such as teachers and parents. These are important gatekeepers who can influence intervention success through providing access to the target population/rollout.

4.4. Summary

Study findings suggest that the greater effectiveness of peer-led sex education compared to teacher-led provision is a certainty within the minds of teaching staff. So strong is this belief that it prevents comparative investigation as educators are unwilling to be compared to an approach they intuitively feel to be superior. This outcome cannot solely be attributed to the greater attractiveness of peer education as a pedagogical tool however. Conversations and observations with teachers in both peer- and teacher-led schools suggest that reluctance to participate in Study V was also influenced by teachers'

anxieties surrounding the delivery of RSE. Personal beliefs about the responsibilities of an individual acting in the capacity of an educator, and what was appropriate to discuss with students when working under this remit, discouraged teachers' participation in the trial. These beliefs are bound up with wider societal notions of what sex education is for and who should shoulder responsibility for its delivery. Without greater assurances from school management, LEAs and government, teachers' uncertainties and concerns about appropriateness will continue. This problematizes the provision of sex education and hinders efforts to evaluate 'what works' in this context. There is no quick or easy solution to resolve these issues. Despite the creation of a compulsory RSE curriculum, the status of school-based sex education in England is still subject to fierce debate. In light of this, perhaps the aim of RSE research should be to facilitate discussion amongst stakeholders, community members, and educators to give voice to concerns and work towards achieving consensus on school-based RSE before we can assess the success of different delivery methods.

REFLECTION

ON RESEARCHING PEER-LED SEX EDUCATION

Bringing together findings from the different studies of the thesis, the final chapter of the thesis combines and synthesises results to present a more comprehensive picture of the current status of peer-led sex education. It also includes an autobiographical reflection; outlining the strengths and limitations of the chosen methodology, and proposing suggestions for future study alongside recommendations for practice.

REFLECTION: ON RESEARCHING PEER-LED SEX EDUCATION

1. Revisiting the Research Questions

The Introduction chapter of this thesis identified several limitations with existing understanding of peer-led sex education. There is no specific theory or programme theory for peer-led sex education; no empirical validation or investigation of theory used to support the approach; and no consensus on effectiveness. This thesis postulated that in the face of mixed evidence of effectiveness, research of peer-led sex education needed Context-Mechanism-Outcome configurations to better understand intervention effects. In making this recommendation, the thesis set out to address a gap in the peer education literature and appraise the utility of undertaking such an approach when researching peer-led sex education. The following chapter will assess whether this aim was achieved by revisiting the individual studies of the thesis, and describing the strengths and limitations of the research methodology in answering the research questions:

1. What causal mechanisms and/or contextual factors are thought to support peer-led SRE?
2. Which mechanisms and/or contextual factors have been subject to investigation?
3. How do these mechanisms/contextual factors influence programme outcomes?
4. Can the effects of identified mechanisms/contextual factors be observed in practice?

1.1. Contribution of Individual Studies

Study I

Study I analysed theoretical literature to identify common assumptions about peer-led sex education and describe discourse surrounding the approach. By describing claims and their significance in the literature, Study I identified potential causal mechanisms and contextual features thought to influence effectiveness (RQ1). Whilst this provided

interesting insight into why practitioners may choose to utilise peer-led sex education, claims were limited in that they relied upon the anecdotal accounts of students and educators as evidence of effectiveness.

Study II

Through conducting a systematic synthesis of research investigating UK-based peer-led sex education initiatives, Study II found that very few of the identified claims for peer-led sex education had been subject to investigation (RQ2). Current evaluative focus sheds little light on which mechanisms specifically affect intervention effectiveness; the process by which they do this; and how contextual issues influence this process.

Study III

From conducting interviews with practitioners working in peer-led settings, Study III presented an initial programme theory for peer-led sex education. A concept map was produced to further understanding of the processes by which peer education was thought to be effective by developing causal pathways that were used to develop the initial programme theory (RQ3). Themes from Study III suggested two potential CMOc's suitable for further investigation: 1) participatory practice producing empowered peer educators and 2) peer communication improving knowledge/attitudes of peer-led students.

Study IV

CMOc-1 suggested that participatory practice in peer-led sex education produced empowered peer educators, leading to improved outcomes for volunteers. Yet there was a lack of research describing this process. An exploratory case study of an existing peer education project was conducted to explore the contextual conditions that facilitated or hindered participatory practice, and describe the effect of enacting these practices. Study findings suggest a number of organisational practices, as well as broader contextual

features that may support participatory practice (RQ4). The initial programme theory was expanded to take account of these findings.

Study V

The final study of the thesis was designed to examine CMOc-2; the claim that recognising an educator as a peer would produce 'open communication' between peer educators and students, leading to increased knowledge/attitudinal change. As that chapter made clear, this examination was not possible due to schools' unanimous preference for allocation to the peer-led condition. Whilst unfortunate, this is an important finding in itself. The considerable anxieties experienced by teachers around the delivery of sex education reported in the background chapter of the thesis are still applicable to practice today.

Summarisation of individual study findings

Despite the criticisms of peer-led sex education made in this thesis, a recurrent theme is that the approach is of great benefit to youth volunteering as peer educators. Although the degree of impact varied, the majority of sources reported that peer educators benefitted from increased confidence, self-esteem, wellbeing, knowledge of sexual health, and improved career or university prospects. This is a fundamentally optimistic picture of peer-led sex education however. Evidence from UK-based studies is not sufficiently robust to determine the comparative advantage of peer-led sex education over alternative provision, echoing findings of previous reviews (Harden et al., 1999; Kim & Free, 2008b; Mathie & Ford, 1998; Milburn, 1995). The attractiveness of peer-led sex education as an educative tool to deliver RSE, whether this is due to beliefs about effectiveness, logistical benefits, or the advantage of not forcing teachers to deliver subject content they find difficult, may in itself support arguments for its utilisation in the face of a lack of empirical evidence.

1.2. Achieving the Thesis Aim

The overarching aim of the thesis was to systematically identify and critically examine the logic underpinning peer-led sex education interventions, building towards an empirical investigation to verify the suitability and strength of their explanatory power. This aim was partly achieved – the thesis was able to outline a preliminary programme theory for peer-led sex education which assisted in the identification of intervention components believed to influence effectiveness; these were assembled into CMO configurations but these were not subject to testing.

Theory Development

In developing programme theory, the initial framework requires constant refinement. Conducting individual studies created a feedback loop to assist this endeavour. This process produced a 'cumulative approach to knowledge generation' (Blamey & Mackenzie, 2007, p. 447). The completion of one study generated further questions of interest, triggering another cycle of investigation. Undertaking such an approach provided a broad overview of the topic, as well as focussed insight into issues investigated in individual studies. This encouraged reflection on data within and between studies, and across the entirety of the reviewed evidence base for peer-led SRE; helping the researcher to understand how the thesis contributes to the field as a whole. After the first field-based study was completed (Study IV), its findings acted as feedback for the initial programme theory, which was amended accordingly. Figure 26 depicts how the separate phases of the thesis were to contribute towards achieving the thesis aim to develop and refine programme theory. It was hoped that findings from Study V would be fed back to refine the theory again, resulting in the production of a final, revised programme theory. Whilst this was not possible, this process could be repeated with additional studies in future, further refining the programme theory.
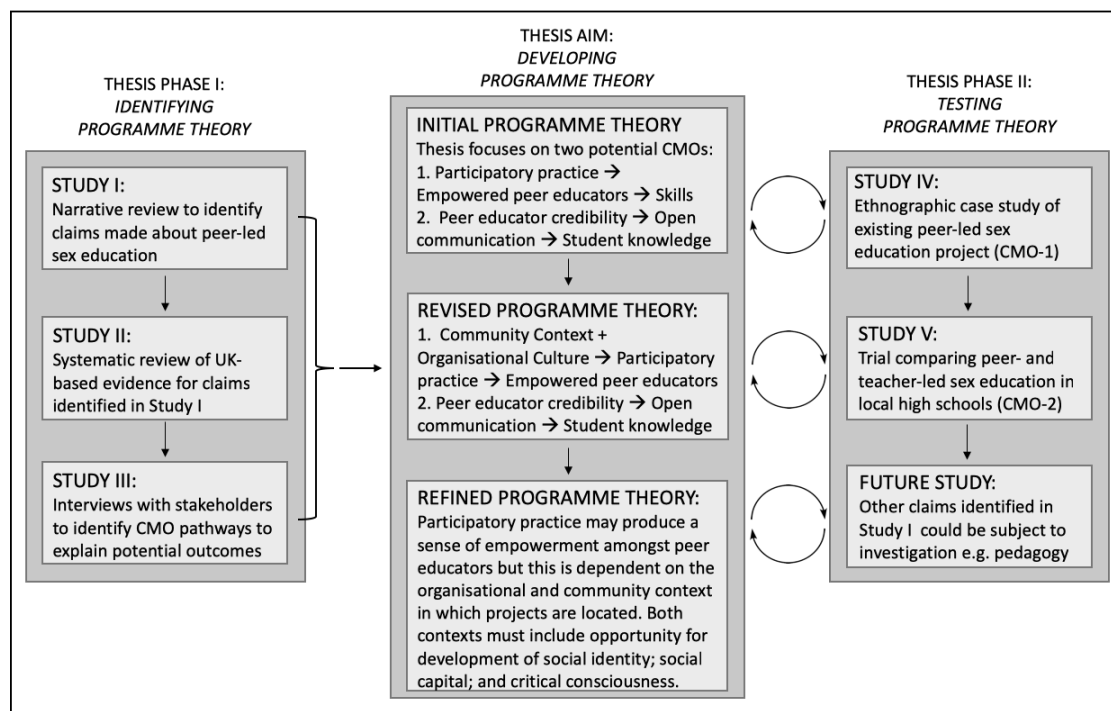
Figure 26. Theory Refinement Process

Theory Testing

It was hoped that identified CMO-c's could be explored in more detail via field-based investigation. This was possible for CMOc-1, where a case study was conducted to understand which contexts may facilitate participatory practice within peer-led projects. The final study of the thesis, a pilot trial to test CMOc-2 (whether there were educator-specific communication differences in sex education classrooms), was ultimately not possible. As such, the final aim of the thesis, to subject CMOc's to testing was not fully realised. This raises questions regarding the suitability of CMOc testing within this context: can theories underpinning peer-led sex education and their resulting projects be subject to evaluation, and if so, are existing evaluative methods appropriate to achieve this aim?

2. Assessing the Appropriateness of a Theory Driven Thesis

One of the key issues with existing understanding of peer-led sex education is its lack of programme theory for the approach. The major strength in undertaking a TDE approach within the thesis is that it has suggested a plausible programme theory for peer-led sex education which could be refined and improved once reviewed by others working within the field. Although other theoretical frameworks may have been appropriate, the Theory-Driven Evaluation (TDE) approach proved to be a largely successful way to address the research questions of the thesis. It focused the evaluation design by helping to identify research questions, fostering a systematic research process. This is particularly important when investigating peer-led sex education as Harden et al., (1999, p. 5) recommend that 'a systematic approach to the planning, implementation and evaluation of peer-delivered health promotion needs to be taken'. Undertaking TDE provided 'frameworks to systematically deconstruct an intervention into its components and to reconstruct it with the causal webs that lead to the observed outcome' (Marchal et al., 2012, p. 195), achieving several of the thesis aims.

2.1. Strengths

Combining research designs

In identifying and prioritising key research questions, TDE guided the selection of data collection methods and analytical techniques. It also encouraged the conduct of research in different ways, as the choice of method was dictated by the research question (McEvoy & Richards, 2006). Utilising mixed methods was a strength of the thesis as this helped to create a bridge between the 'diverse perspectives on the phenomena being studied, so as to deepen, rather than simply broaden or triangulate the understanding gained' (Maxwell & Mittapalli, 2011, p. 147).

Creating CMO configurations

Delineating CMO configurations was important for this thesis as the field is currently confused in terms of defining, evaluating, and measuring effectiveness. As a result, it is hard to determine whether the approach is an effective educational method with which to improve the sexual health and wellbeing of adolescents. This supports Frankham's (1998, p. 179) assertion that:

> '*the 'word' is spreading in a relative absence of evaluation or reflection on the educational and social premises upon which the approach is based… for as long as those responsible for projects continue to repeat the dogma about its radical nature, health educators will continue to be denied insights into how peer education actually operates and the possibility of building on its contribution*'.

It is unlikely that every component of each peer-led intervention will be effective. Rather there will be specific features that may directly influence outcomes in either a positive or negative manner. This thesis has successfully identified some of these components.

Wider application of CMO configurations

Theory generated through this process should also help contribute to understanding of peer education in other areas of adolescent health promotion such as drug and substance misuse as many of the identified CMOc's in this thesis are 'portable'; they can be transferred to other contexts (Astbury & Leeuw, 2010). The claims identified in Study I supporting peer-led sex education are not unique to sex education, they are also employed to support peer-led drugs, alcohol and smoking interventions. Notions of open communication for example is a basic assumption common to peer-led programmes in other domains of health education. Take for example, the following statement made by the UN on peer-led drug education: 'On one level, the fact that [peers] communicate best with each other is simple common sense… it is quite natural' (United Nations, 2003, np).

2.2. Limitations

Time intensive

The most common critique of Theory-Driven Evaluation is that it is resource and time intensive (Blamey & MacKenzie, 2007; MacKenzie & Blamey, 2005; Pederson & Rieper, 2008), necessitating 'a much greater effort than simple input-output studies (Bickamn, 1989, p. 388). Furthermore, as 'programme theories in many fields are at a low stage of development… theories that evaluations are likely to be testing are low-level approximations, riddled with inaccuracies and false paths. To discover their flaws and painstakingly revise and improve them will take multiple iterations. This is an arduous way to generate generalizable knowledge' (Weiss, 1998, p. 69). Whilst this is a necessary caution, these efforts are more ethical than using funds researching or implementing interventions based on faulty or disproven theory. Considering this, it could be argued that the systematic approach of Theory Driven Evaluation is *more* time and cost-efficient than uncoordinated efforts (Bonnell et al., 2012).

Lack of quality criteria

A limitation when employing TDE is the lack of accepted quality criteria to guide such an approach to research design and process (Marchal, van Belle, van Olmen, Hoeree & Kegels, 2012). Whilst the absence of methodological guidance regarding TDE has been identified as a limitation by some authors (Rycroft-Malone, Fontenla, Bick & Seers, 2010) it was also thought to be a strength in this context as its lack of prescriptivism allowed the researcher to be methodologically flexible.

Testing CMO configurations

It is hard to verify which intervention features truly influence effectiveness without subjecting CMOc's to testing. As such, the importance of empirical, field-based study within this context is critical. This could not be achieved and is a limitation of the thesis. The difficulties in conducting a trial to test CMOc-2 documented in Study V raises

questions around what form evaluative efforts should take and whether these are appropriate as currently practised. This leaves three questions still to be addressed: why is peer-led sex education not evaluated; can theories underpinning peer-led sex education and their resulting projects be subject to evaluation; and what form should evaluative efforts take in future? The first question will be addressed in the following section entitled 'Understanding the Pull of Peer Education'. The second question is addressed in 'Considering the Suitability of Current Evaluative Approaches' and a model for future evaluative efforts is presented in the final section 'A Model for Further Evaluative Research'.

3. Understanding the 'Pull' of Peer Education

Despite a lack of evidence of effectiveness from systematic reviews, disappointing results from major UK-based trials and an absence of programme theory or theory-based evaluation, peer education is still a popular pedagogical tool with which to deliver sex education to adolescents. This is shown through continued government funding, support from dedicated national and international peer education networks and the growth of voluntary peer education groups identified in the 'Background' chapter. Findings from the studies within this thesis further serve to demonstrate that peer-led sex education has great appeal. This deters evaluative efforts. Why evaluate an approach that is almost universally thought to be successful? Reports in the media are overwhelmingly positive, peer educators and practitioners describe their experiences of peer education with great enthusiasm, and teachers in Study V were convinced of its greater effectiveness. Why is this the case? In the face of a lack of evidence of effect, what is the pull of peer education?

3.1. Flexibility

Definition

There are various definitions of peer education. It is a concept that has been used to refer to an approach, a communication channel, a methodology, a philosophy and a strategy (UNAIDS, 2000). This led Shiner (1999) to label peer education as more of an 'umbrella term'; encompassing a range of different approaches, rather than denoting any one type of delivery method.

Practice

In practice, the various definitions of peer education mean that it has been used as a label for a range of different educative practices. As the popularity of the approach has grown, so has its application; resulting in large numbers of very different programmes, both in

their design and delivery, coming to be labelled as peer education. A review by Hartley-Brewer (2002) identified five models of peer approaches: tutoring, befriending, listening/counselling, mentoring, and mediation. Likewise, Topping & Ehly (1998) created a typology of peer methods, classifying the numerous strategies under three broad categories: peer facilitation/education, peer feedback and peer tutoring. Peer education can encompass all of these approaches, which may explain why these terms are often used interchangeably within the literature. To complicate matters further, the operational definition of who is a peer educator also varies. There are a wealth of terms present within the literature including: peer educator, peer trainer, peer facilitator, peer counsellor, peer tutor, peer leader and peer helper. Each of these terms denote different activities peers may be engaged in. As a result, peer education does not offer a single model of service delivery (Parkin & McKeganey, 2000). This allows practitioners to be flexible with delivery, in that they can modify programmes to suit their own needs, increasing the attractiveness of the approach.

Attraction

The wide variety of definitions and practices that fall under the 'umbrella' of peer education means that this term can be easily adapted to meet the aims of the programme it has been utilised to facilitate. Peer education is a fluid concept that can be shaped and moulded to meet the individual needs of programme, population, and place, as well as the political and ideological perspectives of programme sponsors. Whilst this flexibility may appeal to practitioners, it also means that the definition and delivery of peer education is neither stable nor routine. This creates problems for evaluation as the different aims and philosophies under the umbrella of peer education make comparison between projects difficult (Milburn, 1995; Sriranganathan et al., 2010).

3.2. Rationale

Common-sense claims

Claims made to support the utilisation of peer education to deliver sex education are numerous and appear to make sense. 'Justification for peers as interveners is not based on any theory but instead couched in terms of loosely formulated rationales' (Simoni, Franks, Lehavot, & Yard, 2011, p. 354). As there is no programme theory for peer-led sex education and very few of the claims influencing effectiveness have been subject to evaluation, claims can be assembled into various theoretical propositions to mirror the stated aims of an intervention. In this sense, peer education offers something for everyone.

Personal stories

There is an abundance of personal anecdote used to support claims for peer-led sex education. The lack of reference to research evidence, and the focus on the experience of practitioners, peer educators, and their students is reminiscent of Seale's (2003) description of the 'lay hero':

> *Emerging in media health stories with particular force in recent years is the figure of the lay hero... associated with a demagogic alliance of media organisations with the supposed interests of ordinary viewers and readers, championing every man or woman in the risky environment of modern life. Increasingly widespread involvement by lay people in producing Internet health sites seems likely to increase this tendency.*

(Seale, 2003, p. 523).

This is an interesting lens through which to examine the popularity of first person narratives to support the practice of peer-led sex education. Seale (2003) found that, particularly in relation to Internet-based health media, active consumers placed the traditional advice of health care system representatives in a less dominant position. This demonstrates the 'changing power relation between professional and lay interests. A report on any menace to daily life in Britain from observational research will be easier to relate to readers' personal experiences' (Bartlett et al., 2002, p. 84). In the context of peer-led sex education, personal stories of change generate a 'feel good' vibe around the

approach. This not only increases the appeal of peer education to the public, it also increases its appeal to practitioners, as these stories give youth a voice in a field typically dominated by professionals. This is similar to the 'pupil voice' movement in schools and may explain the approach's attraction to teachers.

Attraction

Claims supporting peer-led sex education assume an uncomplicated positive influence of peers. This simplicity gives the approach considerable appeal, not just amongst practitioners but with young people, educators and the wider public. The large number of different claims made to support the approach may be convenient, as these can be assembled into a vague theoretical format that would support the aims of the majority of interventions targeting youth, but this hinders investigation of the processes underlying interventions. Claims are drawn from largely anecdotal accounts that are taken for granted and not subject to testing. In failing to:

> *'explore how intervention components and their mechanisms of change interact, arrays of intervention components are combined into a single intervention programme informed by existing practice, previous evaluation evidence and the team's own values. This tendency has recently been amplified by interventions that are highly branded, and sometimes copyrighted as commercial products requiring payment for replication. The overall result is a multitude of trial teams working without coordination, testing various intervention packages of varying degrees of similarity and difference. Some of these interventions are reported as effective, some as ineffective, and a few as harmful, and it is generally difficult if not impossible... to make firm conclusions about which combinations of these will produce the greatest effects.'*
> (Bonnell et al., 2012, p.2301).

Whilst this is a description of health interventions more generally, it is an apt description of the state of the art of peer-led sex education; with the reference to intervention packages being reminiscent of Frankham's (1998) critique of APAUSE and other peer-led sex education projects. The large number of evaluations focussing on an unsystematic array of combinations of intervention components and settings make it difficult for practitioners and policymakers to decide which approach falling under the 'peer education umbrella' is most appropriate to adopt in their context.

3.3. *Intuitive Appeal*

It could be argued that part of the appeal of peer-led sex education for teachers is that it shifts educative responsibility away from teachers towards external educators. Peer education is typically used to educate youth about taboo topics such as alcohol, sex and drugs that teachers may be reluctant to discuss with students. It also reduces teacher workload as teachers do not have to plan or deliver lessons, freeing up time to complete other tasks such as marking. If this is the case, it could be argued that any external educator, such as a nurse or youth worker, could be brought in to effectively deliver parts of the Health curriculum. Yet the discourse around peer-led sex education would suggest that there is a 'specialness' about this educative process that sets it apart from alternative approaches, making it more successful.

Label

The inference of the word 'peer' suggests a friend or a fellow that is socially and psychologically 'on your level'; they're just like you. The opportunity to talk to a peer is a particularly attractive notion when faced with discussing embarrassing, awkward, or difficult subjects. It is natural to hope that you will not be judged for your opinions or behaviour, and speaking to someone in the same situation significantly reduces this risk as it is very likely that they too have indulged in the same discretion. As a result, when people are asked to reflect on their experiences of sex education (which are typically characterised by embarrassment or awkwardness), the immediate response is to agree that the process would be easier if education was delivered by a peer. Many of the studies reviewed in Study II did not utilise a peer in the immediate sense. There are often significant age gaps between students and peer educators, making it more appropriate to label these educators as 'near-peers'. Yet this label as rarely employed. It may be that this is purposive, as this label has a similar semantic meaning to 'peer', yet lacks the same appeal. Does this mean that if peer-led sex education was called something different, this

would lessen its appeal? Whilst there is great appeal in the word 'peer' it is not so much this specific label as the idea behind it that drives the attractiveness of the approach. Particularly in the context of youth educating youth. Adolescence is certainly portrayed as, if not remembered or experienced as, a time of resistance to authority and rebellion; where fun and enjoyment partly arises from misbehaviour and secrets. It is understandable then that peer education is perceived as exciting and fun. This creates an energy around peer education that is enticing for both adults and young people and may explain why so many accounts of peer-led sex education applaud its capacity to act as a driving force for individual and community change. The problem is that this energy is produced when remembering or reflecting on personal experiences of discussing sexual topics with friends. But peer educators are very rarely friends of the target population. Even if this is the case their goal is to educate, not entertain in the same way as sexualised gossip or banter is passed about amongst the playground. Thus in practice, how alike are peer educators to their audience?

Peerness

The identity or desirable characteristics of peer educators vary considerably, depending on the demographic profile of the target population. 'Variables such as age, gender, race, religion, sexual orientation, status, life experience, and group allegiance all contribute to defining who is perceived as equal' (Gould & Lomax, 1993, p.236). This again gives practitioners considerable flexibility when selecting volunteers to work within their intervention programmes. Grouping such a wide variety of possible peer-denoting characteristics under the general term peer, prevents investigation of the different qualities of educators that may influence intervention success. Due to the proliferation of different programmes targeting different health behaviours in different populations, practitioners will need to explore what denotes peerness in their specific context. This

would require asking the target population to select or at least assess the 'peerness' of their educator. Without this it is possible that characteristics thought to be important for peerness are not actually valued by the target population. Thus in the eyes of the target population interventions may be not peer-led at all.

Attraction

The idea of using peers to educate, particularly in the context of youth sexual health education, appears to be intuitively appealing. The 'pull' of peer education, particularly within the context of adolescent sex education, is largely emotive due to the term being underpinned by notions of affiliation and affirmation. This creates great energy and excitement around peer education efforts, garnering support for interventions across various groups of stakeholders. This support and positive energy is part of peer education's attraction. This is problematic as it deters evaluative efforts. If something is seen as a force for good, the need for evaluation seems arbitrary. It's almost a bit of a party pooper, testing seems sterile in the face of community goodwill. Enthusiasm for the movement should not go unchecked however as projects labelled as utilising peer education may also offer something of a false promise. Currently projects use such a wide range of characteristics to denote peerness, without checking the validity of these qualities amongst the target population, that interventions may not be 'peer' led at all in the eyes of their audience. Once again however, because these individual differences are placed behind the appealing, yet generic label of 'peer', their effect has been overlooked.

4. Considering the Suitability of Current Evaluative Approaches

The lack of existing research on peer-led sex education and the failure of Study V to recruit teachers to participate in a trial suggests that it is not amenable to evaluation. This can be attributed in part to the 'pull' of peer education. But it also raises questions about the suitability of current evaluative approaches to assess the effects of peer-led sex education.

4.1. Can effects be measured?

A limitation when identifying CMO configurations and subjecting them to investigation is that mechanisms may not be observable in a direct empirical sense (Astbury & Leeuw, 2010). In addition, measurement error may make it difficult to identify significant associations among variables (Weiss, 1997).

Measurement-resistant claims

Practitioners interviewed in Study III and IV opined that there were features of peer-led practice that could be felt or experienced, but were resistant to evaluation. Changes in confidence or student engagement were thought to be difficult to define and operationalise for measurement. It is true that some of the claims identified in Study I appear more amenable to evaluation than others. Cost effectiveness for example would seem to offer a more straightforward, evaluative process than say assessing the quality of communication or degree of pedagogical innovation. As was argued in Study II however, this should not dissuade research efforts but invigorate them, offering evaluators opportunities to think creatively about measurement solutions. It could be argued that evaluation currently focuses on outcomes such as behavioural, attitudinal or knowledge change because these are 'easier' to assess via questionnaire-based methods. This may explain why so few of the claims identified in Study I have been subject to evaluation.

This should not be taken as evidence that these claims are resistant to measurement however. Part of the problem here lies with the interpretation of the term 'measurement', which seems to imply a numerical component to evaluation such as the accumulation of test points for statistical analysis. The notion of reducing constructs such as happiness to a narrowly defined test-item is not acceptable to practitioners. For many, testing is problematic because it reduces a continuum of complex emotion to a simplistic 'yes/no' output. This does not have to be the case however, as measurement can take many forms. Questionnaires can include scales and open-ended questions. Furthermore, there is no reason why increases in confidence for example could not be measured via observations of lesson delivery over a peer educators' career or tracked via self-report measures such as surveys or diaries. It may be the case that practitioners are currently unaware that these methods are acceptable measures to demonstrate change in the target population given the traditional emphasis on test data.

Capturing complexity

The critique that a questionnaire cannot capture the strength, emotion, or immediacy of change may be valid, but could be addressed via the inclusion of multiple methods of data collection. Questionnaire data for example could be supported by descriptions, quotes or depictions of the setting/event observed to convey a 'truer' sense of the change process 'in the real world' rather than solely presenting numerical data in an abstracted tabular format. Any method would necessitate the definition, operationalisation, and objective measurement of a term, experience, feeling, or emotion that is subjectively experienced. As such, there will always be the possibility that the measure being used by an evaluator does not fully capture the concept they aim to evaluate. Whilst this may be true, findings can always be subject to member checking to ensure they accurately reflect participant experience. In addition, any attempt at measurement will capture some part of the

concept, however limited. This is surely a more worthwhile aim than the alternative, which would be to abandon any attempt at measurement at all. Without trying to develop instruments or methods to measure identified claims to support peer-led sex education it will be hard to verify to what extent claims are valid. Furthermore, measures do not have to have reached a point of static perfection to be employed in research. Research is a cumulative process, by attempting to develop measures and sharing findings from the design, development, measurement and member-checking process, others working within the field can help to refine instruments to more effectively capture the concept, thereby improving the reliability/applicability of the methods and outcomes of future research efforts.

4.2. Can interventions be evaluated?

Whilst the previous section focussed on the appropriateness of evaluative methods, the next focusses on methodological debates surrounding the appropriateness of evaluation to determine intervention effectiveness. A recurrent theme that has emerged from each of the included studies in this thesis was that peer-led sex education appeared to be resistant to evaluation – evidenced through the lack of existing research on the approach and the unsuccessful attempt in Study V to test CMOc-2. This begs the question: can/should peer-led sex education be evaluated?

Methodological divide

Echoing the argument made for claim measurement, this thesis posits that the effects of peer-led sex education can and should be subject to evaluation. The apparent methodological divide within peer education research reported in Study II obfuscates these efforts. Research of peer-led sex education tends to fall into one of these two camps; it rarely engages in combining approaches to evaluation. Typically this is framed using

language such as valuing outcomes or process (quantitative or qualitative data), effectiveness of intervention or experience of participants (positivist or constructivist). This is a simplification, but it is surprising how often peer education research positions itself in this manner. Such an approach to research suggests that researchers have to choose to collect outcome or process data based on whether they value experimental effects or participant experience. This is misleading as evaluators decide which data they would prefer to collect, rather than what design would produce the best data to answer their research questions.

Outcome or experimental evaluation
To establish intervention effectiveness or acceptability, studies of peer-led sex education explore the phenomenon through an experimental lens; either by employing RCTs or utilising some form of post-test design (Harden et al., 2001; MacPhail & Campbell, 1999; Sriranganathan et al., 2012). Central to this perspective is a focus on outcomes and with this, the premise that to be successful an initiative must significantly change the knowledge, behaviour or attitudes of the target population. This is essential in evidencing that an intervention has achieved its aim and is worth the cost of dissemination. This does not always produce evidence that is valued by practitioners however, as they may have other concerns regarding how change occurs. As a result, solely providing outcome data does not guarantee that an intervention can/will be successfully adopted by practitioners. A focus on outcomes may not identify all of the factors that will influence intervention replication. Restricting research to focus on outcome evaluation is problematic as:

> *'... complex and interdependent dynamics of context, practice, agency and power specific to a project, may shape the course of intervention implementation in ways that may be obscured in conventional techniques of reporting when there is a focus on outcomes'*
> (Hawe, Shiell, Riley, & Gold, 2004, p. 788).

Process or case-based evaluation

When examining a phenomenon in detail, describing a contextual setting or organisational structure, studies of peer-led sex education utilise case study designs, often referred to as process evaluation. This evidence may provide description of project functionality or educator/student characteristics that practitioners can use to help design and deliver an intervention. Despite this, restricting all research to single case studies is not always effective, as these cannot address causal questions such as whether an intervention was effective or more enjoyable than another.

Combining intervention and process evaluation

The preference for keeping research designs separate within peer-led research and only utilising your preferred design regardless of research question, has led to a scarcity of appropriate research evidence. Case-based 'process' designs are used to address causal questions when they cannot control for confounding effects and experimental research focuses on outcome effects, neglecting to test the effect of mechanisms or contextual features. This is problematic as neither outcome (experimental) or process (case study) methodological designs alone are sufficient to investigate each of the components of the programme theory for peer-led sex education as they do not offer a complete analysis of the subject matter (Creswell, Fetters & Ivankova, 2004).

Misinterpreting outcome and process

This largely appears to be the result of terminological confusion. Process evaluations are associated with qualitative, data-rich case studies, whereas outcome evaluations are associated with quantitative experiments. This does not have to be the case, and removing the stereotypes associated with these designs may help to encourage evaluation of peer-led sex education in a manner that is appropriate to address the research questions being asked. This would help to fill gaps in the current evidence case, improve the quality of

evidence and encourage those who believe they lack the skills to conduct specific types of evaluation to engage in more various forms of research. For example, process evaluation does not necessarily have to necessitate the use of a case study design. There is no reason why 'process' data cannot be collected via experimental means if the research question necessitates this. A case study may be the best design for an evaluator to utilise if they wished to describe the conditions in which a peer educator is working and how they work within these. An experiment would need to be employed if the evaluator was trying to prove that different conditions (e.g. single sex or mixed sex classrooms) influenced how the peer educator was working. Both questions are important and worthwhile and require rich, qualitative 'process' data to be collected. Both pieces of research could utilise observational methods but one would require a comparative, experimental element. Thus the difference lies with the research design, not with the type of data to be collected. Some commentators have sought to blame experimental studies for the lack of theory-based investigation. Kernick (2006), for example, posits that experimental studies 'do not identify in which conditions and through which configurations of factors the outcome is achieved. This limits the drawing of context-sensitive conclusions and contributes to the inadequate uptake of research evidence in practice' (p. 387). The inference here is that case study designs are most appropriate to explore contextual features. Yet there is no reason why experiments cannot be used to inform understanding of contextual features. In fact, they may be best placed to assist this endeavour because they are the only research method that can control for confounding variables, reducing the possibility that findings were a chance observation.

Changing evaluation focus

Specific research designs or measures cannot be blamed for the exclusion of specific aspects of programme theory from being evaluated. Instead it is the focus of research on

providing evidence for 'direct effects' e.g. knowledge, behavioural or attitudinal change. Whilst these may be associated with experimental, outcome evaluation, such an approach can be undertaken, and these 'outcomes' can be emphasised in any research design. Indeed, it would appear that acceptability to the target population is typically presented as an outcome within peer-led sex education research, despite this type of evaluation being characterised as a 'process' rather than 'outcome' measure. Currently, the focus on direct effects, whether this is presented via qualitative or quantitative, outcome or process evaluation, prevents evidence being gathered for other claims; obscuring the underlying theory being investigated (Clegg, 2005). The conflation of process data with real-life, detailed case studies (ergo good research for practitioners, bad research for academics) and outcome data with sterile, statistical experiments (ergo bad research for practitioners, good research for academics) is leading to serious issues with evidence production. The current positioning of different types of evaluation within peer education literature obstructs attempts at evaluation because it suggests that evaluators have to choose a side and only research components that traditionally align with their chosen approach, feeding incorrect beliefs that there are parts of programme theory that are resistant to or unworthy of evaluation. Evaluators do not have to adopt an either/or position to research, both types of data and design can be combined to help explore the separate components of programme theory. This may be the most beneficial approach as suggested by the studies within this thesis: Study IV wished to explore and describe in greater detail the contextual components of a CMOc and as such utilised a case study design. Whereas Study V wished to test the mechanistic process *and* outcomes of a CMOc and as such utilised an experimental design. A variety of different designs, measures and data had to be combined to provide evidence to investigate and inform the proposed programme theory.

If we cannot encourage the integration of the different positions then at least the value of both approaches needs to be understood and utilised by those on either side of the divide.

Moving from abstraction to practice

Whilst the methodological argument for evaluation appears to be straightforward on an abstract level, this thesis documented problems when trying to conduct evaluation in practice. This can be attributed to several causes: distrust of evaluation, beliefs that the 'specialness' of peer education cannot be tested and the conviction that peer education is effective. This suggests that whilst interventions can be subject to evaluation from a methodological perspective, attitudes towards evaluation present the biggest barrier to evaluation. In theory, whilst there is no reason why peer-led sex education should not be evaluated, in practice if negative attitudes towards evaluation cannot be overcome, evaluation cannot be conducted. If practitioners are attracted to peer-led sex education on account of convenience (more time for marking, less time spent designing and delivering subject materials) then perhaps evaluation of effectiveness is not as important an endeavour. This should not mean that evaluative efforts are abandoned however. Without evaluation we cannot ascertain whether peer-led sex education is more beneficial or even detrimental in comparison to other approaches. More effort and resource should be diverted to engaging with and changing practitioner attitudes towards evaluation. In the same way as an intervention has to be acceptable to all stakeholders, evaluation too has to be felt and seen to be a worthwhile pursuit. This will be an impossible endeavour without first changing preconceived notions of the greater effectiveness of peer education and subsequent unimportance of evaluation for peer-led sex education. To enact this change will require raising awareness of existing research on peer-led sex education, expanding understanding surrounding what evaluation can and can't do; and emphasising why objective experimental evidence is as important to validate the more subjective

accounts of case study research as case studies are important to develop the richness of

the less-detailed findings of experimental research.

5. A Model for Further Evaluative Research

Whilst it may be possible to theoretically argue that peer-led sex education can and should be subject to evaluation, enacting this goal in practice can be difficult. The following section recommends action that needs to be undertaken within the field and suggests a model to facilitate this process.

5.1. Suggestions for Future Study

Focus

The complete lack of investigation into some of the claims identified as justifications for peer-led sex education in Study I, pinpoint important areas for future investigation. It is still the case that there is a scarcity of methodologically sound literature regarding UK-based studies (Harden et al., 2001), suggesting that there is opportunity within the field to engage more UK-based projects in rigorous evaluation. The thesis has highlighted methodological flaws in existing evaluative literature which should help to improve the design of future studies; namely by identifying what should constitute an equivalent comparator when comparing different types of provision. Future studies should ensure that curricular material is kept the same in both arms of the intervention to truly isolate an educator-effect.

Measurement

A major drawback when conducting evaluations of sex education, as identified in Study V, is the scarcity of validated measures to test adolescents for knowledge or attitudinal change as a result of receiving a sexual health and wellbeing intervention. Production of reliable, validated measures would greatly improve existing evaluative efforts and may help to standardise reporting of intervention outcomes. Changes in attitude or knowledge should not be the sole focus of instrument design however. It is expected that prevention programmes will have an immediate impact upon their target populations e.g. reduction

in incidence of teenage pregnancy, hospital admissions for underage alcohol consumption etc. Trying to immediately evidence these claims is difficult however as the behaviours these initiatives target are slow to change and require long-term and broad-based policy and social change alongside the finances, resources and know-how to evaluate them. Furthermore, evidence suggests that it is the peer educators who most benefit from peer education. As such, there is a need for a more thorough evaluation of effects on peer educators as recommended by Harden et al., (1999). The focus of evaluation therefore should not be limited to immediate behavioural outcomes but should also look at the impact of volunteering on the volunteers themselves and whether such an impact is sustainable. In this way, volunteers delivering the intervention could become the target population. There is also an argument to be made for expanding the focus of acceptability evaluation to include gatekeepers as these also influence intervention effectiveness through granting access to target populations, resources and funding. Finally, efforts should be made to develop measures for other claims used to support the utilisation of peer-led sex education as these effects may be of more importance to practitioners, thereby increasing engagement with evaluation and research.

5.2. Suggestions for Practice

Agreeing a common definition

A common definition of peer education was identified as beneficial in Study IV in terms of facilitating participatory practice as there were no conflicting or competing forms of peer education operating within the locality. In other areas where this is the case, it may be helpful, if not to agree upon one definition, then to at least agree upon one statement of the purpose of peer education. Creating a singular definition of what peer-led practice should look like is difficult, but may be useful in testing different forms of peer education

against the existing 'accepted' model and modifying the definition or updating it to reflect the most recent evidence of effectiveness. Local-specific definitions of peer education could then be adapted to best-meet the specific needs of a locality. More work needs to be undertaken in the form of focus groups or community forums to explore how to engender dialogue and collective work with community members so a shared vision and community-based leadership for peer-led practice can emerge as a model for good practice. This could lead to the formation of research partnerships between evaluators and local organisations. This would be an equal partnership in the sense that practitioners could learn about evaluation practice and researchers could access local groups to research and identify community needs to cater the design of future interventions, thereby improving intervention appropriateness and acceptability.

Theory Development

Creating an initial programme theory for peer-led sex education and coming to understand the practicalities of programme delivery requires a 'more intensive relationship between evaluators and key stakeholders' (Blamey & MacKenzie, 200, p. 451). Given that research is not always perceived by practitioners and policymakers as being relevant to their practice setting and populations (Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004), supported by responses in interviews with practitioners conducted in Study III, including practitioners in the research process may foster a sense of ownership; thereby increasing engagement with evaluation and research (Greene, 2007; Oliver, 2012).

Evaluation

As reported elsewhere (Sriranganthan et al., 2010), across the studies of this thesis it was noted that many peer-led programmes lacked the capacity and resources to undertake programme evaluation. Practitioners need to be supported in their efforts to research and

evidence their practice; being granted access to research is part of this process. It is only one part however as this is not just a matter of learning how to conduct research but also developing the confidence to enact this and understand its relevance. Workshops on evaluating interventions could be offered to practitioners and academics alike to bring stakeholders together and develop a singular standard of evaluation across disciplines, as well as building partnerships for future research/promotion efforts. Challenges in programme evaluation could be addressed by creating comprehensive guides that community organisations could use to develop their programme evaluation tools and procedures. Guides could include examples of surveys and questionnaires to use in evaluation as well as background information on evaluation methodologies and analysis. The formation of guidelines or principles that individuals and groups can employ in creating their own peer education programme evaluations may facilitate more relevant and effective programme evaluation (Sriranganathan et al., 2010).

5.3. Model of Evaluation

To encourage engagement with the evaluative process or results from research, guides to programme evaluation, measurement instruments, curricular resources and existing research evidence could be stored on an online platform or database specific to sex education. The creation of a comprehensive, accessible evidence database or toolkit akin to that developed by the EEF could be developed to help practitioners design or develop interventions by identifying aspects of provision that are more or less likely to increase chances of intervention success. The current interest in evidence-informed education and health promotion is part of a general move in the UK towards basing policy and professional practice on rigorous evidence. Bodies such as the Cochrane Collaboration (Health), Campbell Collaboration (Social Science), and Education Endowment

Foundation Toolkit (Education) have been established to help professionals, policymakers and practitioners base their practice on up-to-date reliable evidence by making the results of systematic reviews available to the public. 'With the spread of peer education, including the development of national and international organisations to promote peer education, it has become increasingly important to synthesise the evidence from existing programmes to better guide decision-making and programme planning' (Maticka-Tyndale & Barnett, 2010, p. 98). Several systematic reviews of peer-led sexual health interventions have been published in the last 25 years (Harden et al., 2001; Harden et al., 1999; Kim & Free, 2008; Maticka-Tyndale & Barnett, 2010; Medley, Kennedy, O'Reilly, & Sweat, 2009a; Sun et al., 2018; Tolli & Tolli, 2012), yet there has been no consensus on effectiveness. Findings from these reviews can be difficult to combine as they are often contradictory and focus on a wide range of different populations, settings, and outcomes. Compiling separate sources in a database of sex education studies would help in synthesising the findings from these reviews, leading to a better estimate of the effect of different approaches to sex education.

Why create a database?

Supporting teachers

With Health Education becoming a new curriculum subject within secondary schools in England, and the investiture of compulsory status bestowed upon RSE in 2020, effective provision in terms of achieving positive outcomes for students will be of similar import (one would hope) to other comparable compulsory subjects. As such, teachers and other health professionals will need to be supported in their provision with a strong evidence base upon which they can draw from to inform their practice. Currently, there is little understanding as to what works in sex education. An EEF style Toolkit with appropriate guidance and guidelines for teachers may provide some well needed advice. As results

from Study V suggest, teachers are reluctant to be made responsible for the delivery of sex education. If there was a resource they could use to inform and justify their choice of curricular provision, this may increase their confidence. Findings in Study III suggest that practitioners are not engaging with research evidence. Similarly, 'academic journals are constrained by genre, form, and the history of the discipline and are rarely an easy read for the busy teacher' (Higgins, 2018, p. 155). By producing a database that includes key literature and a summary table of effect like that produced in Study II, teachers should be able to more easily draw on research evidence to inform their practice in this arena.

Engaging practitioners

Despite the increasing number of peer education programmes currently utilised within the field of health promotion, and the conduct of reviews to expand the evidence base for whether these work, many practitioners are still developing interventions from scratch (TPU, 2002). This may be due to a number of reasons, perhaps practitioners do not see the value of, or believe, research findings (as suggested in Study III), they cannot access research (as suggested in Studies III and IV), or they are already convinced of the approach's success (as suggested in Study V). An evaluative database would prevent intervention features that hinder success from being repeated in future programmes. Compiling evidence in a database will assist this process as:

> *'Evaluators can demonstrate that although the specific programme they have designed and implemented looks different from other interventions, in fact the same underlying mechanisms are called upon to make the policy work. By sharing and using the accumulated evidence on the level of mechanisms at work (instead of the specific interventions as such), policymakers and evaluators may come to realise that many supposedly 'novel' interventions share common underlying mechanisms of change. Knowledge of these mechanisms could then be used to better inform the design and evaluation of social policies and programmes'*

(Astbury & Leeuw, 2010, p. 376).

Coping with the plethora of published material can be problematic for practitioners (Tones & Green, 2004). An ever-increasing amount of research is being published and it is difficult for both researchers and practitioners to keep up with new and emerging findings (Bastian et al., 2010). A database could make these resources more visible, and if not directly accessible, at least present and publicise their findings in a more easily accessible format. Moreover, 33 sources in Study I could not be found and as such are missing from analysis. These were all grey literature sources. Practitioners could upload their evaluations to the database overcoming the gatekeeping of academic journals. These would still be subject to peer-review but sources would be open access and preserved, preventing loss of vital research evidence. The types of important practical questions that decision makers need answered are of the form: what does it cost? How many and what types of people will participate? How do I know this will work in our setting? If these questions cannot be answered to the satisfaction of the questioner, further consideration…

is extremely unlikely regardless of the amount, strength or quality of data on its efficacy (Kessler & Glasgow, 2011, p. 639). In a similar fashion to that produced in study II, a summary table of research evidence could be produced that would address these questions, including an estimation of cost-effectiveness, user enjoyment etc., balancing the different evaluative needs and preferences of those working within the field.

How would a database work?

The database could work upon the same principles as those applied in this thesis, informed by the process of Theory-Driven Evaluation as outlined by Blamey & MacKenzie (2007), with each evaluation starting with a theory and ending with more refined propositions for future testing. 'By cumulating evaluative evidence from linked interventions into an evaluation and improvement cycle, an understanding of how contexts, mechanisms and outcomes are interconnected… can become more focussed'

(Mackenzie, Koshy, Leslie, Lean, & Hankey, 2009, p. 1141). This would be a living review that could be regularly updated (Elliot et al., 2014) with the addition of new research.

Hypothesis testing

Mechanisms can be tested and revised as more studies are conducted. Hypotheses to be tested would take the form of CMO configurations as suggested by Pawson & Tilley (1997). This would require co-ordinated programmes of evaluations oriented towards the testing of common theories (Bonnell et al., 2012) such as cost effectiveness, educator credibility, social reinforcement etc. Knowledge generation would be a cumulative process, allowing understanding of the topic to 'accrete slowly within and across evaluations' (Blamey & MacKenzie, 2007, p. 447-8). This could help researchers and practitioners to work out in which conditions specific interventions can be effective or not and to refine findings in a process of specification.

Cumulation

Such an approach would redress critique that research findings are one-off affairs and rarely cumulative. An accumulation of insights will help decision makers to assess whether a successful intervention in one setting may be transferred to another setting and how (Pawson & Tilley, 1997). Whilst this approach could be critiqued as 'synthesis… requires a selection of elements for recombination that cannot readily be replaced with cookbook type guidelines' (Pinder & Moore, 1980, p. 42), it is hoped that by delineating a standard evaluative process, and CMOc configurations to be investigated, it would be more possible for professionals and practitioners working in peer-led sex education and adolescent health promotion to at least substantiate their claims and inform or improve upon practice.

Comparison

It has been acknowledged that it is difficult to evaluate and compare peer-led interventions due to 'the diversity of organisations offering an even more diverse range of peer education programmes' (Sriranganathan et al., 2010, p. 65). Whilst we should be cautious about pooling results from studies conducted in different contexts, as beliefs about peer education remain consistent across countries but intervention results differ, creating a database will assist this comparative process. Compiling relevant studies, subjecting them to methodological evaluation, and appraising the quality of their evidence and appropriateness to the UK context should at least help in making these comparisons.

Contextualisation

If mechanisms are sensitive to context, they may be present in one context and not another. This could be a limitation to the endeavour to compile different studies. But could also be used to build idea of which contexts mechanism can be observed and which they can't. This emphasises the importance of repeating studies in different contexts. Currently claims are treated as universal, if different studies produce different findings this implies that the claim can't be observed across settings, and as such, is not universal. Cumulative evidence would clarify under what conditions claims hold true.

Replication

Although contexts vary, this doesn't mean that studies should be designed from scratch every time. Instead of treating all interventions as completely novel, building a knowledge and theoretical base about 'families of interventions' (Pawson, 2006), including the different mechanisms that underpin them, may reduce 'policy amnesia' and 'constant reinvention of the wheel' (Astbury & Leeuw, 2010, p. 374). As it stands, evaluation research typically starts each assessment from scratch. A recent study suggests that

replication in educational research may be as low as 0.13% (Makel & Plucker, 2014, p. 22). Lack of replication is inefficient as it leads to 'a field as a whole which moves forward very slowly if at all' (Higgins, 2018, p. 23). This is a particularly apt description of peer education, with many of the criticisms lobbied against the approach by evaluators in the 1990s and 2000s (such as Harden et al., 2001; Frankham, 1998; Milburn, 1995) still being true today. As such a database would provide an opportunity for research to be replicated to enable 'bespoke meta-analyses by subject and age which would increase the applicability of matching findings to context' (Higgins, 2018, p. 158).

Meta-analysis
Currently there is no systematic evaluation of the differential effects of different peer education activities (Milburn, 1995). As such, the ability to conduct meta-analyses stratifying by different variables would be useful in the context of peer-led sex education as educators could stratify by the multitude of factors currently tangled together in approaches to peer education such as: health topic (sex, drugs, smoking), age (near –peer, older-peer, same age), delivery method (one-to-one, groups) and context (school, youth-centre based).

Visualisation
The effort to present findings in a data visualization table in Study II is thought to be a strength of this thesis. The different presentation format may offer an opportunity to engage a wider audience in research findings, particularly as evidence from Study I suggests that claims other than effectiveness (typically explored in reviews) influence the adoption of peer-led sex education by practitioners, and that practitioners are not engaging with research evidence. Accessibility has been identified as a feature that is key to assisting this endeavour (Cordingley, 2008; Higgins, 2018). As the data visualisation table in Study II included claims identified as being popular amongst practitioners,

findings are framed in existing theories, which has the dual benefit of strengthening the existing evidence base (as these claims are not usually subject to investigation in reviews) and appealing to practitioners. Comparing the popularity of claims in theoretical literature to the amount of empirical research conducted to investigate the phenomenon will assist in identifying fields in which saturation has been reached or the opposite, where there has been no investigation at all. This will ensure that resources are better directed in designing future evaluative efforts (Campbell et al., 2012). By clarifying what is known and unknown, the review informs what further primary research is required to advance our understanding of the field (Gough, Thomas & Oliver, 2012).

6. Conclusion

Over the course of this thesis, five separate studies were conducted and their findings combined to produce a more complete picture of the state of the art of peer-led sex education as practised in the UK. The thesis has contributed to existing knowledge by proposing an initial programme theory for peer-led sex education and by delineating CMO configurations, has revealed areas of programme theory currently lacking in investigation, or of insufficient methodological rigour. As a result, these areas can be targeted in future research efforts. It is hoped that this thesis can act as encouragement for future research efforts to revise and refine programme theory in an attempt to produce a more complete, comprehensive and cohesive vision of peer-led sex education. These efforts may not go far enough however in engaging practitioners. The 'pull' of peer education due to its flexibility and intuitive appeal make it attractive to a number of stakeholders, hindering efforts to evaluate its effects. Thus it is the final recommendation of this thesis that, despite the absence of peer education analysis within the academic sphere, its popularity and promotion amongst practitioners necessitates collaborative partnerships with programmes operating in the local community to support their practice. Without pooling resources in this manner, evaluative efforts will continue to be impeded and engagement with research dismissed.

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APPENDICES

UNDERSTANDING THE 'PULL' OF PEER-LED SEX EDUCATION

CREATING AND CRITIQUING CMO CONFIGURATIONS TO EXAMINE
THEORETICAL AND EMPIRICAL BASES FOR PEER-LED SEX EDUCATION

EMMA S. DOBSON

Van Mildert College
School of Education

Durham University

Contents

Appendix A

Studies I, II and III Ethical Approval

Durham University
School of Education

Shaped by the past, creating the future

16 March 2016

Emma Dobson
PhD

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Dear Emma

Improving Sex and Relationship Education: An investigation of the processes taking place in peer-led interventions

I am pleased to inform you that your application for ethical approval for the above research has been approved by the School of Education Ethics Committee. May we take this opportunity to wish you good luck with your research.

P. M. Holmes

Dr. P. Holmes
Chair of School of Education Ethics Committee

Appendix B

List of Sources Searched for Study I

Source Type	Host	Sources	Search Date	Results
Bibliographic Databases <u>*Total = 6032*</u>	Ovid	Embase	01/07/2016	**326**
		EBM Reviews - ACP Journal Club	01/07/2016	**29**
		Ovid MEDLINE ®	01/07/2016	**444**
	FirstSearch	Article First	01/07/2016	**27**
		ERIC	01/07/2016	**154**
		Papers First	01/07/2016	**10**
		Ebooks	01/07/2016	**0**
		ECO	01/07/2016	**364**
		WorldCat Dissertations	01/07/2016	**0**
	EBSCOHOST	PsycARTICLES	02/07/2016	**62**
		PsycINFO	02/07/2016	**62**
		American Doctoral Dissertations	02/07/2016	**0**
		British Education Index	02/07/2016	**27**
		Child Development and Adolescent Studies	02/07/2016	**62**
		CINAHL	02/07/2016	**86**
		Education Abstracts	02/07/2016	**49**
		Educational Administration Abstracts	02/07/2016	**30**
	<u>Taylor & Francis Online</u>	Educational Research Abstracts Online	02/07/2016	**24**
	<u>ProQuest Social Sciences Premium Collection</u>		02/07/2016	**132**
	<u>Web of Science</u>	Web of Science Core Collection	03/07/2016	**30**
	<u>ZETOC</u>	Zetoc	03/07/2016	**36**

	Wiley Cochrane	Cochrane Library	03/07/2016	**179**
	NCBI	PubMed	03/07/2016	**277**
	Science Direct	Science Direct	03/07/2016	**212**
	Proquest Dissertations and Theses Global	Proquest Dissertations and Theses Global	03/07/2016	**809**
	NICE Evidence	NICE Evidence	03/07/2016	**250**
	TRIP Database	TRIP	03/07/2016	**1115**
	Social Care Online	Social Care Online	03/07/2016	**1188**
	EthOS	EthOS	03/07/2016	**38**
	DART	DART	03/07/2016	**0**
	ClinicalTrials.gov	ClinicalTrials.gov	03/07/2016	**0**
	WHO International Clinical Trials Registry Platform	WHO	03/07/2016	**0**
	NHS Centre for Reviews and Dissemination	NHS Centre for Reviews and Dissemination	03/07/2016	**0**
	3ie Impact Evaluation Repository	3ie Impact Evaluation Repository	03/07/2016	**0**
	SIGLE	SIGLE	03/07/2016	**9**
	European Union Clinical Trials Registry	EU Clinical Trials	03/07/2016	**0**
	ISRCTN.org	ISRCTN.org	03/07/2016	**1**
News Articles Total = 892	Education in Video	Education in Video	05/07/2016	**0**
	EDINA	JISC MediaHub	05/07/2016	**0**

	OpenAthens	TRILT	05/07/2016	**0**
	Infotrac Custom Newspapers	Infotrac Custom Newspapers	05/07/2016	**15**
	NEXIS UK	Lexis	06/07/2016	**877**
YouTube *Total = 1670*	YouTube	YouTube	08/07/2016	**1670**

Appendix C

Search Strategies Utilised in Study I Searches

Source	Terms	Results
EMBASE	#1 PEER COUNSELING #2 PEER PRESSURE #3 PEER GROUP #4 peer* #5 1 or 2 or 3 or 4 #6 ADOLESCENCE #7 YOUNG ADULT #8 SCHOOL CHILD #9 STUDENT #10 6 or 7 or 8 or 9 #11 SEXUAL EDUCATION #12 5 and 10 and 11	**326**
EBM Reviews	#1 PEER GROUP #2 peer* #3 1 or 2 #4 SEX EDUCATION #5 ADOLESCENT #6 CHILD #7 5 or 6 #8 3 and 4 and 7	**29**
MEDLINE	#1 PEER GROUP #2 PEER INFLUENCE #3 peer* #4 1 or 2 or 3 #5 SEX EDUCATION #6 ADOLESCENT #7 YOUNG ADULT #8 CHILD #9 STUDENTS #10 6 or 7 or 8 or 9 #11 4 and 5 and 10	**444**
ArticleFirst	#1 SEX #2 PEER #3 ADOLESCENT #4 CHILD #5 YOUTH #6 STUDENT #7 3 or 4 or 5 or 6 #8 1 and 2 and 7	**27**
ERIC	#1 PEER COUNSELLING #2 PEER GROUPS #3 PEER INFLUENCE #4 PEER RELATIONSHIP #5 PEER TEACHING #6 peer* #7 1 or 2 or 3 or 4 or 5 or 6 #8 SEX EDUCATION #9 adolescen* #10 student* #11 child*	**154**

	#12 9 or 10 or 11 #13 7 and 8 and 12	
Papers First	#1 SEX #2 PEER #3 1 and 2	**10**
WorldCat Dissertations	#1 peer* #2 SEX EDUCATION #3 1 and 2	**0**
ECO	#1 PEER #2 PEER-DELIVERED #3 PEER-ASSISTED #4 PEER EDUCATION #5 1 or 2 or 3 or 4 #6 SEX EDUCATION #7 ADOLESCENT #8 CHILD #9 STUDENT #10 TEENAGE #11 YOUNG ADULT #12 SCHOOL CHILDREN #13 7 or 8 or 9 or 10 or 11 or 12 #14 5 and 6 and 13	**364**
PsycArticles & PsycInfo	#1 PEERS #2 PEER COUNSELLING #3 PEER RELATIONS #4 PEER PRESSURE #5 1 or 2 or 3 or 4 #6 SEX EDUCATION #7 5 and 6	**62**
American Doctoral Dissertations	#1 peer* #2 sex education #3 1 and 2	**0**
British Education Index	#1 PEER TEACHING #2 PEER COUNSELING #3 PEER PRESSURE #4 PEER RELATIONS #5 1 or 2 or 3 or 4 #6 SEX EDUCATION #7 TEENAGERS #8 STUDENTS #9 CHILDREN #10 SCHOOL CHILDREN #11 7 or 8 or 9 or 10 #12 5 and 6 and 11	**27**
Child Development and Adolescent Studies	#1 PEER #2 PEER EDUCATION #3 PEER PRESSURE #4 PEER COUNSELLING #5 PEER RELATIONS #6 1 or 2 or 3 or 4 or 5 #7 SEX EDUCATION #8 ADOLESCENT #9 TEENAGE #10 YOUNG ADULT #11 CHILD #12 STUDENT #13 SCHOOL CHILD	**62**

	#14 8 or 9 or 10 or 11 12 or 13 #15 6 and 7 and 14	
CINAHL	#1 peer* #2 PEER COUNSELING #3 PEER PRESSURE #4 PEER GROUP #5 PEER ASSISTANCE PROGRAMS #6 1 or 2 or 3 or 4 or 5 #7 SEX EDUCATION #8 ADOLESCENCE #9 YOUNG ADULT #10 STUDENTS #11 CHILD #12 8 or 9 or 10 or 11 #13 6 and 7 and 12	**86**
Education Abstracts	#1 peer* #2 PEER COUNSELING #3 PEER PRESSURE #4 PEER TEACHING #5 PEER RELATIONS #6 1 or 2 or 3 or 4 or 5 #7 SEX EDUCATION #8 TEENAGERS #9 YOUNG ADULTS #10 CHILDREN #11 STUDENTS #12 SCHOOL CHILDREN #13 8 or 9 or 10 or 11 or 12 #14 6 and 7 and 13	**49**
Educational Administration Abstracts	#1 peer* #2 SEX EDUCATION #3 ADOLESCENT #4 STUDENT #5 YOUNG ADULT #6 CHILD #7 3 or 4 or 5 or 6 #8 1 and 2 and 7	**30**
Taylor & Francis Online	#1 peer* #2 sex education #3 1 and 2	**24**
ProQuest Social Sciences Premium Collection	#1 peer* #2 sex education #3 1 and 2	**132**
Web of Science	#1 peer* #2 sex education #3 1 and 2	**30**
Zetoc	#1 peer* #2 sex education #3 1 and 2	**36**
Cochrane Library	#1 peer* #2 sex education #3 1 and 2	**179**
PubMed	#1 peer* #2 SEX EDUCATION #3 1 and 2	**277**

ProQuest Dissertations and Theses Global	#1 peer* #2 SEX EDUCATION #3 1 and 2	**132**
Science Direct	#1 peer* #2 SEX EDUCATION #3 1 and 2	**212**
Social Care Online	#1 peer* #2 SEX EDUCATION #3 YOUNG PEOPLE #1 and 2 and 3	**1188**
NICE Evidence	#1 peer* #2 sex education #3 1 and 2	**250**
TRIP	#1 peer* #2 sex education #3 1 and 2	**1115**
EthOS	#1 peer* #2 sex education #3 1 and 2	**38**
DART	#1 peer* #2 sex education #3 1 and 2	**0**
ClinicalTrials.gov	#1 peer* #2 sex education #3 1 and 2	**0**
WHO International Clinical Trials Registry Platform	#1 peer* #2 sex education #3 1 and 2	**0**
NHS Centre for Reviews and Dissemination	#1 peer* #2 sex education #3 1 and 2	**0**
31e Impact Evaluation Repository	#1 peer* #2 sex education #3 1 and 2	**0**
SIGLE	#1 peer* #2 sex education #3 1 and 2	**9**
European Union Clinical Trials Registry	#1 peer* #2 sex education #3 1 and 2	**0**
ISRCTN.org	#1 peer* #2 sex education #3 1 and 2	**1**
Education in Video	#1 peer* AND sex education	**0**
JISC Media Hub	#1 peer* AND sex education	**0**
TRILT	#1 peer* AND sex education	**0**
Infotrac Custom Newspapers	#1 peer* AND sex education	**15**
NEXIS UK	#1 peer* AND sex education	**877**
YouTube	#1 peer* AND sex education #2 #1 peer* AND HIV #3 #1 peer* AND sexual health	**1670**

Appendix E

Study I Included Sources

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Appendix F

Study I Original Coding Form

Coding Form

ID Code	
Date of Publication (dd/mm/yyyy)	

1. TYPE
Where is the source from? (Please select one)

Policy	Guidance	Journal Article	National News	Local News	YouTube Video
The source is a policy document advising how to deliver SRE	The source is a guidance document describing good practice	The source is a journal article	The source was published in a national newspaper	The source was published in a local newspaper	The source is a video from the YouTube platform

If none of the codes are suitable, please write where the source is from in the space provided below:

_____

2. CREATOR
Who has created the source?

Government Agency	Local Council	Academic	Education Professional
The source was created by a body associated with the government such as the Department of Education/Health	The source was created by a body associated with a Local Council such as the LEA	The source was created by an academic or independent research body	The source was created by an educational professional such as a teacher or head teacher

Health Professional	Charity	Peer Educator	Journalist
The source was created by a health professional such as a doctor or nurse	The source was created by a charitable organisation	The source was created by someone who identifies, works, or worked as a peer educator	The source was created by a journalist

If none of the codes are suitable, please write where the source is from in the space provided below:

_____

3. CLAIMS

What claims does the source make for/against peer-led sex education?
(Select as many as apply)

POSITIVE CLAIMS

Cost (Positive)	Credibility (Positive)	Empowerment (Positive)	Naturalism (Positive)	Efficacy (Positive)
Peer education is cost-effective	Peer educators have credibility with target population	Peer education is empowering	Peer education uses pre-established means of communication	Peer educators are more successful than professionals in passing on information
Role Models (Positive)	**Peer Benefit (Positive)**	**Acceptability (Positive)**	**Outreach (Positive)**	**Reinforcement (Positive)**
Peer educators are positive role models	Peer education is beneficial to peer educators	Peer education is acceptable when other education is not	Peer education can be used to educate those 'hard to reach'	Peers can reinforce learning through ongoing social contact

NEGATIVE CLAIMS

Cost (Negative)	Credibility (Negative)	Empowerment (Negative)	Naturalism (Negative)	Efficacy (Negative)
Peer education is not cost-effective	Peer educators do not have credibility with target population	Peer education is not empowering	Peer education does not use pre-established means of communication	Peer educators are the same as or less successful than professionals in passing on information
Role Models (Negative)	**Peer Benefit (Negative)**	**Acceptability (Negative)**	**Outreach (Negative)**	**Reinforcement (Negative)**
Peer educators are not positive role models	Peer education is not beneficial to peer educators	Peer education is not more acceptable than other education	Peer education can't educate those 'hard to reach'	Peers do not reinforce learning through ongoing social contact

If none of the codes are suitable, please write the claim in the space provided below:

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4. **TONE**

What is the general tone of the source regarding peer-led sex education?

POSITIVE	NEGATIVE	NEUTRAL	MIXED
The tone of the source is generally supportive of peer-led sex education	The tone of the source is generally hostile or critical of peer-led sex education	The tone of the source expresses no opinion regarding peer-led sex education	The tone of the source expresses conflicting views regarding peer-led sex education

5. **EVIDENCE**

Does the source cite evidence to support the claims it makes for peer-led sex education? If 'No' do not complete Step 6.

YES	NO
The source cites evidence to support a claim made for peer-led sex education	The source does not cite evidence to support a claim made for peer-led sex education

6. **EVIDENCE SOURCE**

What form of evidence does the source cite to support the claims for/against peer-led sex education?

RESEARCH	ANECDOTE
The source cites a form of research e.g. a study to support claims made for peer-led sex education	The source cites anecdotal evidence e.g. opinion or experience to support claims made for peer-led sex education

ADDITIONAL COMMENTS

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Appendix G
Study I Final Coding Form

Coding Form

ID Code									
Date of Publication (dd/mm/yyyy)	d	d	/	m	m	/	y	y	y	y

TYPE
Where is the source from? (Please select one)

Policy	Guidance	Journal Article	National News	Local News	YouTube Video
The source is a policy document advising how to deliver SRE	The source is a guidance document describing good practice	The source is a journal article	The source was published in a national newspaper	The source was published in a local newspaper	The source is a video from the YouTube platform

If none of the above codes are suitable, please write where the source is from in the space provided below:

_____

CREATOR
Who has created the source?

Government Agency	Local Agency	Academic	Education Professional
The source was created by a body associated with the government such as the Department of Education/Health	The source was created by a body associated with a Local Council or Health Board e.g. area specific LEA/NHS	The source was created by an academic or independent research body	The source was created by an educational professional such as a teacher

Health Professional	Charity	Peer Educator	Journalist
The source was created by a health professional such as a doctor or nurse	The source was created by a charitable organisation	The source was created by someone who identifies(d) as a peer educator	The source was created by a journalist

If none of the above codes are suitable, please write who has created the source in the space provided below:

_____

_____

POSITIVE CLAIMS What claims does the source make for peer-led sex education? (Select as many as apply, a blank space has been provided for those not fitting the criteria)		EVIDENCE Does the source cite evidence to support the claim?		EVIDENCE SOURCE What form of evidence does the source cite to support the claim?	
		Yes The source cites evidence to support this claim	No The source does not cite evidence to support this claim	Research The source cites a form of research e.g. a study to support this claim	Anecdote The source cites anecdotal evidence e.g. opinion or experience to support this claim
Cost (Positive) Peer education is cost-effective					
Credibility (Positive) Peer educators have credibility with the target population					
Empowerment (Positive) Peer education is empowering					
Naturalism (Positive) Peer education uses pre-established means of communication					
Efficacy (Positive) Peer educators are more successful than professionals					
Modelling (Positive) Peer educators are positive role models					
Educator Benefit (Positive) Peer education is beneficial to peer educators					
Acceptability (Positive) Peer education is acceptable when other education is not					
Outreach (Positive) Peer education can be used to educate those who are 'hard to reach'					
Reinforcement (Positive) Peers can reinforce learning through ongoing social contact					

NEGATIVE CLAIMS What claims does the source make against peer-led sex education? (Select as many as apply, a blank space has been provided for those not fitting the criteria)		EVIDENCE Does the source cite evidence to support the claim?		EVIDENCE SOURCE What form of evidence does the source cite to support the claim?	
		Yes The source cites evidence to support this claim	**No** The source does not cite evidence to support this claim	**Research** The source cites a form of research e.g. a study to support this claim	**Anecdote** The source cites anecdotal evidence e.g. opinion or experience to support this claim
Cost (Negative) Peer education is not cost-effective					
Credibility (Negative) Peer educators do not have credibility with the target population					
Empowerment (Negative) Peer education is not empowering					
Naturalism (Negative) Peer education does not use pre-established means of communication					
Efficacy (Negative) Peer educators are the same or less successful than professionals					
Modelling (Negative) Peer educators are not positive role models					
Educator Benefit (Negative) Peer education is not beneficial to peer educators					
Acceptability (Negative) Peer education is not more acceptable than other education					
Outreach (Negative) Peer education does not educate those who are 'hard to reach'					
Reinforcement (Negative) Peers do not reinforce learning through ongoing social contact					

TONE

What is the general tone of the source regarding peer-led sex education?

Positive	Negative	Neutral	Mixed
The tone of the source is generally supportive of peer-led sex education	The tone of the source is generally hostile or critical of peer-led sex education	The tone of the source expresses no opinion regarding peer-led sex education	The tone of the source expresses conflicting views regarding peer-led sex education

ADDITIONAL COMMENTS

If more space is required for data that could not be coded due to pre-defined codes being unsuitable please use the space provided below.

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Appendix H

IRR Tables Study I

ICR Kappa Calculations for Categorisation of Source Tone

RATER_1 * RATER_2 Crosstabulation

Count

		RATER_2		Total
		Positive	Neutral	
RATER_1	Positive	27	1	28
	Neutral	0	1	1
	Mixed	1	0	1
Total		28	2	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.474	.311	3.329	.001
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Positive Cost Claims

COST_RATER1 * COST_RATER2 Crosstabulation

Count

		COST_RATER2		Total
		Blank	Present	
COST_RATER1	Blank	26	0	26
	Present	1	3	4
Total		27	3	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.839	.157	4.655	.000
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Cost Claims

COST_RATER1 * COST_RATER2 Crosstabulation

Count

		COST_RATER2		Total
		Blank	Present	
COST_RATER1	Blank	28	0	28
	Present	1	1	2
Total		29	1	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.651	.321	3.806	.000
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Positive Credibility Claims

CRED_RATER1 * CRED_RATER2 Crosstabulation

Count

		CRED_RATER2		Total
		Blank	Present	
CRED_RATER1	Blank	11	4	15
	Present	1	14	15
Total		12	18	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.667	.133	3.727	.000
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Credibility Claims

CRED_RATER1 * CRED_RATER2 Crosstabulation

Count

		CRED_RATER2		Total
		Blank	Present	
CRED_RATER1	Blank	28	0	28
	Present	1	1	2
Total		29	1	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.651	.321	3.806	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Positive Empowerment Claims

EMPOW_RATER1 * EMPOW_RATER2 Crosstabulation

Count

		EMPOW_RATER2		Total
		Blank	Present	
EMPOW_RATER1	Blank	21	1	22
	Present	1	7	8
Total		22	8	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.830	.116	4.544	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Empowerment Claims

EMPOW_RATER1 * EMPOW_RATER2 Crosstabulation

Count

		EMPOW_RATER2	Total
		Blank	
EMPOW_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.a
N of Valid Cases		30

a. No statistics are computed because
EMPOW_RATER1 and EMPOW_RATER2 are
constants.

ICR Kappa Calculation for Categorisation of Positive Natural Claims

NATU_RATER1 * NATU_RATER2 Crosstabulation

Count

		NATU_RATER2		Total
		Blank	Present	
NATU_RATER1	Blank	22	1	23
	Present	1	6	7
Total		23	7	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.814	.127	4.457	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Natural Claims

NATU_RATER1 * NATU_RATER2 Crosstabulation

Count

		NATU_RATER2	Total
		Blank	
NATU_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.ᵃ
N of Valid Cases		30

a. No statistics are computed because

NATU_RATER1 and NATU_RATER2 are constants.

ICR Kappa Calculation for Categorisation of Positive Efficacy Claims

EFFIC_RATER1 * EFFIC_RATER2 Crosstabulation

Count

		EFFIC_RATER2		Total
		Blank	Present	
EFFIC_RATER1	Blank	15	0	15
	Present	7	8	15
Total		22	8	30

Symmetric Measures

		Value	Asymp. Std. Errorᵃ	Approx. Tᵇ	Approx. Sig.
Measure of Agreement	Kappa	.533	.137	3.303	.001
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Efficacy Claims

EFFIC_RATER1 * EFFIC_RATER2 Crosstabulation

Count

		EFFIC_RATER2	Total
		Blank	
EFFIC_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.a
N of Valid Cases		30

a. No statistics are computed because EFFIC_RATER1

and EFFIC_RATER2 are constants.

ICR Kappa Calculation for Categorisation of Positive Role Model Claims

ROLE_RATER1 * ROLE_RATER2 Crosstabulation

Count

		ROLE_RATER2		Total
		Blank	Present	
ROLE_RATER1	Blank	20	1	21
	Present	1	8	9
Total		21	9	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.841	.108	4.608	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Role Model Claims

ROLE_RATER1 * ROLE_RATER2 Crosstabulation

Count

		ROLE_RATER2	Total
		Blank	
ROLE_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.[a]
N of Valid Cases		30

a. No statistics are computed because ROLE_RATER1

and ROLE_RATER2 are constants.

ICR Kappa Calculation for Categorisation of Positive Educator Benefit Claims

BENE_RATER1 * BENE_RATER2 Crosstabulation

Count

		BENE_RATER2		Total
		Blank	Present	
BENE_RATER1	Blank	16	0	16
	Present	0	14	14
Total		16	14	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	1.000	.000	5.477	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Educator Benefit Claims

BENE_RATER1 * BENE_RATER2 Crosstabulation

Count

		BENE_RATER2	Total
		Blank	
BENE_RATER1	Blank	29	29
	Present	1	1
Total		30	30

Symmetric Measures

	Value	Asymp. Std. Error[b]	Approx. T[c]
Measure of Agreement Kappa	.000[a]	.	.
N of Valid Cases	30		

a. No statistics are computed because BENE_RATER2 is a constant.

b. Not assuming the null hypothesis.

c. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Positive Acceptability Claims

ACCEPT_RATER1 * ACCEPT_RATER2 Crosstabulation

Count

		ACCEPT_RATER2		Total
		Blank	Present	
ACCEPT_RATER1	Blank	19	1	20
	Present	5	5	10
Total		24	6	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.500	.169	2.905	.004
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Acceptability Claims

ACCEPT_RATER1 * ACCEPT_RATER2 Crosstabulation

Count

		ACCEPT_RATER2		Total
		Blank	Present	
ACCEPT_RATER1	Blank	29	0	29
	Present	0	1	1
Total		29	1	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	1.000	.000	5.477	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Positive Outreach Claims

OUTR_RATER1 * OUTR_RATER2 Crosstabulation

Count

		OUTR_RATER2		Total
		Blank	Present	
OUTR_RATER1	Blank	24	0	24
	Present	0	6	6
Total		24	6	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	1.000	.000	5.477	.000
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Outreach Claims

OUTR_RATER1 * OUTR_RATER2 Crosstabulation

Count

		OUTR_RATER2	Total
		Blank	
OUTR_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.a
N of Valid Cases		30

a. No statistics are computed because

OUTR_RATER1 and OUTR_RATER2 are constants.

ICR Kappa Calculation for Categorisation of Positive Reinforcement Claims

REIN_RATER1 * REIN_RATER2 Crosstabulation

Count

		REIN_RATER2		Total
		Blank	Present	
REIN_RATER1	Blank	25	0	25
	Present	3	2	5
Total		28	2	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.526	.228	3.273	.001
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Reinforcement Claims

REIN_RATER1 * REIN_RATER2 Crosstabulation

Count

		REIN_RATER2	Total
		Blank	
REIN_RATER1	Blank	30	30
Total		30	30

Symmetric Measures

		Value
Measure of Agreement	Kappa	.a
N of Valid Cases		30

a. No statistics are computed because REIN_RATER1
and REIN_RATER2 are constants.

ICR Kappa Calculation for Categorisation of Positive Other Claims

OTHR_RATER1 * OTHR_RATER2 Crosstabulation

Count

		OTHR_RATER2		Total
		Blank	Present	
OTHR_RATER1	Blank	16	1	17
	Present	9	4	13
Total		25	5	30

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.268	.150	1.812	.070
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

ICR Kappa Calculation for Categorisation of Negative Other Claims

OTHR_RATER1 * OTHR_RATER2 Crosstabulation

Count

		OTHR_RATER2		Total
		Blank	Present	
OTHR_RATER1	Blank	27	1	28
	Present	1	1	2
Total		28	2	30

Symmetric Measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement Kappa	.464	.321	2.543	.011
N of Valid Cases	30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Appendix I

Study II Included Studies Descriptive Table

Data Extraction Table

Title	Intervention	Study Sample & Design	Outcomes
Backett-Milburn, K. & Wilson, S. (2000). Understanding peer education: insights from a process evaluation. Health Education Research, 15:1, 85-96.	**Name** Fife Project **Description** Project ran from 1993 to 1996. The project was a multi-sectoral alliance between the health promotion department, health education board and health board.	**Sample** Over the 3 years a total of 85 young people, aged 15/16 (fifth year pupils) and 17/18 (sixth year pupils), were involved as peer educators. **Study design** No comparator **Methods** Interviews and focus groups with stakeholders, interested parties, peer educators. Observation and evaluation of peer education training sessions and the work carried out by peer educators. Evaluation by peer educators themselves of these sessions and	**Evidence of/for** ● Communication ● Peer educator benefit ● Pedagogical innovation ● Social reinforcement **Findings** One of the main benefits of the project from the peer educators' point of view appeared to be an increase in their self confidence and their ability to voice their own thoughts and opinions. There were differences in these effects for boys and girls and individuals developed different aptitudes and abilities at different speeds. Linked to this, the peer educators developed

		their formal and informal work. Participant observation at meetings, residentials and recruitment workshops. Surveys of knowledge and attitudes.	sophisticated skills in targeting their message to different audiences.
Cooper, K., Shepherd, J., Picot, J., Jones, J., Kavanagh, J. Harden, A. & Price, A. (2012). An economic model of school-based behavioural interventions to prevent sexually transmitted infections. International Journal of Technology Assessment in Health Care, 28:4, 407-41.	**Name** SHARE and RIPPLE comparison **Description** Both interventions provide factual information about STIs in addition to the teaching of skills associated with the practice of safer sex. The teacher-led intervention comprised 20 sessions taking place over a 2-year period. The peer-led intervention comprised 3 sessions led by peer educators lasting 1 hour each over one school term.	**Sample Size** The cost-effectiveness of two types of school-based behavioural interventions were assessed: teacher-led and peer-led. The comparator for both interventions was standard sexual health education provided in British schools as part of the SRE curriculum. **Study Design** Non-equivalent comparator **Methods** The cost-effectiveness of two types of school-based behavioural interventions were assessed: teacher-led and peer-led.	**Evidence of/for** • Cost effectiveness **Findings** Results of the economic evaluation indicate that behavioural interventions are likely to lead to a small reduction in risky sexual behaviour, which has a corresponding small health benefit, due to avoiding STIs. These interventions are relatively low cost; therefore if these benefits are sustained they are likely to be good value for money. The teacher-led behavioural intervention was cheaper due to the need for less frequent training.
Faulder, G.S., Riley, S.C., Stone, N. & Glasier, A. (2004). Teaching sex	**Name** Sex education module at University of Edinburgh	**Sample Size**	**Evidence of/for** • Peer educator benefit

education improves medical students' confidence in dealing with sexual health issues. Contraception, 70:2, 135-139.	**Description** As part of the undergraduate curriculum in medicine at the University of Edinburgh, second year students have the option to train as peer-group sex educators and deliver a sex education program in local schools.	1169 students (every medical student registered at Edinburgh University in the academic year 2000/2001) with 199 respondents (29 students were peer educators). **Study Design** Non-equivalent comparator **Methods** Students were asked to complete an internet-based questionnaire sent via email. The core of the questionnaire consisted of four case vignettes presenting various clinical scenarios in sexual and reproductive health. Respondents were asked to rate the case in terms of difficulty, embarrassment, how comfortable they would feel and how well prepared they were to deal with the issue.	**Findings** Students who had participated in the peer sex education project felt more confident in dealing with patients presenting sexual health problems than their peers who had not had this experience.
Forrest, S., Strange, V., Oakley A. & The RIPPLE	**Name** RIPPLE Study	**Sample Size**	**Evidence of/for** • Communication

Study Team (2002). A comparison of students' evaluations of a peer-delivered sex education programme and teacher-led provision. Sex Education, 2:3, 195-214.	**Description** RIPPLE involves 27 secondary schools in Southern England. Schools were randomly allocated to receive peer or teacher-led SRE in Year 9 (13/14 years old). Peer educators were volunteers from Year 12 (16/17 years old). Peer educators received training and materials. Teachers in schools acting as controls received no additional training or support.	Data from 52 focus group discussions in 19 schools and questionnaire results from 7770 students completed in 1998/99. **Study Design** Equivalent comparator **Methods** Focus group discussions and questionnaire responses gathered after intervention.	• Acceptability • Credibility • Pedagogical innovation **Findings** A significantly greater proportion of peer-led students felt that sex education was enjoyable, engaging and useful. A greater proportion of teacher-led students felt the classroom was well controlled. Students felt peer educators were more similar to them and this increased acceptability of and satisfaction with the intervention.
Fox, J., Walker, B. & Kushner, S. (1993). "It's not a bed of roses": Young mothers' education project evaluation report. Centre for Applied Research in Education: University of East Anglia.	**Name** The Young Mothers' Education Project **Description**	**Sample Size** Two youth clubs, three schools (all Year 10). **Study Design** No comparator **Methods**	**Evidence of/for** • Acceptability • Communication • Credbility • Expertise • Peer educator benefit • Safety • Social Reinforcement **Findings**

	Young mothers trained to deliver sex education to young people in youth clubs and local schools. In schools, sessions lasted for one hour and included discussion of contraception and advantages/disadvantages of being a young mother.	Interviews with project organisers, youth workers, participants and peer educators.	Peer educators gained in confidence, ability and knowledge. The young people in youth clubs and schools enjoyed the sessions and felt comfortable talking to peer educators. At points they identified problems with peer educators' delivery, confidence and knowledge. Young people also noted that they did not discuss what they had been taught after the session had ended.
Frankham, J. (1993). *AIDS Peer Education Project Evaluation Report*. Norwich: Centre for Applied Research in Education, University of East Anglia.	**Name** AIDS Peer Education Project Norwich **Description** Young people were trained as AIDS Peer Educators (APEs) and delivered information sessions in local schools.	**Sample Size** Two schools (5 APEs in School 1: 3 female, 2 male. 4 APEs in School 2: 3 female, 1 male). **Study Design** No comparator **Methods** Interviews with AIDS Peer Educators after training and after	**Evidence of/for** Social Reinforcement **Findings** Peer educators described being approached informally for advice and being able to use their knowledge in informal conversations with friends and family, although acknowledged that this was difficult at times. None of the students who had

		teaching. Pre-post focus groups of students receiving peer-led sessions. Interview with the Co-Ordinator of the peer education project. One peer-led session was tape recorded.	participated in peer-led sessions mentioned approaching educators for advice but did describe talking to friends/family about session content afterwards.
Guy, A. & Banim, M. (1991). AIDSBUSTERS: A report on the effectiveness of a young person team in designing and delivering HIV and safer sex training within a Youth Training Scheme. *Youth and Policy*, 35, 1-7.	**Name** AIDSBUSTERS **Description** Project undertaken in South Tyneside in 1990 involving young people and adults in training partnerships for AIDS education. AIDS action groups formed by members from local centres created and delivered AIDS training programmes to young people within the centres. These action groups were equal partnerships, with young people supported in delivering material by	**Sample Size** One peer educator group (two male, two female) delivered 14 sessions from March to July 1990 (10 mixed-sex, 4 single-sex female sessions). A total of 144 young people aged 16-18 years attended (64% female, 36% male). **Study Design** No comparator **Methods** Questionnaires and three focus groups (two weeks after sessions, 90 mins) to evaluate young people's responses to the session they received. Five process analysis	**Evidence of/for** - Acceptability - Communication - Credibility - Pedagogical Innovation - Peer educator benefit - Social Reinforcement **Findings** Young people were very positive about the peer-led sessions. They were less positive about the adult-led session. Differing delivery styles between peer educators and adult staff were noted. Participants felt nervous speaking with peer educators initially but this dissipated as sessions progressed. Peer

	adult staff members (access to resources, practical advice, support). Young people received 6 (3 hour) training sessions. They devised a one-day programme covering HIV, sexuality and relationships. One session was delivered by an adult, the rest were delivered by the peer educators.	sessions focussing on peer educators' experiences of their role.	educators were thought to be credible and effective in their role. Conversations about subject material with peer educators, friends and family took place after sessions. Peer educators described increases in confidence and acquiring knowledge and communication skills.
Hamilton, V. (1992). HIV/AIDS: a peer education approach. Youth & Policy, 36, 27-31.	**Name** Peer Education Programme on HIV/AIDS **Description** The programme ran for 12 weeks and involved weekly 2-hour sessions and a residential weekend.	**Sample Size** Eight young women (15-17 years) were trained to run workshops for other young people (14-18 years) on HIV/AIDS in schools, colleges and youth clubs. **Study Design** No comparator **Methods** Recorded discussion in training and teaching sessions.	**Evidence of/for** • Peer educator benefit **Findings** Peer educators gained in confidence, ability and knowledge.

| Howick, M. (1998). A study of peer education strategies relating to HIV/AIDS education in a secondary school setting. Doctoral dissertation: University of Kent at Canterbury). | **Name**

Description
Peer-led HIV/AIDS education programme in a secondary school that ran for 3 years. The programme was delivered in Year 7 (11-12 years) and Year 9 (13-14 years) by Year 11 students (15-16 years) at the same school. Peer educators attended a training weekend and delivered sessions using a game and materials they helped to develop. | **Sample Size**
24 students volunteered as peer educators over the three years. 14 in the original group (7 male, 7 female), 10 in the second group (3 male, 7 female). Approximately 600 students received the programme.

Study Design
In years 1 and 3, there was no comparator. In year 2 of the programme, 3 conditions were created to compare peer-led, teacher-led and control groups.

Methods
5 peer educators, 5 students, 5 parents and 3 teachers were interviewed about their experience participating in the programme. Peer educators completed feedback questionnaires after training and students completed | **Evidence of/for**
• Acceptability
• Communication
• Peer educator benefit
• Safety
• Social reinforcement

Findings
Peer-led sessions were described by teachers as being well received and enjoyed by students. Some students noted that peer educators were easier to talk to, others preferred teachers' more formal language. Most students wanted other students to teach them about HIV/AIDS and attributed this to embarrassment talking to teachers. When directly compared, those taught by teachers preferred to learn from teachers and those taught by peers preferred to learn from peers. Teachers noted the 'animated discussions' taking |

		feedback questionnaires after sessions.	place between peer educators and students, but peer educators also struggled with bad behaviour and felt they had to learn how to communicate with others. Peer educators used their new knowledge to educate friends andfamily outside of school.
Jobanputra, J., Clack, A.R., Chesseman, G.J., Glasier, A. & Riley, S.C. (1999). A feasibility study of adolescent sex education: medical students as peer educators in Edinburgh schools. BJOG: Journal of Obstetrics & Gynaecology, 106:9, 887-891.	**Name** Sex education module at University of Edinburgh **Description** The programme ran for 12 weeks and involved weekly 2-hour sessions and a residential weekend.	**Sample Size** Three sessions with three groups of 6-8 pupils per session. 29 pupil evaluations were returned. **Study Design** No comparator **Methods** Questionnaires and observed sessions	**Evidence of/for** • Acceptability • Communication • Credibility **Findings** Students felt they could talk more openly with peer educators. More questions were asked of educators as lessons proceeded. Pupils felt they enjoyed sessions more than usual and were comfortable participating as the medical students were closer in age and experience to them.

Kidger, J. (2002). Young mothers as peer educators in school sex education: a beneficial approach? Doctoral Thesis: University of Bristol. Kidger, J. (2004). 'You realise it could happen to you': the benefits of young mothers delivering school sex education. Sex Education, 4:2, 185-197.	**Name** None provided **Description** Young mothers deliver school sex education sessions as peer educators, aiming to give pupils informed choices regarding their sexual and contraceptive behaviour.	**Sample Size** Five schools **Study Design** No comparator **Methods** Session observations, focus groups and interviews with participants	**Evidence of/for** • Acceptability • Credibility • Peer educator benefits **Findings** Students felt they could talk more openly with peer educators. More questions were asked of educators as lessons proceeded. Pupils felt they enjoyed sessions more than usual and were comfortable participating as the medical students were closer in age and experience to them.
Mathie, E. & Ford, N. (1994). Evaluation of the Somerset Peer Education Project. The Peer Facilitator Quarterly, 12:1, 14-17 Mathie, E. & Ford, N. (1994). *Evaluation of a College-Based HIV and Sexual Health Peer Education Project in*	**Name** The Somerset Peer Education Project (Year One) **Description** Peer education project in South West England, ran from October 1992 to October 1993 and was a joint initiative between Somerset	**Sample Size** 14 female peer educators from 2 colleges performed to 135 students and taught 96 students (11 sessions in their colleges). **Study Design** Non-equivalent comparator **Methods**	**Evidence of/for** • Communication • Social reinforcement • Acceptability • Credibility • Safety • Pedagogy **Findings** The play was well received and students were very positive about

Somerset: Year One. Exeter: Institute of Population Studies, University of Exeter.	Health Authority, two colleges and University of Exeter. Female volunteers spent one and a half days training to become peer educators. They performed a play and gave peer-led education sessions to their fellow students (mixed and single sex groups of 16-18 year olds). Sessions were designed by peer educators.	Pre-post questionnaire administered to students after play (n=55) to measure changes in knowledge, attitudes and behaviour. Training questionnaire completed by peer educators. An evaluation questionnaire was completed by both peer educators and students (n=55) to provide feedback. Two of the peer-led sessions were observed by a member of the research team.	the experience. A number of students remarked that they liked the play because it included peers. Students reacted positively to peer-led sessions. Students recorded feeling comfortable with peer educators and enjoyed their teaching methods. The peer-led sessions encouraged informal discussion in and out of the classroom. Students who received the peer-led sessions were more likely to have discussed relevant issues with their friends than those who did not receive peer education.
Mathie, E. & Ford, N. (1994). *Evaluation of the Second Year: An HIV and Sexual Health Peer Education Project on Strode & Yeovil Colleges, Somerset*. Exeter: Institute of Population Studies, University of Exeter.	**Name** The Somerset Peer Education Project (Year Two) **Description** The second year of the project saw 17 new peer educators attend a	**Sample Size** 17 peer educators from 2 colleges (In College 1, 20 sessions were completed with 133 students; in College 2, 3 sessions were completed with 48 students). **Study Design** No comparator	**Evidence of/for** - Peer educator benefit - Communication - Acceptability - Safety - Credibility - Social Reinforcement **Findings**

	residential training with 3 of the experienced peer educators. Peer educators delivered sessions to students at their college. Each session was led by 2-4 peer educators, lasted 50 minutes and included a combination of activities, a play and a song. Topics included HIV/AIDS, safe sex, negotiating safe sex, condom use and a condom demonstration.	**Methods** Training days evaluated by peer educators with pre- and post-questionnaires. All students in attendance at a peer-led session were asked to complete a feedback questionnaire.	Peer educators reported changes in knowledge. Students in peer-led sessions were very positive about communicating with peer educators and felt they were easier to talk to. A number of students commented that they felt more relaxed in the presence of a peer educator and could discuss more relevant topics than a teacher. A majority of students in the peer-led sessions felt that they would talk to others (e.g. friends, partner, family) about session content. Peer educators felt some sessions went well, but identified behavioural issues in others.
Mathie, E., Ford, N., Blacksell, N. & Inman, M. (1996). Sea, sand and safer sex messages. Education & Health, 13:4, 49-51.	**Name** Sea, Sand and Safer Sex Project **Description**	**Sample Size** 25 peer educators attended 38 events, spending an average of three hours and speaking to an average of 19 males and 18 females at each.	**Evidence of/for** • Acceptability **Findings** Reactions from all involved were overwhelmingly positive. Events were well received and the peer

		Study Design No comparator Methods Interviews to gauge reaction to the project and to evaluate the impact of peer education.	educators were very successful in engaging the attention of young people without embarrassment.
Mellanby, A.R. (1997). Apause: an intervention programme of school sex education. Doctoral Thesis: University of London, Kings College.	**Name** Apause **Description** Described the development of a sex education programme for secondary schools. Initially this included 1 session delivered by peer educators (4 15-16 year olds delivering to 13-14 year olds). This was later developed to include 2 sessions and for the actual Apause programme, 4 sessions were taught by 3-4 peer educators (16-18 years) to Year Nine students (13-14 years). Sessions focussed	**Sample Size** 2 schools. Initially 4 peer educators (15-16 years) delivered one session to three classes of 13-14 year olds. This increased to two sessions taught by 6 peer educators (16-18 years) and finally 4 sessions taught by 3-4 peer educators (16-18 years). **Study Design** No comparator* **Methods** Pre- and post-questionnaires to measure	**Evidence of/for** - Acceptability - Communication - Peer Educator Benefit - Security - Social Reinforcement **Findings** Most peer educators reported that their training had improved their knowledge, skills and confidence. Teachers felt that students enjoyed the sessions but noted there were occasions where students were embarrassed. The research team noted that the lessons proceeded

	largely on role playing assertiveness skills, negating pressure to have sexual intercourse (adapted from an American programme). Peer educators attended 4 training sessions and revised the play script.	knowledge/attitudinal/behavioural change were completed by students. Teachers and researchers observed and commented on 3 peer-led sessions. One class of peer-led students completed a feedback questionnaire (n=24). *Whilst the study of the programme itself provides an equivalent comparator, its assessment of the peer-led component had no comparator.	more tentatively than those observed in the US. Student responses to peer educators were described as brief and frightened. As peer educators became more confident, the class relaxed and became more willing to join in. The research team believe that using older students was more successful but they still experienced difficulty in encouraging students to take part. Questionnaires suggested that most students took part in discussion and had talked to someone else (friend/family) about the lesson.
Mellanby, A.R., Newcombe, R.G., Rees, J. & Tripp, J.H. (2001). A comparative study of peer-led and adult-led school sex education. Health Education Research, 16:4, 481-492.	**Name** Apause **Description** Sex education programme for secondary schools. 10 sessions are	**Sample Size** 2 schools **Study Design** Equivalent comparator **Methods**	**Evidence of/for** • Acceptability • Social Reinforcement **Findings** Students receiving the adult-led programme were more likely to say they joined in more with the

		delivered by health professionals and teachers, 4 by groups of teenagers aged 16-17 years.	Pre- and post-questionnaires.	session. A greater proportion of students in the peer-led session answered that they felt embarrassed compared to adult-led sessions. There was no difference in students reporting having discussed the intervention with others between peer and adult-led sessions.
Murray, L. (2009). The Peer Activities in Sexual Health young people's peer education project. Education and Health, 27:3, 76-77.	**Name** Peer Activities in Sexual Health (PASH) **Description** Sex education programme for secondary schools. 10 sessions are delivered by health professionals and teachers, 4 by groups of teenagers aged 16-17 years.	**Sample Size** 5 female peer educators delivered 38 sessions to 600 young people across 12 settings including secondary schools, colleges and youth groups. **Study Design** No comparator **Methods** Post-evaluation forms for students and teachers and interviews with peer educators.		**Evidence of/for** • Acceptability • Peer educator benefit • Communication **Findings** Peer education increases the confidence of the young people volunteering as peer educators as well as encouraging young people to join in with peer-led sessions in the classroom.

Newitt, K. & Karp, M. (1995). Peer Education and Teenage Pregnancy Pilot: An Evaluation Report. Sexual Health and AIDS Team: Belfast.	**Name** **Description** Young mothers trained in peer education, developed a programme of sex education and delivered to young people. The programme covered issues in teenage pregnancy, contraception, and decision making. Peer educators ran three sessions at weekly intervals with small groups of young people.	**Sample Size** 3 female peer educators (young mothers) delivered sessions to 30 young people. **Study Design** No comparator **Methods** Pre-post questionnaires completed by young people, verbal feedback from young people and peer educators.	**Evidence of/for** • Acceptability • Peer educator benefit • Communication **Findings** Young people noted the openness and honesty of the peer educators and enjoyed the sessions. The project is described as having a profound impact on the peer educators, with young mothers valuing and taking pride in the training received.
Oakley, A., Strange, V., Stephenson, J., Forrest, S. & Monteiro, H. (2004). Evaluating processes: a case study of a randomised controlled trial of sex education. Evaluation, 10:4, 440-462.	**Name** RIPPLE Study **Description** RIPPLE involves 27 secondary schools in Southern England. Schools were randomly allocated to receive peer or teacher-led SRE	**Sample Size** 14 schools (experimental condition). **Study Design** Equivalent comparator **Methods**	**Evidence of/for** • Acceptability • Credibility • Communication • Pedagogical innovation • Peer educator benefit **Findings** Peer-led students were more positive about their sex

	in Year 9 (13/14 years old). Peer educators were volunteers from Year 12 (16/17 years old). Peer educators received training and materials. Teachers in schools acting as controls received no additional training or support.	Pre-, post- and follow-up questionnaires, focus groups, interviews, observations, researcher fieldnotes.	education. Many students felt peer educators had greater relevant expertise and respect for students, to be more trustworthy, confident, empathetic and hold similar values, using familiar language, being less moralistic and making lessons fun. Most peer educators experienced positive changes in sexual knowledge/attitudes and confidence.
Ochieng, B.M.N. (2003). Adolescent health promotion: The value of being a peer leader in a health education/promotion peer education programme. Health Education Journal, 62:1, 61-72.	**Name** HIV/AIDS Sexual Health Education Programme in West Yorkshire **Description** The peer education programme commenced in 1992 with the overall objective of empowering young people to live a healthy sexual life. Over 100 peer leaders have been trained and operate in	**Sample Size** 15 peer leaders (20 invited). 5 male, 10 female aged 15-17 years. **Study Design** No comparator **Methods** Semi-structured interviews	**Evidence of/for** - Peer educator benefit - Modelling **Findings** Peer leaders highlighted positive changes in attitudes and effects on their personal lifestyles. They felt that the process of peer leadership had benefited them as individuals. Some of the peer leaders demonstrated cognitive dissonance and did not practice

	different schools, colleges and youth centres.		the safe sexual behaviours they were proposing others adopt.
Paul, G., Bell, C., Fitzpatrick, A. & Smith, S.M. (2010). 'The real deal': A feasibility study of peer-led sex education for early school leavers. The European Journal of Contraception and Reproductive Health Care, 15, 343-356.	**Name** None provided **Description** Peer education classes were held in 4 training centres. Three peer educators conducted each class and each group met 6 times. Themes for classes were: self-esteem, sex education, contraception, STIS, life as a teenage mother and goal setting. A handbook designed by peer educators was given to participants and used to guide the class.	**Sample Size** 45 young female early school leavers (15-21 years) and 10 peer educators. **Study Design** No comparator **Methods** 6 focus group discussions: 2 with the peer educators (after training and after intervention) and 4 with participants (after intervention).	**Evidence of/for** - Peer educator benefit - Credibility - Communication - Acceptability - Empowerment **Findings** The programme was acceptable to participants who said it had empowered them to make healthy decisions about their sexual health. Participants felt peer educators were open and willing to answer questions. Peer educators also noted benefits in terms of personal development such as increases in confidence. They also noted their similarity in appearance and language encouraged participation.

Phelps, F.A., Mellanby, A.R., Crichton, N.J. & Tripp, J.H. (1994). Sex education: the effect of a peer programme on pupils (aged 13-14 years) and their peer leaders. Health Education Journal, 53:2, 127-139.	**Name** None provided **Description** Research project with a peer-led component working with schools to implement sex education strategies aiming to improve pupils' knowledge, tolerance and respect, contraceptive use and to resistance to unwelcome pressures in relationships.	**Sample Size** 66 peer leaders (16-17 years) and 38 secondary school classes (Year 9: 13-14 years). **Study Design** No comparator **Methods** Questionnaires for class teachers, peer leaders and pupils.	**Evidence of/for** - Peer educator benefit - Acceptability - Communication - Social Reinforcement **Findings** Peer leaders found training enjoyable and interesting and reported it had improved their knowledge and led to skills development. Teachers noted a few difficulties experienced by peer leaders but on the whole reported that students engaged well with the peer-led sessions. The majority of students reported joining in with discussions and continuing these discussions with friends or family outside of the classroom.
Shepherd, J., Weare, K. & Turner, G. (1997). Peer-led sexual health promotion with young gay and bisexual	**Name** The HAPEER Project	**Sample Size** 43 social and sexual contacts of 11 peer educators.	**Evidence of/for** - Outreach - Communication

men – results of the HAPEER Project. Health Education, 97:6, 204-212.	**Description** Research project investigating the effectiveness of peer-led HIV prevention with young gay and bisexual men. Project took place in three stages over a two-year period.	**Study Design** No comparator **Methods** Feedback activities and semi-structured interviews with peer educators at the end of the training programme. Interviews with participants.	**Findings** Evidence suggests that peer education was an effective method to target individuals in a range of settings, enabled peer educators to initiate discussion about sexual health with peers.
Stephenson, J.M., Oakley, A., Charleston, S., Brodala, A., Fenton, K., Petruckevitch, A. & Johnson, A.M. (1998). Behavioural intervention trials for HIV/STD prevention in schools: are they feasible? Sexually Transmitted Infections, 74:6, 405-408.	**Name** None provided **Description** Intervention based on a peer-led sex education programme developed by the Ibis Trust to provide better sexual health education for young people. Peers from Year 12 (16-17 years) are trained to deliver sex education to Year 9 pupils (13-14 years). Control	**Sample Size** 4 schools (2 experimental and 2 control) with 469 pupils in total. **Study Design** Non-equivalent comparator **Methods** Pupil questionnaires and focus groups	**Evidence of/for** • Acceptability • Communication • Credibility **Findings** Pupils and peer educators expressed considerable enthusiasm for peer education. Class discipline was noted as a problem with the delivery of peer-led sessions. Peer educators and students commented that peer educator credibility was

	schools continue with their usual teacher-led sex education.		conveyed through shared body and verbal language.
Stephenson, J.M., Strange, V., Forrest, S., Oakley, A., Copas, A., Allen, E. & Johnson, A.M. (2004). Pupil-led sex education in England (RIPPLE study): cluster-randomised intervention trial. The Lancet, 364:9431, 338-346.	**Name** RIPPLE Study **Description** In intervention schools, peer educators (16-17 years) delivered three sessions of sex education to pupils (13-14 years) from the same school. Control schools were to continue with their usual teacher-led sex education.	**Sample Size** 29 schools with over 8000 pupils. **Study Design** Non-equivalent comparator **Methods** Pupil questionnaires at baseline and at 6 and 18 months postintervention. Interviews with key staff. Observation of sessions.	**Evidence of/for** • Acceptability • Credibility • Pedagogical Innovation **Findings** Pupils were more satisfied with peer-led sex education than when this was delivered by teachers. Peer educators were perceived as having greater relevant expertise, using familiar language, being less moralistic and making sessions fun. Peer-led programmes differed in content and delivery.
Strange, V., Forrest, S. & Oakley, A. (2002). Peer-led sex education – characteristics of peer educators and their perceptions of the impact on them of participation in a peer education programme.	**Name** RIPPLE Study **Description**	**Sample Size** 463 peer educators **Study Design** Non-equivalent comparator **Methods**	**Evidence of/for** • Peer educator benefit • Credibility **Findings** Peer educators indicated that they might be different from others in their peer group in

Health Education Research, 17:3, 327-337.	In intervention schools, peer educators (16-17 years) delivered three sessions of sex education to pupils (13-14 years) from the same school. Control schools were to continue with their usual teacher-led sex education.	Peer educator pre- and post-questionnaires and focus groups.	terms of engagement and enthusiasm for school. They reported positive changes in sexual knowledge and changes towards more liberal attitudes and believed the programme would have a positive impact on their confidence in relationships and their sexual behaviour. There was an increase in confidence about communication and interaction in groups.
Strange, V., Forrest, S. & Oakley A. (2002). What influences peer-led sex education in the classroom? A view from the peer educators. Health Education Research, 17:3, 339-349.	**Name** RIPPLE Study **Description** In intervention schools, peer educators (16-17 years) delivered three sessions of sex education to pupils (13-14 years) from the same school. Control schools were to	**Sample Size** 463 peer educators **Study Design** Non-equivalent comparator **Methods** Peer educator pre- and post-questionnaires and focus groups.	**Evidence of/for** • Acceptability • Communication • Credibility • Pedagogical Innovation **Findings** Peer educators identified several processes they felt were central to the implementation of peer-led programmes. These included: similarity with students, non-authoritarian relationships, being

	continue with their usual teacher-led sex education.		informal. They also identified classroom and teacher management as being difficult.
Strange, V., Allen, E., Oakley, A., Bonell, C., Johnson, A., Stephenson J. & The RIPPLE Study Team (2006). Integrating process with outcome data in a randomized controlled trial of sex education. Evaluation, 12:3, 330-352.	**Name** RIPPLE Study **Description** In intervention schools, peer educators (16-17 years) delivered three sessions of sex education to pupils (13-14 years) from the same school. Control schools were to continue with their usual teacher-led sex education.	**Sample Size** 463 peer educators **Study Design** Non-equivalent comparator **Methods** Peer educator pre- and post-questionnaires and focus groups.	**Evidence of/for** • Acceptability • Communication • Credibility • Pedagogical Innovation **Findings** Peer educators identified several processes they felt were central to the implementation of peer-led programmes. These included: similarity with students, non-authoritarian relationships, being informal. They also identified classroom and teacher management as being difficult.

Appendix J

Study II Calculations

Claim	Study	Population	Comparator	Source	Finding	Research	Rigour	Effect
Acceptability								
	Forrest, Strange, Oakley et al., (2002)	General	Non-equivalent	Investigation	Positive	1	1	2
	Fox, Walker & Kushner (1993)	General	None	Investigation	Positive	1	0	2
	Guy & Banim (1991)	Specific	None	Investigation	Positive	1	0	2
	Howick (1998)	General	Equivalent	Investigation	Mixed	1	2	1
	Jobanputra, Clack, Cheeseman, et al., (1999)	General	None	Investigation	Positive	1	0	2
	Kidger (2002)	General	None	Investigation	Positive	1	0	2
	Kidger (2004)	General	None	Investigation	Positive	1	0	2
	Mathie & Ford (1994)a	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)b	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2
	Mathie, Ford, Blacksell & Inman (1996)	Specific	None	Investigation	Positive	1	0	2
	Mellanby (1997)	General	None	Investigation	Positive	1	0	2
	Mellanby, Newcombe, Rees & Tripp (2001)	General	Equivalent	Investigation	Mixed	1	2	1
	Murray (2009)	General	None	Investigation	Positive	1	0	2

	Newitt & Karp (1995)	General	None	Investigation	Positive	1	0	2
	Oakley, Strange, Stephenson, et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
	Paul, Bell, Fitzpatrick & Smith (2010)	Specific	None	Investigation	Positive	1	0	2
	Phelps, Mellanby, Crichton & Tripp (1994)	General	None	Investigation	Positive	1	0	2
	Stephenson, Oakley, Charleston et al., (1998)	General	Non-equivalent	Investigation	Positive	1	1	2
	Stephenson, Strange, Forrest et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
	Strange, Forrest & Oakley (2002)a	General	Non-equivalent	Investigation	Positive	1	1	2
	Strange, Allen, Oakley et al., (2006)	General	Non-equivalent	Investigation	Positive	1	1	2
Educator Benefit								
	Backett-Milburn & Wilson (2000)	General	None	Investigation	Positive	1	0	2
	Faulder, Riley, Stone & Glasier (2004)	Specific	Non-equivalent	Investigation	Positive	1	1	2
	Fox, Walker & Kushner (1993)	General	None	Investigation	Positive	1	0	2
	Guy & Banim (1991)	Specific	None	Investigation	Positive	1	0	2
	Hamilton (1992)	General	None	Investigation	Positive	1	0	2
	Howick (1998)	General	Equivalent	Investigation	Positive	1	2	2
	Kidger (2002)	General	None	Investigation	Positive	1	0	2
	Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2
	Mellanby (1997)	General	None	Investigation	Positive	1	0	2
	Murray (2009)	General	None	Investigation	Positive	1	0	2

	Newitt & Karp (1995)	General	None	Investigation	Positive	1	0	2
	Oakley, Strange, Stephenson, et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
	Ochieng (2003)	General	None	Investigation	Positive	1	0	2
	Paul, Bell, Fitzpatrick & Smith (2010)	Specific	None	Investigation	Positive	1	0	2
	Phelps, Mellanby, Crichton & Tripp (1994)	General	None	Investigation	Positive	1	0	2
	Strange, Forrest & Oakley (2002)a	General	Non-equivalent	Investigation	Positive	1	1	2

Communication

	Backett-Milburn & Wilson (2000)	General	None	Observation	Positive	0	0	0
	Forrest, Strange, Oakley et al., (2002)	General	Non-equivalent	Observation	Positive	0	1	0
	Fox, Walker & Kushner (1993)	General	None	Observation	Mixed	0	0	0
	Guy & Banim (1991)	Specific	None	Observation	Mixed	0	0	0
	Howick (1998)	General	Equivalent	Investigation	Mixed	1	2	1
	Jobanputra, Clack, Cheeseman, et al., (1999)	General	None	Investigation	Positive	1	0	2
	Mathie & Ford (1994)a	General	Non-equivalent	Observation	Positive	0	1	0
	Mathie & Ford (1994)b	General	Non-equivalent	Observation	Positive	0	1	0
	Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2
	Mellanby (1997)	General	None	Investigation	Mixed	1	0	1
	Murray (2009)	General	None	Investigation	Positive	1	0	2
	Newitt & Karp (1995)	General	None	Investigation	Positive	1	0	2

Oakley, Strange, Stephenson, et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
Paul, Bell, Fitzpatrick & Smith (2010)	Specific	None	Investigation	Positive	1	0	2
Phelps, Mellanby, Crichton & Tripp (1994)	General	None	Investigation	Positive	1	0	2
Shepherd, Weare & Turner (1997)	Specific	None	Investigation	Positive	1	0	2
Stephenson, Oakley, Charleston et al., (1998)	General	Non-equivalent	Investigation	Positive	1	1	2
Strange, Forrest & Oakley (2002)a	General	Non-equivalent	Investigation	Positive	1	1	2
Strange, Allen, Oakley et al., (2006)	General	Non-equivalent	Investigation	Positive	1	1	2
Credibility							
Forrest, Strange, Oakley et al., (2002)	General	Non-equivalent	Investigation	Positive	1	1	2
Fox, Walker & Kushner (1993)	General	None	Observation	Positive	0	0	0
Guy & Banim (1991)	Specific	None	Investigation	Positive	1	0	2
Jobanputra, Clack, Cheeseman, et al., (1999)	Specific	None	Investigation	Positive	1	0	2
Kidger (2002)	General	None	Investigation	Positive	1	0	2
Kidger (2004)	General	None	Investigation	Positive	1	0	2
Mathie & Ford (1994)a	General	Non-equivalent	Observation	Positive	0	0	0
Mathie & Ford (1994)b	General	Non-equivalent	Observation	Positive	0	0	0
Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2

Oakley, Strange, Stephenson, et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
Paul, Bell, Fitzpatrick & Smith (2010)	Specific	None	Investigation	Positive	1	0	2
Stephenson, Oakley, Charleston et al., (1998)	General	Non-equivalent	Investigation	Positive	1	1	2
Stephenson, Strange, Forrest et al., (2004)	General	Non-equivalent	Investigation	Positive	1	1	2
Strange, Forrest & Oakley (2002)a	General	Non-equivalent	Investigation	Positive	1	1	2
Strange, Forrest & Oakley (2002)b	General	Non-equivalent	Investigation	Positive	1	1	2
Strange, Allen, Oakley et al., (2006)	General	Non-equivalent	Investigation	Positive	1	1	2
Pedagogy							
Backett-Milburn & Wilson (2000)	General	None	Observation	Positive	0	0	0
Forrest, Strange, Oakley et al., (2002)	General	Non-equivalent	Observation	Positive	0	0	0
Guy & Banim (1991)	Specific	None	Observation	Positive	0	0	0
Mathie & Ford (1994)a	General	Non-equivalent	Observation	Positive	0	0	0
Mathie & Ford (1994)b	General	Non-equivalent	Observation	Positive	0	0	0
Oakley, Strange, Stephenson, et al., (2004)	General	Non-equivalent	Observation	Positive	0	0	0
Stephenson, Strange, Forrest et al., (2004)	General	Non-equivalent	Observation	Positive	0	0	0

	Strange, Forrest & Oakley (2002)b	General	Non-equivalent	Observation	Positive	0	0	0
	Strange, Allen, Oakley et al., (2006)	General	Non-equivalent	Observation	Positive	0	0	0
Empowerment								
	Paul, Bell, Fitzpatrick & Smith (2010)	Specific	None	Investigation	Positive	1	0	2
Social Reinforcement								
	Backett-Milburn & Wilson (2000)	General	None	Investigation	Positive	1	0	2
	Fox, Walker & Kushner (1993)	General	None	Investigation	Negative	1	0	0
	Frankham (1993)	General	None	Investigation	Mixed	1	0	1
	Guy & Banim (1991)	Specific	None	Investigation	Positive	1	0	2
	Howick (1998)	General	Equivalent	Investigation	Positive	1	2	2
	Mathie & Ford (1994)a	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)b	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2
	Mellanby (1997)	General	None	Investigation	Positive	1	0	2
	Mellanby, Newcombe, Rees & Tripp (2001)	General	Equivalent	Investigation	Negative	1	2	0
	Phelps, Mellanby, Crichton & Tripp (1994)	General	None	Investigation	Positive	1	0	2
Modelling								
	Ochieng (2003)	General	None	Investigation	Negative	1	0	0
Cost Effectiveness								
	Cooper, Shepherd, Picot et al., (2012)	General	Non-equivalent	Investigation	Negative	1	1	0

Outreach								
	Shepherd, Weare & Turner (1997)	Specific	None	Investigation	Positive	1	0	2
Expertise								
	Fox, Walker & Kushner (1993)	General	None	Observation	Negative	0	0	0
Comfort								
	Fox, Walker & Kushner (1993)	General	None	Investigation	Positive	1	0	2
	Howick (1998)	General	Equivalent	Investigation	Positive	1	2	2
	Mathie & Ford (1994)a	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)b	General	Non-equivalent	Investigation	Positive	1	1	2
	Mathie & Ford (1994)c	General	None	Investigation	Positive	1	0	2
	Mellanby (1997)	General	None	Investigation	Positive	1	0	2

Appendix K
Study III Participant Information Sheet and Consent

Shaped by the past, creating the future

Durham University
School of Education

16.03.2016

Participant Information Sheet

You are invited to take part in a research study of peer-led Sex and Relationship Education. The purpose of this study is to explore why peer education is used as an approach to educate adolescents about issues relating to sexual health and contraception.

The study is conducted by Emma Dobson as part of her Post-Graduate studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University.

Please read this form carefully and ask any questions you may have before agreeing to be in the study. You are free to decide whether or not to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.

If you agree to participate in the study, you will be asked to answer four general questions via face-to-face, telephone, Skype interview, or email about the utilisation of peer education as an approach to educate young people about sexual health and contraception. Your participation in this study will take approximately 10-15 minutes. A copy of some of the areas I'd like to hear your views on asked is attached to this letter.

The responses you give will be audio-recorded and, once transcribed, these recordings will be destroyed. All responses you give will be kept confidential. The records of this study will be kept secure and private. All files containing any information you give are password protected. In any research report that may be published, you will not be identified individually by name and there will be no way to connect your name to your responses at any time during or after the study. The type of organisation you work with (e.g. NGO, youth centre) may be noted, but its name and location will not be given.

If you have any questions regarding this research, please contact me via email at e.s.dobson@durham.ac.uk or by telephone at (+44) 7512 372184.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 16/03/16)

Kind Regards,
Emma Dobson

Interview Schedule

- Introductions

- Explanation of research project & reminder of interview purpose

- Description of informed consent process (recording the interview, how data will be used, anonymity, right to refuse to answer a question/withdraw from the interview, etc.)

- General Questions/Prompts

  1. *Why use peer educators to teach young people about sexual health?*

  2. *Why not use a different type of provider?*

  3. *Do you think it is an effective approach? Why?*

  4. *What are the strengths/limitations of using such an approach?*

- Concluding Remarks

Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore why peer education is used as an approach to educate young people about sexual health and contraception.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study without penalty of any kind.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Emma Dobson, from the School of Education at Durham University can be contacted via email: e.s.dobson@durham.ac.uk or by telephone at (+44) 7512 372184.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to ed.ethics@durham.ac.uk.

_____

Date   Participant Name (please print)   Signature

I certify that I have presented the above information to the participant and secured his or her consent.

_____

Date   Investigator Name (please print)   Signature

Appendix L

Study IV Ethics

Durham University
School of Education

Shaped by the past, creating the future

6 March 2017

Emma Dobson
e.s.dobson@durham.ac.uk

Dear Emma

Improving Sex and Relationship Education: An investigation of the processes taking place in peer-led interventions

I am pleased to inform you that your ethics application for the above research project has been approved by the School of Education Ethics Committee.

May we take this opportunity to wish you good luck with your research.

Yours sincerely,

Dr Nadin Beckmann
School of Education Ethics Committee Chair

Appendix M

Study IV Participant Information Sheets and Consent Forms

Participant Information Sheet

You are invited to take part in an ethnographic research study of peer-led approaches to adolescent health education. The purpose of the study is to explore how your organisation designs and delivers peer education.

The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University. It is supported by the Economic and Social Research Council (ESRC).

Please read this form carefully and ask any questions you may have before agreeing to be in the study. You are free to decide whether or not to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.

The study will involve Emma Dobson attending staff meetings at your organisation and observing peer educators deliver education for approximately 2-4 weeks. You may be asked to participate in short interviews with Emma if she wants to hear more about your experiences of designing and/or delivering peer education. If you do not agree to participate, you are free to choose from two options: either meetings at which you are present will be recorded but your responses will be omitted, or any meeting at which you are present will not be attended by the researcher.

Meetings and individual interviews will be audio-recorded and, once transcribed, these recordings will be destroyed. All of the responses you give will be kept confidential. The records of this study will be kept secure and private. All files containing any information you give are password protected. In any research report that may be published, you will not be identified individually by name and there will be no way to connect your name to your responses at any time during or after the study. The type of organisation you work with (e.g. NGO, youth centre) may be noted, but its name and location will not be given.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184. This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 06/03/17)

Emma Dobson

Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore how my organisation designs and delivers peer education.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study without penalty of any kind.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Emma Dobson, from the School of Education at Durham University can be contacted via email: e.s.dobson@durham.ac.uk or telephone: 07512372184.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to ed.ethics@durham.ac.uk.

_____

Date   Participant Name (please print)   Signature

I certify that I have presented the above information to the participant and secured his or her consent.

_____

Date   Signature of Investigator

Leazes Road
Durham City, DH1 1TA

Telephone +44 (0)191 334 2000 Fax +44 (0)191 334 8311
www.durham.ac.uk
Durham University is the trading name of the University of Durham

Durham University
School of Education

Education Centre Information Sheet

Your school/centre has been selected to take part in a research study of peer education. The purpose of the study is to explore whether peer education is a good approach to educate young people about health issues such as drugs, sexual wellbeing and alcohol.

The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University. It is supported by the Economic and Social Research Council (ESRC).

Please read this form carefully and address any questions you may have to the researcher, Emma Dobson. You are free to decide whether you wish for your school/centre to participate in the study or not. You are free to withdraw your consent at any time without any negative consequences.

The researcher will observe sessions delivered by peer educators and record what is said between the educator and students/young people during the session. Participants may also be asked to participate in a short interview after the session, asking them whether they enjoyed it. Alternative sessions, where the researcher is not present, will be scheduled to ensure that if an attendee feels uncomfortable during the session, they can ask a member of staff to attend the alternative session.

Audio recordings will be destroyed after they are typed-up by the researcher. All responses will be kept confidential. Participants' name and the name of the school will be removed from the data and never revealed. Participants will not be identified individually by name and there will be no way to connect their name to their responses at any time during or after the study. The records of this study will be kept secure, private, and password protected.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 06/03/17).

Emma Dobson

Education Centre Consent

- I have read the information sheet, understand the information provided, and have had the opportunity to ask questions.
- I have been informed that all data will be kept confidential and protected using encryption software. No material which could identify individual pupils or the school will be used in any reports of this project.
- I confirm that the study activities are part of 'normal classroom practice' and I consent to _____ (name of school) participating in this study.
- I agree that peer-led sessions may be observed and audio-recorded.
- I agree that pupils may be invited to share their opinion on peer-led sessions.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Emma Dobson, from the School of Education at Durham University can be contacted via email: e.s.dobson@durham.ac.uk or telephone: 07512372184.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to ed.ethics@durham.ac.uk.

_____

Date   Participant Name (please print)   Signature

I certify that I have presented the above information to the participant and secured his or her consent.

_____

Date   Signature of Investigator

Durham University
School of Education

Parental Information Sheet

Dear Parent/Guardian,

Your child's school is taking part in a research study of peer education. The purpose of the study is to explore whether peer education is a good approach to educate young people about health issues such as drugs, sexual wellbeing and alcohol. The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University.

The researcher will observe sessions delivered by peer educators and record what is said between the educator and the class during the session. Your child may also be asked to share their views about whether they enjoyed the session.

Audio recordings will be destroyed after they are typed-up by the researcher. All responses will be kept confidential. Your child's name and the name of the school will be removed from the data and never revealed. Your child will not be identified individually by name and there will be no way to connect their name to their responses at any time during or after the study. The records of this study will be kept secure, private, and password protected. You are free to decide whether you wish for your child to participate in the study or not.

If you are happy for your child to participate in the study, you do not need to do anything. Thank you for your help with this project.

You may withdraw your consent at any time without any negative consequences for you or your child. If you do not want your child to participate, please return the 'Withdrawal of Consent' slip attached to this letter by 12/03/17. Alternative sessions, where the researcher is not present, will be scheduled to ensure that your child still receives the lesson. In addition, if your child feels uncomfortable during the session, they can ask a member of staff to attend the alternative session.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184. This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 06/03/17).

Emma Dobson

Withdrawal of Consent

If you **DO NOT** want your child to participate in the research study, please complete this form and return to school by 12/03/17.

I _____ (parent/guardian) have read the participant information sheet and have understood the information provided. I withdraw consent for _____

(child's name) at

_____ (child's school) to participate in the research study of peer education and request that they attend alternative sessions where a researcher is not present.

_____
Date   Name (please print)   Signature

Any concerns about this study should be addressed to the researcher, Emma Dobson, via email at e.s.dobson@durham.ac.uk or by telephone at 07512372184 or the School of Education Ethics Sub-Committee, Durham University via email at ed.ethics@durham.ac.uk.

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Appendix N

Study IV Initial Codes

Empowerment
Flexibility
Change
Challenges
Limitations
Adults Influencing Project
Wider Community
Ownership of Project
Ownership of Materials
Equality
Focus on Young People
Control over Project
Funding of Project
Volunteer Choice
Staff Choice
School Choice
Transparency
Peer Educator Benefits
Volunteer Independence
Support
Awards
Celebration
Accreditation
Support Network
Communication
Designed by Young People
Diffusion
Inclusive Terminology
Evaluation
Effective
Strategic Partnerships
Links between Volunteers
Gender
Shetland Unique Location
Volunteers with Children
Confidence
Access All Areas

Youth Voice
Group Discussion
Consensus
Feedback
Tension with Schools
Commitment
Developing Young People
Sense of Belonging
Achievement
Cost-Effective
Transitions
Sharing
Funding Application Confusing
Lack of Support
Fitting In
Compromise
Volunteer Aspirations
Stability
Resilience
Sustainability
Nurture
Novelty
OPEN Unique
How to Measure Success
Youth Agency
Trust
Community Needs
School Needs
Participation
Care for Volunteers
Acting on Youth Voice
Balancing Project with Volunteer Needs
No Forced Participation
Meeting Criteria
Teacher Failure
Relief from Responsibility
Re-Design
Re-Evaluation
Volunteer Motivation
Right Fit
Future Employment

Valuing all Contribution
Attendance
Recruitment
Reflection on Personal Experience
Family
Community Link
Opportunity for Socialisation
Pride
Working with Others
Disadvantaged Youth as Volunteers
Not Privileging Knowledge Above Another's'
No Superiority
Raising Awareness
Limiting Youth Voice
Open
Friendly
Fun
Entertaining
Connection
Knowledge Increase
Attitude Change
Information Spread
Welcoming
Time Spent Volunteering

Appendix O
Study IV Final Codes

Empowerment: Staff Claim
Empowerment: Volunteer Claim
Empowerment: Document Claim
Empowerment: Discussion of Terminology
Flexibility of Project
Flexibility of Staff
Willingness to Change
Importance of Change
Necessity of Change
Impetus for Change
Challenge: Implementation
Challenge: Delivery
Limitation: Approach
Limitation: Delivery
Adult Influence: Staff
Adult Influence: VAS
Adult Influence: School
Adult Influence: Practitioners
Adult Influence: Teachers
Engaging with the Wider Community: Meetings
Engaging with the Wider Community: Needs Assessment
Engaging with the Wider Community: Publicity
Engaging with the Wider Community: Strategic Partnerships
Engaging with the Wider Community: Collaborative Curriculum Creation
Engaging with the Wider Community: Award Ceremonies
Ownership: Staff
Ownership: Peer Educators
Ownership: Terminology
Equality: Staff to Staff
Equality: Staff to Volunteers
Equality: Volunteer to Volunteer
Lack of Equality: Staff to Staff
Lack of Equality: Staff to Volunteers
Lack of Equality: Volunteer to Volunteer
Lack of Equality: VAS to Volunteer
Focus: Young People's Issues
Focus: Young People's Needs

Focus: Young People's Voice
Focus: Volunteer Issues
Focus: Volunteer Needs
Focus: Volunteer Voice
Control: Volunteers
Control: Staff
Control: Adult Others
Control: Funder
Funding: Precarious
Funding: Successful
Funding: Confusing
Funding: Need Support
Funding: Competition
Volunteer Choice: Membership
Volunteer Choice: Role
Volunteer Choice: Readiness
Volunteer Choice: Commitment
Volunteer Choice: Attendance
Volunteer Choice: Workshop Design
Volunteer Choice: Topic of the Week
Volunteer Choice: Discussion
Volunteer Choice: Curriculum
Volunteer Choice: Training
Staff Choice
School Choice
Transparency with Volunteers: Physical Space
Transparency with Volunteers: Process
Benefit to Volunteers: Skills
Benefit to Volunteers: Knowledge
Benefit to Volunteers: Personality
Benefit to Volunteers: Future
Benefit to Volunteers: Aspirations
Benefit to Volunteers: Disadvantaged Group
Benefit to Volunteers: Responsibility Free
Benefit to Volunteers: Time Away from Children
Benefit to Volunteers: Reclaim Positive Identity
Benefit to Volunteers: Develop Positive Identity
Benefit to Volunteers: Enjoyment
Benefit to Staff
Benefit to Community
Benefit to Schools

Benefit to Students
Support from Staff
Support from Volunteers
Support Network
Rewarding Volunteers: Accreditation
Rewarding Volunteers: Saltire Awards Ceremony
Communication: Better with Peers
Communication: Harder with Teachers
Communication: Harder with Parents
Communication: Diffusion with Peers
Young People Design: Curriculum
Young People Design: Resources
Young People Design: Evaluation
Evaluation: Confusion
Evaluation: Anxiety
Evaluation: Ambivalence
Evaluation: Quantity
Evaluation: Not Fit for Purpose
Evaluation: Resistant
Project is Effective: Staff Claim
Project is Effective: Volunteer Claim
Project is Effective: Document Claim
Project is Effective: Effect on Volunteers
Project is Effective: Effect on Students
Project is Effective: Effect on Teachers
Project is Effective: Effect on Community
Project is Effective: Cost
Effectiveness: How to Measure
Effectiveness: How to Evidence
Strategic Partnerships: Essential for Project Success
Strategic Partnerships: Good for Sharing Training
Strategic Partnerships: Good for Sharing Resources
Strategic Partnerships: Good for Sharing Knowledge
Strategic Partnerships: Good for Sharing Research
Strategic Partnerships: Good for Planning Provision
Strategic Partnerships: Essential for Joined Up Approach
Strategic Partnerships: Essential for Networking/Access
Strategic Partnerships: Limit Flexibility
Strategic Partnerships: Feel Threatened by Project
Volunteer Link: Family Connection
Volunteer Link: Friendship Connection

Volunteer Link: None
Volunteer Gender: Too Many Females
Volunteer Gender: Not Enough Males
Shetland Unique: Size
Shetland Unique: Geography
Shetland Unique: Close Community
Shetland Unique: Culture
VAS Physical Space: Female Dominated
VAS Physical Space: Not Youth Friendly
Volunteers with Children: High Proportion
Volunteers with Children: Reimbursement Costs
Volunteers with Children: Special Allowances
Volunteers with Children: Volunteering as a 'Break'
Volunteers with Children: Volunteering as Identity
Youth Voice: Encouraged
Youth Voice: Projected
Youth Voice: Valued
Youth Voice: Acted Upon
Youth Voice: Forced
Youth Voice: Compromised Upon
Group Discussion: To Establish Consensus
Group Discussion: For Support
Group Discussion: To Identify Issues
Group Discussion: Sharing Experiences
Group Discussion: Validation of Experience
Group Discussion: Workshop Development
Group Discussion: Feedback
Feedback: Volunteers
Feedback: Staff
Feedback: Teachers
Feedback: Schools
Feedback: Funding
Feedback: Valued
Feedback: Encouraged
Feedback: Acted Upon
Tension with Schools: Topic Appropriateness
Tension with Schools: Age Appropriateness
Tension with Schools: Workshop Delivery
Commitment: Quantity of Hours
Commitment: Volunteers feel committed
Commitment: Staff don't force commitment

Volunteer Development: Induction
Volunteer Development: Training
Volunteer Development: Experience
Volunteer Development: Guided by Staff
Belonging: Support Network
Belonging: Family
Belonging: Friends
Belonging: Welcoming Atmosphere
Achievement: Awards
Achievement: Personal
Achievement: Goals
Transition: Volunteer to Staff
Transition: Future Life
Transition: Future Employment
Transition: Inactive to Active within Community
Transition: Personal Journey
Sharing: Resources
Sharing: Training
Sharing: Knowledge
Sharing: Research
Sharing: Expertise
Lack of Support: Funding
Lack of Support: Research Access
Lack of Support: Evaluation
Compromise: Volunteers
Compromise: Schools
Compromise: Funder
Compromise: Partnerships
Compromise: In Order to Be Successful
Volunteer Aspiration: Charity Work
Volunteer Aspiration: Youth Work
Volunteer Aspiration: Social Work
Resilience: Uncertain Funding
Resilience: SYIS Closure
Resilience: VAS Membership
Resilience: Community Value
Sustainability: Funding
Sustainability: Community Value
Sustainability: Cost Effective
Sustainability: Strategic Partnerships
Sustainability: Rate of Volunteers

Sustainability: Youth-Led
Sustainability: Participatory
Sustainability: Unique
Sustainability: Gained Schools' Trust
Sustainability: Proving Success
Sustainability: SPEN (Network)
Nurture: Volunteers
Nurture: Staff
Nurture: Volunteer to Staff Transition
OPEN Unique: No Competition
OPEN Unique: New Approach on Shetland
Participation of Young People
Participatory Practice
Teacher Failure: To Communicate
Teacher Failure: To Educate
Teacher Failure: To Engage
Re-Design: Boredom
Re-Design: Update
Re-Design: Out-of-Date
Re-Design: Volunteer Motivation
Must Fit: With Project Needs
Must Fit: With Project Ethos
Must Fit: With Volunteers
Contribution Valued: Regardless of Position
Contribution Valued: Regardless of Hours/Attendance
Contribution Valued: Regardless of Role
Attendance: Encouraged by Members
Attendance: Valued
Attendance: Lack of Males
Attendance: Limited by Space
Lack of Males: Female Domination
Lack of Males: Female Role of Educator
Lack of Males: VAS Not Youth Friendly Space
Lack of Males: VAS Not Youth Friendly Atmosphere
Recruitment: Drop-In
Recruitment: Word of Mouth
Recruitment: Publicity
Recruitment: Existing Link
Links Community: Social Events
Links Community: Celebration
Links Community: Rural Areas

Links Community: Accessible to all
Links Community: Meetings
Links Community: Education
Links Community: Strategic Partnerships
Pride: Evaluation Quantity
Pride: Resilience after SYIS
Pride: Helping Others
Pride: Self-Achievement
Pride: Awards
Pride: Recognition
Working With Others: Schools
Working With Others: Practitioners
Working With Others: Professionals
Working With Others: NHS
Working With Others: Strategic Partnerships
Disadvantaged Youth as Volunteers: NEETs
Disadvantaged Youth as Volunteers: Young Mums
Disadvantaged Youth as Volunteers: Social Services

Appendix P
Study V Ethics

30/06/2017

Emma Dobson
e.s.dobson@durham.ac.uk

Dear Emma

Improving Sex and Relationship Education: An investigation of the processes taking place in peer-led interventions

I am pleased to inform you that your ethics application for the above research project has been approved by the School of Education Ethics Committee.

May we take this opportunity to wish you good luck with your research.

Yours sincerely,

Dr Nadin Beckmann
School of Education Ethics Committee Chair

Appendix Q

Study V Participant Information Sheets and Consent Forms

Shaped by the past, creating the future

Durham
University
School of Education

05.09.2017

Participant Information Sheet

Title: Improving Sex and Relationship Education: An investigation of the processes taking place in peer-led interventions

You are invited to take part in a research study of Sex and Relationship Education. The purpose of the study is to compare two types of SRE provision: that delivered by teachers and that delievered by peer educators.

The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University. It is supported by the Economic and Social Research Council (ESRC).

Please read this form carefully and ask any questions you may have before agreeing to be in the study. You are free to decide whether or not to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.

The study will involve Emma Dobson observing you delivering SRE lessons to students. You may be asked to participate in short interviews with Emma if she wants to hear more about your experience delivering SRE.

Observations and individual interviews will be audio-recorded and, once transcribed, these recordings will be destroyed. All of the responses you give will be kept confidential. The records of this study will be kept secure and private. All files containing any information you give are password protected. In any research report that may be published, you will not be identified individually by name and there will be no way to connect your name to your responses at any time during or after the study. In the same way details of participating schools and students will not be given.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 30/06/17)

Emma Dobson

Leazes Road
Durham City, DH1 1TA

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Durham University is the trading name of the University of Durham

Durham University
School of Education

Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore teacher and peer-led SRE.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study without penalty of any kind.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Emma Dobson, from the School of Education at Durham University can be contacted via email: e.s.dobson@durham.ac.uk or telephone: 07512372184.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to ed.ethics@durham.ac.uk.

_____

Date   Participant Name (please print)   Participant Signature

I certify that I have presented the above information to the participant and secured his or her consent.

_____

Date   Signature of Investigator

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Durham City, DH1 1TA

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Durham University
School of Education

05.09.2017

School Consent Sheet

Title: Improving Sex and Relationship Education: An investigation of the processes taking place in peer-led interventions

Your school has been selected to take part in a research study of Sex and Relationship Education. The purpose of the study is to compare two types of SRE provision: that delivered by teachers and that delievered by peer educators.

The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University. It is supported by the Economic and Social Research Council (ESRC).

Please read this form carefully and address any questions you may have to the researcher, Emma Dobson. You are free to decide whether you wish for your school/centre to participate in the study or not. You are free to withdraw your consent at any time without any negative consequences.

The researcher will observe SRE sessions delivered by peer educators or teachers at your school with students in Year Nine and record what is said between the educator and students during the session. Students will be asked to complete pre-post questionnaires to track knowledge/attitudinal change and may also be asked to participate in a short focus group after the session, asking them whether they enjoyed it. Alternative sessions, where the researcher is not present, will be scheduled to ensure that if a student feels uncomfortable during the session, or a parent/guardian withdraws their consent for a student to participate in the study, students can attend the alternative session.

Audio recordings will be destroyed after they are typed-up by the researcher. All responses will be kept confidential. Participants' names and the name of the school will be removed from the data and never revealed. Participants will not be identified individually by name and there will be no way to connect their name to their responses at any time during or after the study. The records of this study will be kept secure, private, and password protected.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 30/06/17)

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School of Education

Education Centre Consent

- I have read the information sheet, understand the information provided, and have had the opportunity to ask questions.
- I have been informed that all data will be kept confidential and protected using encryption software. No material which could identify individual pupils or the school will be used in any reports of this project.
- I confirm that the study activities are part of 'normal classroom practice' and I consent to _____ (name of school) participating in this study.
- I agree that SRE sessions may be observed and audio-recorded.
- I agree that pupils will be invited to complete pre-post questionnaires and to share their opinion on SRE sessions.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Emma Dobson, from the School of Education at Durham University can be contacted via email: e.s.dobson@durham.ac.uk or telephone: 07512372184.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education Ethics Sub-Committee, Durham University via email to ed.ethics@durham.ac.uk.

_____

Date   Participant Name (please print)   Participant Signature

I certify that I have presented the above information to the participant and secured his or her consent.

_____

Date   Signature of Investigator

Durham University
School of Education

05.09.2017

Dear Parent/Guardian,

Your child's school is taking part in a research study of Sex and Relationship Education. The purpose of the study is to compare two types of provision: that delivered by teachers and that delievered by peer educators.

The study is conducted by Emma Dobson as part of her PhD studies at Durham University. This research project is supervised by Professor Emma Flynn (e.g.flynn@durham.ac.uk) and Dr Nadin Beckmann (nadin.beckmann@durham.ac.uk) from the School of Education and Professor Simon Forrest (simon.forrest@durham.ac.uk) from the School of Medicine, Pharmacy and Health at Durham University.

Your child will receive Sex and Relationship Education either from a teacher at their school or a Sexpression peer educator (local university student). The researcher will observe these lessons and record what is said between the educator and the class during the lesson. Pupils will be asked to complete a questionnaire to evaluate whether the lesson taught them anything new about sexual health or changed their attitudes towards sexual health. They may also be asked to share their views about whether they enjoyed the lesson.

Audio recordings will be typed-up by the researcher and then destroyed. All responses will be kept confidential. Your child's name and the name of the school will be removed from the data and never revealed. Your child will not be identified individually by name and there will be no way to connect their name to their responses at any time during or after the study. The records of this study will be kept secure, private, and password protected. You are free to decide whether you wish for your child to participate in the study or not.

If you are happy for your child to participate in the study, you do not need to do anything. Thank you for your help with this project.

You may withdraw your consent at any time without any negative consequences for you or your child. If you do not want your child to participate, please return the 'Withdrawal of Consent' slip attached to this letter by 01/10/17. Alternative sessions, where the researcher is not present, will be scheduled to ensure that your child still receives the lesson. In addition, if your child feels uncomfortable during the session, they can ask a member of staff to attend the alternative session.

If you have any questions, requests or concerns regarding this research, please contact Emma via email at e.s.dobson@durham.ac.uk or by telephone at 07512 372184.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 30/06/17)

Emma Dobson

Durham
University
School of Education

Withdrawal of Consent

If you **DO NOT** want your child to participate in the research study, please complete this form and return to school by (DD/MM/YY).

I _____ (parent/guardian) have read the

participant information sheet and have understood the information provided. I withdraw consent for

_____ (child's name) at

_____ (child's school) to participate in

the research study of Sex and Relationship Education and request that they attend alternative

sessions where a researcher is not present.

_____

Date   Name (please print)   Signature

Any concerns about this study should be addressed to the researcher, Emma Dobson, via email at e.s.dobson@durham.ac.uk or by telephone at 07512372184 or the School of Education Ethics Sub-Committee, Durham University via email at ed.ethics@durham.ac.uk.

Appendix R

Study V Information Booklet

Appendix S

Study V Curriculum Guide

Appendix T

Study V Curriculum Resource Book

Study V Curriculum Resource Book

Appendix U

Study V Pre-Post Questionnaires

Appendix V

Study V Student Experience Questionnaire

Study V Student Experience Questionnaire

Appendix W

Study V Educator Experience Questionnaire

Study V Educator Experience Questionnaire