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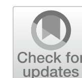

Comprehensive Sex Education Addressing Gender and Power: A Systematic Review to Investigate Implementation and Mechanisms of Impact

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Abstract

Background Delivered globally to promote adolescents' sexual and reproductive health, comprehensive sex education (CSE) is rights-based, holistic, and seeks to enhance young people's skills to foster respectful and healthy relationships. Previous research has demonstrated that CSE programmes that incorporate critical content on gender and power in relationships are more effective in achieving positive sexual and reproductive health outcomes than programmes without this content. However, it is not well understood how these programmes ultimately affect behavioural and biological outcomes. We therefore sought to investigate underlying mechanisms of impact and factors affecting implementation and undertook a systematic review of process evaluation studies reporting on school-based sex education programmes with a gender and power component.

Methods We searched six scientific databases in June 2019 and screened 9375 titles and abstracts and 261 full-text articles. Two distinct analyses and syntheses were conducted: a narrative review of implementation studies and a thematic synthesis of qualitative studies that examined programme characteristics and mechanisms of impact.

Results Nineteen articles met the inclusion criteria of which eleven were implementation studies. These studies highlighted the critical role of the skill and training of the facilitator, flexibility to adapt programmes to students' needs, and a supportive school/community environment in which to deliver CSE to aid successful implementation. In the second set of studies ($n = 8$), student participation, student-facilitator relationship-building, and open discussions integrating student reflection and experience-sharing with critical content on gender and power were identified as important programme characteristics. These were linked to empowerment, transformation of gender norms, and meaningful contextualisation of students' experiences as underlying mechanisms of impact.

Conclusion and policy implications Our findings emphasise the need for CSE programming addressing gender and power that engages students in a meaningful, relatable manner. Our findings can inform theories of change and intervention development for such programmes.

Keywords Sexuality education · Sexual health · Gender · Process evaluation · Implementation · Thematic synthesis · Adolescents

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Introduction

School-based comprehensive sexuality education (CSE) constitutes a public health intervention, promoted globally, to improve young people's sexual and reproductive health and well-being. CSE, described by UNESCO as 'a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality' (UNESCO, 2018a, p. 16), seeks to equip children and young people with a set of skills, attitudes, and scientifically accurate knowledge to nourish respectful social and sexual relationships (UNESCO, 2018a). It commonly incorporates a

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positive notion of sexuality, a holistic understanding of sexual health, and emphasises the sexual rights of young people as a human right (Berglas, 2016; Haberland & Rogow, 2015; UNFPA, 2015). CSE is therefore increasingly considered best practice in sexuality education (Vanwesenbeeck, 2020).[1]

CSE is recognised to impact positively on a range of adolescent sexual and reproductive health (SRH) outcomes, including but not limited to the following: knowledge of SRH and human rights, communication skills, sexual and emotional well-being, and attitudes supporting gender equity (Goldfarb & Lieberman, 2021; Ketting et al., 2016; UNFPA, 2015). Systematic reviews have demonstrated that CSE programmes also tend to have positive impacts on knowledge, attitudes, and skills although they often demonstrate weak or inconsistent effects on behavioural outcomes such as sexual risk-taking, number of partners, age at initiation of sex, and condom use (Denford et al., 2017; Kirby, Laris, & Rolleri, 2007; UNESCO, 2018b).

CSE is also considered an important tool in efforts to promote gender equality, reduce gender-based violence (GBV) (Miller, 2018; UNESCO, 2018a), including intimate partner violence (Kantor et al., 2021; Makleff et al., 2019), and in achieving the Sustainable Development Goals (Starrs et al., 2018). These efforts are rooted in an understanding that gender inequality, gender norms, and SRH are closely intertwined, with gender inequality and restrictive gender norms contributing substantially to adverse health outcomes, including in the area of SRH (Heise et al., 2019). Conceptualising gender as a hierarchical social system differentiating between women and men and commonly ascribing higher power, resources, and status to men and things masculine, Heise et al. argue that gender norms uphold this social system via unwritten rules that define acceptable behaviour for women, men, and gender minorities (Heise et al., 2019). These norms act as a powerful determinant of adolescent SRH (Pulerwitz et al., 2019). Gender inequality places girls and women at higher risk of gender-based violence, STIs, biological, social and behavioural vulnerability to HIV, and unintended pregnancy (Dellar et al., 2015; Heise et al., 2019; Park et al., 2018; Wingood & DiClemente, 2000). Traditional gender norms place adolescents at higher risk of unsafe sex as it affects their ability to negotiate safe sex (Wood et al., 2015), whilst masculinity norms can drive risky sexual behaviour in men, including avoiding condom use and contraception (Heise et al., 2019).

As adolescence is considered a key developmental phase during which gender norms and attitudes intensify, this period presents a window of opportunity for intervention (Amin et al., 2018; Buller & Schulte, 2018; Kågesten et al., 2016). Therefore, schools and school-based CSE have been argued to constitute key sites to promote healthier gender norms and gender equality at scale (Jamal et al., 2015). Whilst the focus of our work is on adolescents, it is increasingly recognised that school-based interventions geared towards younger children and continued through the school trajectory may be very effective in addressing gender norms and roles (Goldfarb & Lieberman, 2021).

A systematic review of randomised controlled trials of sexuality education programmes that were not abstinence-only and focused on the prevention of HIV, other STIs, and unintended pregnancies as primary outcomes showed that interventions were more likely to have a positive effect on these three biological outcomes if they explicitly addressed 'gender and power' in relationships as compared to interventions that did not include this component[2] (Haberland, 2015). In the review, the gender and power content constituted 'at least one explicit lesson, topic or activity covering an aspect of gender or power in sexual relationships, for example, how harmful notions of masculinity and femininity affect behaviors, are perpetuated and can be transformed; rights and coercion; gender inequality in society; unequal power in intimate relationships; fostering young women's empowerment; or gender and power dynamics of condom use' (Haberland, 2015, p. 3). In addition to demonstrating the effectiveness of the programmes with gender and power content, Haberland identified four common characteristics of effective programmes: 'Fostering critical thinking', 'explicit attention to gender or power in relationships', 'fostering personal reflection', and 'valuing oneself and recognising one's own power' (ibid, pages 6–7).

As a result of the work of Haberland and others, explicit attention to gender and gender-related power has been incorporated into many CSE programmes, e.g. by incorporating gender norms and power dynamics into the theory of change in CSE programmes (Berglas, 2016). Such 'gender-transformative' programming considers the roots of gender-based health inequities, incorporates strategies to address these, and ultimately seeks to shift gender relations and norms that contribute to these inequities (Ruane-McAteer et al., 2019; World Health Organization, 2011). However, whilst there is both a strong rationale and great emphasis on incorporating gender and power content in CSE (UNESCO, 2018a) and evaluating gender- and power-related outcomes

[1] Whilst CSE may be considered best practice in sex education, this label is not consistently used (Haberland, 2015). We therefore consider literature on sex education programmes without the CSE label as potentially relevant to inform CSE programming, as long as programmes are not abstinence-only.

[2] We consider content on 'gender and power' as defined by Haberland as one component of sex education interventions and will use the terms content and component interchangeably throughout this article.

(Haberland & Rogow, 2015; UNFPA, 2015), these programmes' pathways of change remain under-researched (Ketting et al., 2016; Kippax & Stephenson, 2005; Ruane-McAteer et al., 2019). In complex public health interventions such as CSE, gender and power components are likely to interact with context and impact on intervention effects in a non-linear manner (Petticrew et al., 2013; Rutter et al., 2017). Evaluation studies exploring these processes can therefore contribute to understanding how interventions work by elucidating mechanisms of impact, effective implementation strategies, and contextual factors shaping programme outcomes (MRC, 2015).

Building on Haberland's work, we undertook a systematic review of process evaluations of school-based CSE and other sex education programmes with gender and power components targeting adolescents. By sex education, we mean interventions which seek to promote healthy sexual and relationship behaviours, excluding abstinence-only interventions. We sought to gain an in-depth understanding of how inclusion of gender and power content shapes programme implementation and outcomes with the ultimate goal of informing CSE programming by delineating effective implementation strategies and programme characteristics, as well as mechanisms of impact. We synthesised evidence on (i) implementation, (ii) programme characteristics, and (iii) mechanisms of impact.

Methods

Search Strategy

Searches for this review were conducted in six scientific databases: Medline, EMBASE, PsycINFO, Web of Science, ERIC, and the Cochrane Library of Systematic Reviews. The search strategy was developed iteratively based on repeated scoping searches and employed the following four concepts: programmes and interventions; sexuality education/schools; gender; power and rights (full search strategy available in online supplementary material). Synonyms and proximity operators were used to enable identification of studies that were not explicitly labelled as addressing gender and power or as evaluation studies. Additionally, we screened articles referencing the seminal Haberland review (2015) and its sibling publication (Haberland & Rogow, 2015).

Inclusion and Exclusion Criteria

The following inclusion criteria were applied for screening:

- **Publication date**: Studies published from 2013 onwards, as this was the cut-off date for the searches of the seminal review that informed our work.
- **Population:** Adolescents aged 10 to 18.
- **Intervention:** Employing a broad definition of sexuality education, studies were included when reporting on CSE or other programmes with sex education content that included a relevant 'gender and power' component according to three criteria: Programmes (a) were labelled as gender-transformative programmes, (b) addressed the social construction of gender, and/or (c) highlighted problems related to gender inequality as structural and not as individual problems.
- **Setting:** Interventions based in schools. Activities set in middle or high schools or reporting on a school curriculum, including after-school programmes.
- **Study design**: Process evaluations and other primary studies that reported data on implementation, context, or mechanisms of impact but were not labelled process evaluations. Thus, we included all kinds of quantitative, qualitative, and mixed methods empirical studies reporting on process.
- **Programme outcomes**: Studies on interventions that were designed to improve biological outcomes (e.g. reduction in unwanted pregnancy, reduction of STIs and HIV), behavioural outcomes (e.g. condom use, age at sexual debut, number of sexual partners, self-efficacy), social outcomes (e.g. equitable attitudes and norms with respect to gender, gender and sexual diversity; communication skills and emotional skills), or knowledge-related outcomes related to SRH were included. This included GBV-related outcomes (e.g. bystander intentions and behaviour, GBV victimisation and perpetration).

Previous work identified 'gender and power' content as an important working component in sex education (Haberland, 2015). Thus, even if our ultimate aim was to inform CSE programming, we included studies about sex education programmes that were not explicitly labelled as 'CSE', as well as other school-based interventions, as long as they included gender and power content meeting the above definition. As it has been demonstrated that a wider range of interventions in the school environment may affect (sexual) health (Shackleton et al., 2016), we expected to improve our understanding of the wider social context of the intervention by including a broader set of studies.

The following exclusion criteria were applied:

- **Publication date**: Studies published before 2013 were excluded.
- **Population:** Studies reporting primarily on children in primary school, young adults, and adults were excluded.
- **Intervention:** Studies were excluded when they reported on interventions which did not seek to challenge traditional gender roles and norms and when they demon-

strated an understanding of gender as a biological determinant or as a marker of sexual reproductive categories, as opposed to a social construct amenable to change.

- **Setting:** Interventions based outside of schools such as community-based interventions without a school component were excluded.
- **Study design**: Non-peer-reviewed reports, editorials, conference abstracts, study protocols, baseline surveys, opinion papers, dissertations, book chapters, and reviews were excluded. Outcome evaluations were initially included but a decision to exclude these studies was made post hoc in order to focus the scope of this review.
- **Programme outcomes**: Studies reporting on interventions that were targeting educational attainment outcomes or socio-emotional skills only were excluded.

Screening Process

The systematic review software EPPI-reviewer was used for screening (University College London, 2017). After piloting and refinement of the screening criteria including double screening of a subset of studies, the first author conducted title and abstract and then full text screening. Items coded as ambiguous were discussed with a second author to reach a consensus.

A cluster-search was performed for evaluation studies of five programmes that were referred to multiple times in screened full-texts but were not represented among included records. Additionally, reference lists of articles included in our review were cluster-searched for sibling publications reporting on the same programmes and a Google and Google Scholar search for the programmes and lead authors of all included articles was performed to identify further relevant process-focused articles (Booth et al., 2013).

Assessment of Study Quality

For assessment of study quality, the Critical Appraisal Skills Programme (CASP) checklist for qualitative research was used (Critical Appraisal Skills Programme, 2018). It comprises 10 questions that prompt the user to consider potential for bias, along with methodological and ethical issues. We derived scores from these questions to indicate study quality, with a 10 out of 10 indicating high quality. As we were primarily interested in qualitative results, mixed-methods implementation studies were assessed with the CASP checklist for qualitative research as well.

Data Extraction

Data from included studies was extracted into a Microsoft Excel–based data extraction sheet. Study and intervention details, qualitative outcomes, and large sections of text covering process-related aspects (mechanisms of change, context, and implementation (MRC, 2015)) were extracted comprehensively. Data on process was extracted from the introduction, methods, results, and discussion sections of included studies and it was noted which of these sections the respective data originated from.

Data Analysis and Synthesis

Based on the respective research question asked, the study design, and methods, the included studies were categorised into two mutually exclusive types. One group of studies examined programme implementation, employing quantitative and/or qualitative methods. These studies were reporting data explicitly about intervention implementation, which was defined as 'the structures, resources and processes through which delivery is achieved, and the quantity and quality of what is delivered' (MRC, 2015, p. 10), including contextual factors (Pfadenhauer et al., 2017). The second set of studies investigated the impacts on social and behavioural outcomes and underlying processes, employing qualitative methods. These studies had a focus on exploring the links between programme outcomes, programme characteristics, and/or mechanisms of impact. We subsequently refer to the first group of studies as 'implementation studies' and to the second group of studies as 'studies exploring mechanisms of impact'. We conducted two distinct syntheses, one of each of these study types.

Synthesis 1: Data Analysis and Narrative Synthesis of Implementation Studies

The synthesis of implementation studies was informed by the Context and Implementation of Complex interventions (CICI) framework (Pfadenhauer et al., 2017). Categories within this framework comprise the implementation agents (individuals concerned with running or receiving an intervention), implementation process, implementation strategies, and context (Pfadenhauer et al., 2017). Results from implementation studies were organised into the distinct implementation categories and summarised narratively.

Synthesis 2: Data Analysis and Thematic Synthesis of Studies Exploring Mechanisms of Impact

We conducted a thematic synthesis of qualitative studies exploring programme outcomes, characteristics, and mechanisms of impact (Thomas & Harden, 2008). We conceptualised mechanisms of impact as the link between intervention activities and outcomes including '[p]articipant responses to,

and interactions with, the intervention' as well as mediators (MRC, 2015, p. 24).

Data analysis was undertaken at the level of the extracted data: the sections of the data extraction sheet containing data on qualitative outcomes and process from the results and discussion sections of included qualitative studies were analysed thematically. Data excerpts served as the unit of analysis for coding. Codes were developed inductively and subsequently compared across studies and grouped and regrouped together in an iterative process to develop themes, resulting in the development of an initial mindmap. This process was informed by key findings from the preceding synthesis of implementation studies and by the four programme characteristics previously identified by Haberland (2015, textbox 1), which shaped our initial understanding of relevant programme aspects of sex education with gender and power content.

These four previously identified characteristics were compared, contrasted, and linked with the newly developed themes to facilitate differentiation of the new themes as programme characteristics or potential mechanisms of impact. The themes and respective links are visualised in Fig. 2.

Where we encountered data that was not sufficiently rich to describe mechanisms of impact, we made inferences about potential mechanisms, which are identified as hypothesised mechanisms in the results section.

Results

Searches were run on June 22–23, 2019. Database searches yielded 14,571 records and citation searches yielded 127 records, resulting in a total of 14,698 records (Fig. 1). After deletion of duplicates, 9375 records were screened on title and abstract and one additional record was added via intervention-specific searches, yielding 261 records which were screened on full-text. Nineteen reports on 18 studies were included in this review, with two implementation reports addressing the same study.

Characteristics of Included Studies and Programmes

Eleven studies were process evaluations that focused on programme implementation and employed qualitative or mixed methods. Eight studies were qualitative studies exploring qualitative intervention outcomes, programme characteristics, and mechanisms of impact. Only four of these eight studies were explicitly referred to as evaluation studies. For the majority of included studies ($n=17$), there was very little concern with study quality (Table 1).

The 19 included primary studies were conducted in 15 countries (Table 1). Most evidence was from Europe ($n=6$ countries, 3 studies) and Africa ($n=6$ studies from six countries), followed by North America ($n=4$ studies)

1) '<u>Explicit attention to gender or power in relationships</u>. This approach includes providing teachers with specific content, activities and vocabulary to explore gender stereotypes and power inequalities in intimate relationships. Some also provide explicit instructions for handling subtle, and not so subtle, sexual or homophobic harassment.'

2) '<u>Fostering critical thinking</u> about how gender norms or power manifest and operate. Depending on the local context, this element may include critically examining and analyzing images of females in visual media and music, harmful practices such as early marriage, power disparities in relationships caused by economic or age differences, or how some of the differences in the ways males and females express their sexuality are the result of gender stereotypes.'

3) '<u>Fostering personal reflection</u>. Participants are given opportunities to reflect on how the contextual factors of gender and power relate to their own life, sexual relationships or health.'

4) '<u>Valuing oneself and recognizing one's own power</u>. Acknowledging one's power to effect change in one's own life, relationship or community is another consistently recurring theme in the successful gender and power programs.'

Textbox 1 Programme Characteristics of Effective Sex Education Programmes Addressing Gender and Power as Identified and Defined By Haberland (2015)

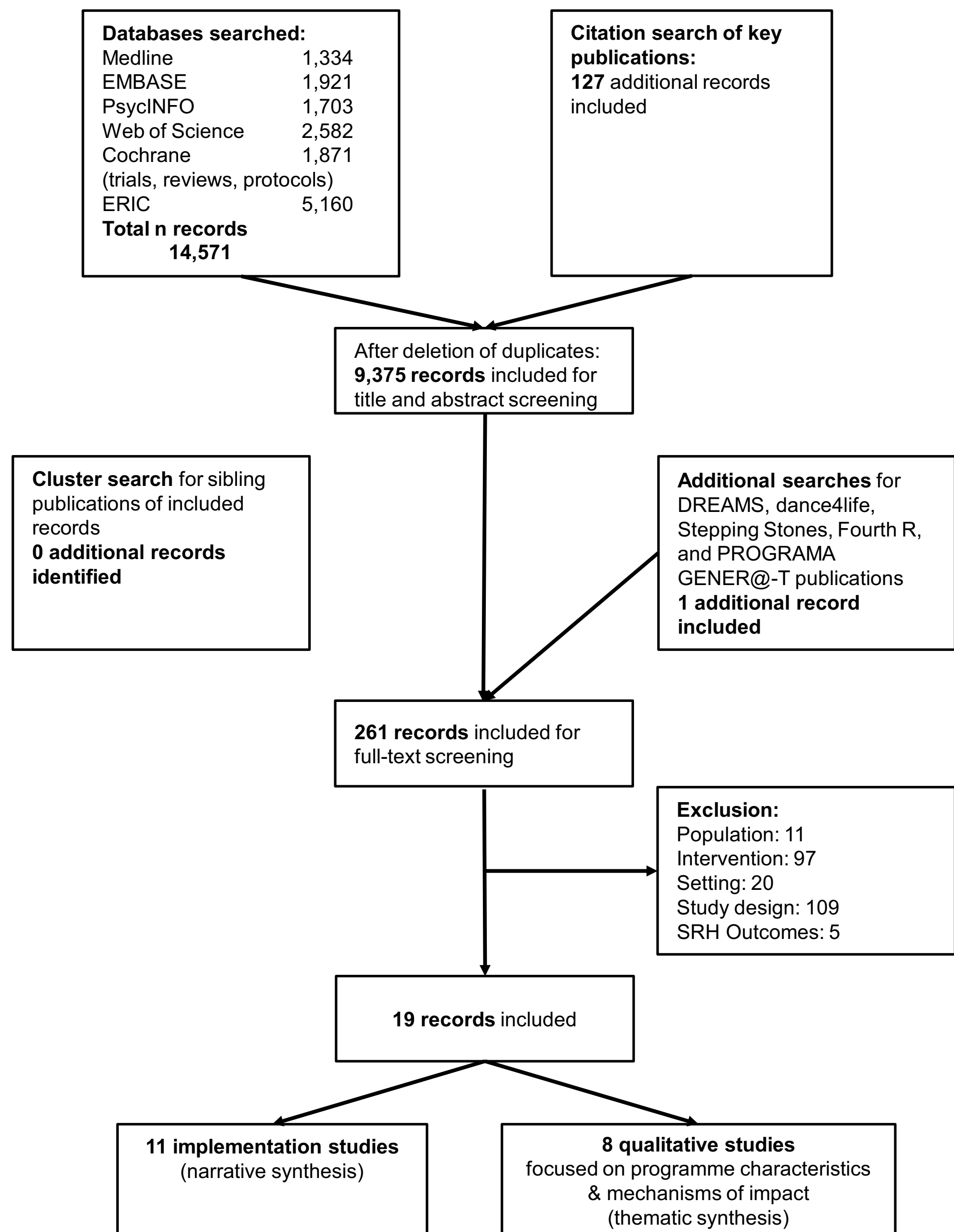

Fig. 1 PRISMA flowchart

and Australia ($n=4$). Most articles reported evaluations of locally implemented programmes targeting boys and girls.

Only five programmes were labelled by the authors as CSE or holistic sex education programmes (Boonmongkon et al., 2019; Browes, 2015; Chandra-Mouli et al., 2018; Rijsdijk et al., 2014; Wood et al., 2015). Other programmes exhibited key CSE characteristics but were not labelled as such: five articles reported on school-based interventions labelled violence prevention programmes (including dating, domestic, and gender-based violence) (Jaime et al., 2016; Joyce et al., 2019; Kearney et al., 2016; Ollis, 2017; Williams & Neville, 2017). Four programmes were explicitly called gender-transformative (Jaime et al., 2016; Sánchez-Hernández et al.,, 2018) or 'healthy' or 'positive masculinities' programmes (Claussen, 2019; Namy et al., 2015). Three programmes were sports- or PE-based (Jaime et al., 2016; Merrill et al., 2018; Sánchez-Hernández et al., 2018) and three were focused on critical media literacy or critical thinking related to gender (Berman & White, 2013; Jacobs, 2016; Jearey-Graham & Macleod, 2017). In three of these programmes, the gender and power content constituted the only sex education component of the programme (Berman & White, 2013; Jacobs, 2016; Sánchez-Hernández et al., 2018).

Programmers incorporated creative, non-conventional, and innovative teaching methods: participatory methods like

Table 1 Overview of included studies

Study details				Population		Study design	RoB	
Author (year)	Country	Programme title	Level of implementation	Mean age or range (years)	Eligible sex	Study design, methods	Overall risk of bias	Synthesis method[a]
Berman & White, 2013	Australia	SeeMe	Local[b]	14	Girls & boys	Pilot, evaluation study, qualitative[c]	8	T
Boonmongkon et al., 2019	Thailand	*No title*	National	~12–19	Girls & boys	Cross-sectional implementation study, mixed methods	8	N
Browes, 2015	Ethiopia	World Starts With Me[d]	Local	14–18	Girls & boys	Implementation study, qualitative	9	N
Chandra-Mouli et al., 2018	Pakistan	*No title*	Multiple regions	n.r	Girls & boys	Case study (context-focused), qualitative	4	N
Claussen, 2019	Canada	WiseGuyz	Local	13–15	Boys-only	Implementation study, qualitative	10	N
Jacobs, 2016	USA	*No title*	Local	~15–18	Girls-only	Case study, qualitative	9	T
Jaime et al., 2016	USA	Coaching Boys into Men (CBIM)	Local	~13–18	Boys-only	Quasi-experimental/ implementation study[e], mixed methods	8	N
Jearey-Graham & Macleod, 2017	South Africa	*No title*	Local	15–17	Girls & boys	Pilot, evaluation study, qualitative	10	T
Joyce et al., 2019	Australia	Respectful Relationships Education (RRE)	Regional	~13–16	Girls & boys	Implementation study, qualitative	9	N
Kearney et al., 2016	Australia	RRE	Regional	~13–16	Girls & boys	implementation study, mixed methods	9	N
Merrill et al., 2018	South Africa	SKILLZ Street	Local	11–16	Girls-only	implementation study, mixed methods	9	N
Namy et al., 2015	Serbia, Bosnia and Herzegovina, Kosovo, and Croatia	Young Men Initiative, adapted Program H	Multiple regions	15–19	Boys-only	Evaluation study, qualitative	9	T
Ngabaza et al., 2016	South Africa	Life Orientation curriculum	National	Adolescents	Girls & boys	Case study, qualitative	7	T
Ollis, 2017	Australia	Gender and Positive Education, building on RRE	Local	~13–16	Girls & boys	Case study, qualitative	9	T
Rijsdijk et al., 2014	Uganda	World Starts With Me	Multiple regions	Adolescents	Girls & boys	Implementation study, mixed methods	8	N

Table 1 (continued)

Study details				Population		Study design	RoB	
Author (year)	Country	Programme title	Level of implementation	Mean age or range (years)	Eligible sex	Study design, methods	Overall risk of bias	Synthesis method[a]
Robertson-James et al., 2017	USA	Philadelphia Ujima Experience	Local	Not applicable	Girls & boys	Implementation study, qualitative	8	N
Sanchez-Hernandes et al., 2018	Spain	*No title*	Local	~15–18	Girls & boys	Case study, qualitative	9	T
Williams & Neville, 2017	Scotland	Mentors in Violence Prevention	Local	Mentees 11–14[f]	Girls & boys	Process evaluation, qualitative	9	T
Wood et al., 2015	Nigeria	Family Life and HIV Education	Regional	Grades 7–9	Girls & boys	Implementation study, qualitative	8	N

[a]N: narrative synthesis of implementation studies, *T* thematic synthesis

[b]*local* programme implemented in one school or a few schools in one school district

[c]quantitative data not published in a peer-reviewed format

[d]not explicitly mentioned

[e]implementation study including an analysis of two intervention groups

[f]mentors aged 15–18

role-plays and discussions were utilised in most included studies. Further methods included the following: artwork, dance, drama, film and media production (Berman & White, 2013; Jacobs, 2016; Jearey-Graham & Macleod, 2017; Namy et al., 2015). Beyond classroom-based intervention components, six studies included activities at the school (Joyce et al., 2019; Kearney et al., 2016; Namy et al., 2015; Williams & Neville, 2017) and/or community level (Chandra-Mouli et al., 2018; Robertson-James et al., 2017).

The gender and power content was delivered across a range of different school subjects, i.e. social studies, PE, home economics, health, science, language, and religious education classes (Boonmongkon et al., 2019; Sánchez-Hernández et al., 2018; Williams & Neville, 2017; Wood et al., 2015). In addition to teacher or facilitator-led programmes, some included peer mentors and student-led initiatives outside of the classroom (Berman & White, 2013; Namy et al., 2015; Williams & Neville, 2017).

Gender and Power Content

Gender and power content was covered at different degrees of depth in included interventions. Whilst addressing gender stereotypes was a common curricular topic, notably fewer interventions included in-depth discussions of gendered relationship power: two addressed the links between gender inequality, relationship power, and GBV (Ollis, 2017; Williams & Neville, 2017). In addition to discussing gendered power, some programmes included the exploration of other dimensions of power, such as power relationships between students and teachers (Claussen, 2019), power in the family context (Chandra-Mouli et al., 2018), power in an intersectional framework (Jacobs, 2016), and how gender-related power is apparent in the media (Jacobs, 2016; Ollis, 2017). In most programmes, gender and power content was linked with exercises to encourage personal reflection and critical discussions.

Synthesis 1: Narrative Synthesis of Implementation Studies

Included implementation studies stressed the critical role of the **implementation agent** and their skill set in delivering sex education. Programmes reported in the implementation studies were delivered by teachers (Boonmongkon et al., 2019; Browes, 2015; Rijsdijk et al., 2014; Wood et al., 2015), sports coaches (Jaime et al., 2016; Merrill et al., 2018), and external facilitators (Claussen, 2019). Whole-school approaches were further supported by an external project implementer (Joyce et al., 2019; Kearney et al., 2016; Robertson-James et al., 2017). Whilst reports suggest that teacher-delivered CSE was implemented as intended when teachers participated in high-quality training focused on gender and human rights (Wood et al., 2015), teachers who were unprepared to deliver CSE were found to omit relevant programme topics and frame adolescent sexuality as a risk or problem (Boonmongkon et al., 2019), reflecting teachers' values (Browes, 2015; Rijsdijk et al., 2014). Teacher training

for CSE was thus recommended to address both teachers' knowledge and teachers' gender attitudes (Browes, 2015; Wood et al., 2015).

Implementation support from an external change agent was described as instrumental in mainstreaming programme content beyond the classroom, e.g. by addressing gender in school policies, providing gender training to teachers, and undertaking a gender-focused audit and staff surveys (Joyce et al., 2019; Kearney et al., 2016; Robertson-James et al., 2017). The latter were fed back to schools as part of the intervention in one study, thus serving as feedback loops enhancing an overall change process (Kearney et al., 2016).

Implementation strategies: In programmes delivered by sports coaches and other external facilitators, non-hierarchical participatory teaching strategies promoted student engagement with intervention content and supported implementation. Engagement was reportedly fostered by creating a safe space and building student-facilitator relationships, with facilitators acting in a non-authoritative, non-judgemental, approachable manner and sharing personal experiences whilst addressing real-life issues (Claussen, 2019; Jaime et al., 2016; Merrill et al., 2018). Programmes facilitated by these 'adult allies' (Jaime et al., 2016) were often delivered in same-sex groups by same-sex facilitators acting as role-models that encouraged student engagement (Claussen, 2019; Jaime et al., 2016; Merrill et al., 2018). Other implementation strategies included a strong focus on interaction, reflection, and discussion (Claussen, 2019; Jaime et al., 2016; Merrill et al., 2018; Wood et al., 2015) and allowing for curricular flexibility to adapt programmes to students' needs and knowledge (Claussen, 2019; Rijsdijk et al., 2014). One report suggested that the 'dose delivered' in process evaluations of these programmes should consider the *degree of student engagement and their relating of programme content to their experiences* (Jaime et al., 2016).

In terms of **implementation context**, included studies suggest that CSE programming is likely to be met with contradictory messages from schools, families, and communities (Browes, 2015) and sometimes with resistance from diverse actors in these settings (Chandra-Mouli et al., 2018), especially in conservative contexts, which could impact on programme implementation. While this may restrain programme effectiveness or may lead to programme adaptations (Browes, 2015; Chandra-Mouli et al., 2018; Wood et al., 2015), studies suggested that the **implementation process** can be tailored to build support for these programmes: successful approaches included framing the programmes around healthy skills instead of sexuality (Chandra-Mouli et al., 2018; Wood et al., 2015), getting stakeholder and community buy-in during the programme development phase (Chandra-Mouli et al., 2018), and building support networks or enhancing pre-existing networks for the programmes in schools and communities (Joyce et al., 2019; Kearney et al., 2016; Rijsdijk et al., 2014; Robertson-James et al., 2017), including with other initiatives that promote gender equality, such as non-governmental organisations providing teacher training (Wood et al., 2015).

Synthesis 2: Thematic Synthesis of Studies Exploring Mechanisms of Impact

The qualitative studies reporting on programme outcomes, characteristics, and/or mechanisms of impact primarily reported what happened in the classroom during delivery of eligible sex education interventions, focusing on the learning methods employed, the role of facilitators, and students' reactions to the sessions. The reported outcomes predominantly constituted observations of students' classroom behaviour and their comments about the programme and content whilst data on programme impact on SRH outcomes *beyond* the classroom were limited due to the nature of the included studies. However, our findings identify likely mechanisms of impact on SRH outcomes.

Six themes emerged in our analysis. Three constitute key programme characteristics: (i) student-facilitator relationship-building, (ii) student participation, and (iii) open discussions or 'dialogues' integrating student reflection and experience-sharing with critical content on gender and power. Three additional themes represented potential mechanisms of impact: **empowerment**, **meaningful contextualisation of students' experiences,** and **transformation of gender norms**. Figure 2 depicts the themes and crosslinks, including further relevant programme characteristics identified in a previous review (Haberland, 2015).

Programme Characteristics

Student-Facilitator Relationship-Building Evidence from our thematic synthesis highlighted the importance of the facilitator's role in building (egalitarian) relationships with students and enabling a teaching atmosphere where open discussions could take place, with codes echoing the factors that facilitated implementation described in the narrative synthesis above, in particular the relevance of safe spaces and facilitators as potential 'allies' (Jacobs, 2016; Namy et al., 2015; Sánchez-Hernández et al., 2018; Williams & Neville, 2017). Other important facilitator skills included emotional awareness and a 'strong awareness of the socially constructed nature of gender' (Jearey-Graham & Macleod, 2017). Across studies, a trusting atmosphere in the class and a confidential, safe space were highlighted as both a result of facilitators' efforts to build relationships with students and as a prerequisite to successful programming and to the open discussions that emerged as another key theme (Jacobs, 2016; Jearey-Graham & Macleod, 2017; Namy et al., 2015; Sánchez-Hernández et al., 2018).

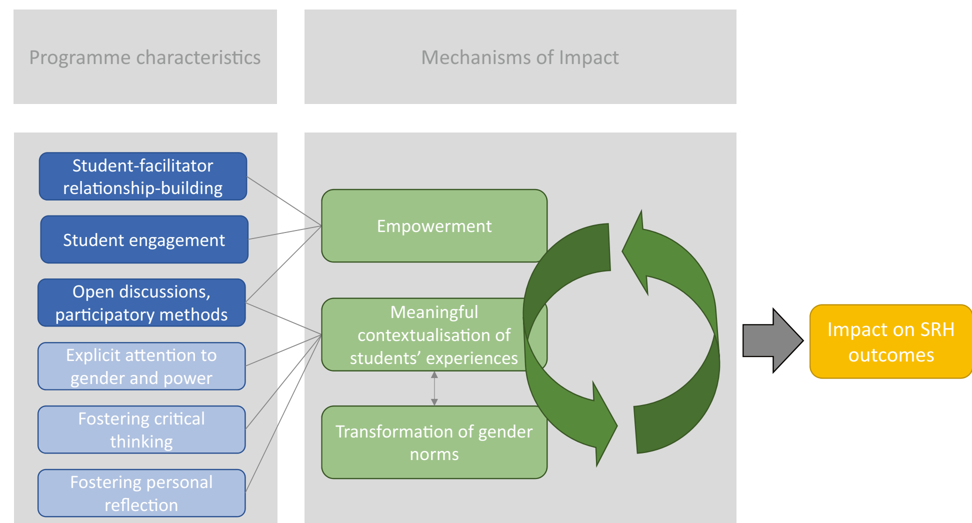

Fig. 2 Overview of programme characteristics (blue boxes) and potential mechanisms of impact (green boxes); light blue boxes represent programme characteristics that were identified in Haberland's review (2015); dark blue boxes represent characteristics that were identified in our review

Student Participation Our findings suggest there was a high degree of student participation in included interventions. This included students co-creating the curriculum (Jacobs, 2016; Jearey-Graham & Macleod, 2017) or taking on leadership roles in student initiatives that were linked to the programme, e.g. mentoring of younger students or participation in after-school clubs (Namy et al., 2015; Williams & Neville, 2017). Programmers noted students' sense of shared responsibility and their ownership of programme messages (Berman & White, 2013; Jacobs, 2016; Williams & Neville, 2017), whilst students appreciated the opportunity to practice leadership and transferable skills and benefitted from supportive peer networks (Berman & White, 2013; Jacobs, 2016; Namy et al., 2015; Sánchez-Hernández et al., 2018; Williams & Neville, 2017).

Open Discussions to Discuss Gender and Power All programmes but one (Ngabaza et al., 2016) were characterised by use of participatory methods, in particular open discussions where gender and power content was discussed critically and where students shared their experiences. The open discussions or 'dialogues' (Jearey-Graham & Macleod, 2017) served as a venue for students to exercise their curiosity and ask questions about sensitive topics, to be heard and share personal stories, to feel that their experience was validated, and to take on others' perspectives (Jacobs, 2016; Jearey-Graham & Macleod, 2017; Sánchez-Hernández et al., 2018; Williams & Neville, 2017). In one sports-based programme, 'boys listening to girls' enabled participants to recognise gender stereotypes (Sánchez-Hernández et al., 2018). Topics invoking emotional responses such as pornography or cheating on a partner were observed as instrumental in fostering students' critical thinking about gender and power and creating awareness of gender norms and stereotypes (Jearey-Graham & Macleod, 2017; Ollis, 2017). The use of these open discussions thus went along with course content paying 'explicit attention to gender and power in relationships' and content 'fostering critical thinking', alongside 'personal reflection', the programme characteristics Haberland (2015) had previously described and which informed our analysis. In addition to critical examination of the status quo, some programmes explored alternative discourses to dominant gender narratives (Jearey-Graham & Macleod, 2017; Namy et al., 2015), including from an intersectional perspective (Jacobs, 2016).

Themes Representing Potential Mechanisms of Impact

Empowerment Empowerment emerged as a theme that was linked to the three programme characteristics described above, all of which contributed to a shift of power in the classroom: Facilitators' emphasis on building egalitarian relationships with students, student leadership, enhanced peer support, and open discussions where students make their voices heard are empowering and rebalance otherwise hierarchical relations between students and teachers, representing a disruption of 'traditional power dynamics' (Jacobs, 2016). In three programmes, students who were involved as student mentors or participated in optional programme retreats displayed the strongest ownership of programme messages and experienced the greatest programme effects (Berman & White, 2013; Namy et al., 2015; Williams & Neville, 2017), demonstrating the link between enhanced student participation, empowerment, and outcomes. This resonates with the synthesis of implementation studies, which demonstrated that intervention activities taking place outside of the classroom, such as whole-school approaches, and interventions including the wider community, were found to enhance implementation. These interventions may lead to a change of hierarchies and relationships at a

broader contextual level and further strengthening of student empowerment.

The empowerment theme corresponds with what Haberland coined 'valuing oneself and one's own power', the acknowledgement of students' own power as change agents (Haberland, 2015). We therefore hypothesise that student **empowerment** constitutes one mechanism of impact: sex education taught in an egalitarian, participatory manner may empower students to adapt attitudes and norms, enhance self-efficacy, and ultimately influence behaviour and SRH outcomes beyond the classroom.

Meaningful Contextualisation of Students' Experiences and Transformation of Gender Norms Across most included studies, open discussions and other participatory methods were utilised by facilitators to connect students' reports of their own experiences with broader societal topics, including gender and power. Authors report that these participatory methods increased critical thinking and critical awareness of harmful gender norms, gender inequality, and GBV (Berman & White, 2013; Jearey-Graham & Macleod, 2017; Namy et al., 2015; Ollis, 2017; Sánchez-Hernández et al., 2018; Williams & Neville, 2017). Enhanced non-violent attitudes, willingness to change (Namy et al., 2015), and improved class climate (Sánchez-Hernández et al., 2018; Williams & Neville, 2017) were described as further outcomes of the programmes.

In addition to reporting positive outcomes attributed to the participatory methods and critical discussions of gender and power content, authors also reported that the personalisation of programme content resonated strongly with students (Jearey-Graham & Macleod, 2017; Namy et al., 2015; Ollis, 2017) and that students identified the questioning of dominant beliefs as a crucial step towards behaviour change (Namy et al., 2015).

The open discussions thus served as a forum in which personal reflection and sharing of personal experiences made the sex education content more relevant and relatable for students, while programmes' explicit focus on gender and power enabled critical examination of the patriarchal societal context of those experiences, especially unequal power in relationships, rigid gender norms, and gender stereotypes. Thus, evidence from our review points towards two interlinking mechanisms of impact: The first is meaningful contextualisation of students' experiences, which highlights the importance of personalisation of programme messages to support students in developing an understanding of the societal context of their sexual and romantic relationships. This is closely linked with the second mechanism, transformation of gender norms. As Namy et al. (2015) observed, intervention participants showed an increased appreciation of 'multiple masculinities' and demonstrated willingness to change when they recognised personal identification with harmful masculinities. This shows an initial shift in gender norms and illustrates its link with the contextualisation of students' experiences, as well as empowerment. It further suggests that discussing alternatives to dominant norms may expand the range of possible behaviours beyond traditionally gendered behaviours (Jearey-Graham & Macleod, 2017), enabling behaviour change that ultimately affects SRH outcomes.

Interaction of Mechanisms of Impact At the same time, the use of participatory learning methods, in particular open discussions, encouragement of student participation, and egalitarian relationships of students and facilitators lead to a palpable shift in power in hierarchical school environments, complementing students' theoretical discussions and reflections with a lived and embodied experience of empowerment. Based on this link and other connections between mechanisms as outlined above, we hypothesise that the mechanisms empowerment, meaningful contextualisation of students' experiences, and transformation of gender norms act synergistically, build upon each other, and influence one another in affecting students' behaviours and ultimately SRH outcomes (Fig. 2).

Unintended Effects

Included studies also highlighted that sex education with gender and power content may leave entrenched norms unchanged, in particular when student exposure to the programme was limited to only a few classroom sessions (Jearey-Graham & Macleod, 2017; Namy et al., 2015), and that teachers at times reinforced gender stereotypes (Ngabaza et al., 2016), resonating with similar findings from the implementation studies.

Discussion

Nineteen studies met the inclusion criteria of this process-focused systematic review of school-based sex education programmes addressing gender and power. The review found that gender and power content was incorporated and operationalised differently in a diverse range of programmes. Implementation studies highlighted the importance of high-quality facilitator training, flexibility to adapt programmes to students' needs, and building support for sex education programmes among school and local communities. We found that (i) student participation, (ii) student-facilitator relationship-building, and (iii) open discussions integrating student reflection and experience-sharing with critical content on gender and power constituted important programme characteristics that data suggest contribute to programme

effectiveness. Evidence from our thematic synthesis suggests that linked to these intervention characteristics meaningful contextualisation of students' experiences, empowerment, and transformation of gender norms may constitute mechanisms of impact that ultimately affect SRH outcomes.

Results in Context

Focusing on both CSE and other sex education interventions that include critical content on gender and power enabled comparisons across studies to enhance our understanding of *how* sex education with this component works. To place these results in context, we draw on the broader literature of CSE evaluation and the theoretical literature on sex education theory, empowerment, and critical pedagogy.

Implementation

Our narrative synthesis of findings from implementation studies largely corresponds with other summaries of aspects that facilitate intervention implementation and engagement with CSE, e.g. regarding the importance of educator training and skill, support from external facilitators, non-hierarchical participatory teaching methods to engage students in intervention activities, and a supportive school and community context (Kirby et al., 2007; UNESCO, 2018a; Vanwesenbeeck, 2020). These other reviews have further emphasised the critical role of an enabling school environment and multicomponent approaches for CSE implementation (UNESCO, 2018a; Vanwesenbeeck, 2020).

Whether teachers or external facilitators are best placed to deliver CSE is an area of active debate. For example, in a UK-focused overview of best-practices in sex and relationships education (SRE), students deemed teachers unsuitable to deliver SRE whilst teachers and SRE professionals considered teacher-led SRE to be the most sustainable model long-term (Pound et al., 2017). This is reflected in our review where studies involving outside facilitators appeared to be pilot or one-off projects, or required substantial resources (e.g. Jaime et al., 2016; Joyce et al., 2019; Kearney et al., 2016; Williams & Neville, 2017). However, our results suggest that programmes were generally more successful in empowering students and engaging them in a meaningful way when implemented by an outside facilitator. Pound et al. argue that one of the challenges of teachers implementing SRE is the breeching of boundaries between teachers and students, which may be less of a problem when outside facilitators are involved (Pound et al., 2016). Given that the overall importance of the skill level of the teacher or facilitator for achieving positive programme effects has been strongly emphasised, it remains somewhat unclear to which extent programme 'success' can be attributed to the programme content as opposed to the skill level of the implementing agent, in particular with respect to addressing gender and power and facilitating participatory sessions. Whilst this may present an avenue for further research work, it is promising that authors in one implementation study included in our review argued that high-quality teacher training would enable teachers with previously limited CSE teaching skills to implement progressive sex education programmes as intended (Wood et al., 2015).

Hypothesised Mechanisms of Impact

In our thematic synthesis, empowerment of students emerged as a likely mechanism of impact on SRH outcomes. This is not unexpected, as empowerment is central to many CSE programmes (UNFPA, 2015; Vanwesenbeeck, 2020) and constitutes a key strategy in health promotion more generally (Laverack, 2004). In sex education, student empowerment is theorised to expand the range of 'sexual or gendered subject positions' (Jearey-Graham & Macleod, 2017), thus enabling health-promoting attitudes, practices, and behaviours, including sexual agency (Fields, 2008; Jearey-Graham & Macleod, 2017). Our findings suggest that fostering student engagement and egalitarian relationships in the classroom, as well as open discussions allowing students to share experiences and feel validated, led to a shift of power in classrooms and contributed to this mechanism. However, empowerment may be easier envisioned than enacted. Jessica Fields argues that even staunch CSE advocates tend to fall short of embracing the transformative and empowering potential of CSE. By resorting to narratives of danger, they eschew positive messaging that builds on students' existing sexual knowledge, encourages sexual agency, and equips them to deal with the social challenges that are intertwined with sexuality (Fields, 2008). This is echoed by other authors who observe that even in the most progressive contexts sex education teachers fail to achieve a shift in power hierarchies that would enable student empowerment (Naezer et al., 2017; Sanjakdar, 2019). Thus, while our findings suggest student empowerment is a mechanism of impact that may ultimately affect adolescent SRH, this mechanism likely requires a very facilitative context and skilled implementer.

The second potential mechanism of impact we identified was meaningful contextualisation of students' experiences, facilitated by open discussions that provided a forum for critical thinking on gender and power and personal reflection. Open discussions as interactive learner-centred approaches are emphasised in CSE guidance (UNESCO, 2018a), desired by students (Pound et al., 2017), and theorised to make CSE relevant for the diverse and heterogeneous SRH needs of adolescents (Engel et al., 2019). Similarly, our analyses

highlight their central role in CSE programming with gender and power content. Beyond ensuring that programmes are relevant for individual students, open discussions that include critical content on gender and power also address the societal dimensions of sex and relationships, enabling meaningful contextualisation of students' experiences in particular in relation to gender inequality, and harmful gender norms. As Jessica Fields powerfully states, 'Sex education offers students an opportunity to grasp sexuality's place in the context of gender, racial and class inequalities […]' (Fields, 2008). Ensuring that programmes are linked to the social environment of participants' lived realities is understood to make SRH interventions more effective (Wingood & DiClemente, 2000).

The power of the interactive discussions led one group of authors in our review to conclude that students needed these open 'sexuality dialogues' more than what's conventionally understood as sexuality education (Jearey-Graham & Macleod, 2017). The term 'dialogues' originates from critical pedagogy (Sanjakdar et al., 2015). In this framework, schools are understood as sites that reinforce existing social systems and power structures—which critical pedagogy seeks to counter (Sanjakdar et al., 2015). This approach is a democratic, joint process of knowledge creation that drives on student voice and curiosity, with teachers encouraging questioning and critical thinking via 'dialogic teaching' (Sanjakdar, 2019; Sanjakdar et al., 2015). The critical pedagogy framework thus incorporates the programme characteristics and mechanisms we identified, including the disruption of traditional power dynamics which was linked to our empowerment mechanism. A critical pedagogy approach in CSE may therefore facilitate a better understanding of the operationalisation of these mechanisms in educational systems and improve programme implementation.

Systematic review evidence suggests that gender-transformative programmes seeking to improve diverse SRH outcomes impact behaviour more effectively than programmes without this approach (Barker et al., 2010). Interventions addressing gender norms were identified as most promising in addressing a multitude of risk factors to reduce violence against women and girls (VAWG) (Jewkes et al., 2015). In our review, whilst transformation of gender norms emerged as a potential mechanism in our thematic analysis, only few included studies reported using an *explicit* gender transformative approach, defined as approaches including 'strategies to foster progressive changes in power relationships between women and men' by WHO (2011). This reflects findings from a systematic review of reviews on engaging boys and men in SRH programming that reported an overall dearth of gender transformative programmes (Ruane-McAteer et al., 2019). Programmes to prevent VAWG and those set in low- and middle-income countries were most likely to be gender transformative compared to programmes targeting other SRH outcomes (Ruane-McAteer et al., 2019), suggesting that the potential of a gender transformative approach has not yet been harnessed across the educational programming seeking to improve adolescent SRH. Our findings also highlight a barrier to implementation of gender transformative programming: programme implementation is highly dependent on implementation agents whose values and skills influence implementation and may reproduce gender stereotypes, thus maintaining gender relations (Boonmongkon et al., 2019; Browes, 2015; Ngabaza et al., 2016; Rijsdijk et al., 2014).

Strengths and Limitations

This review employed a broad and comprehensive search strategy across six databases and supplemental searches to include a wide range of studies. Inclusion of studies from 15 countries across diverse world regions may support transferability of our findings across contexts. Whilst we were interested in understanding how gender and power content would work in CSE, which is considered best practice in sexuality education, we included other sex education and school-based programmes with relevant gender and power components to broaden our understanding, in particular on potential mechanisms of impact. Since all included studies still contained relevant CSE content, we are confident that our conclusions are applicable for CSE programming. Similarly, we included studies that reported relevant data on the intervention process but were not strictly process evaluations in order to draw on a larger body of evidence. These decisions led to some ambiguity at the screening stage and heterogeneity among included studies but ultimately enhanced the findings in this work, especially the thematic synthesis.

This review also has limitations. Additional cluster-searching, repeated iterative searches, snowballing, inclusion of grey literature (Booth et al., 2013), and inclusion of studies published in languages other than English may have identified additional eligible studies but were beyond the scope of this review. Relevant studies may have been excluded based on programme descriptions, which were often limited in screened reports (Ruane-McAteer et al., 2019). Nevertheless, included studies reported a wide range of observations and reinforced key findings across studies, suggesting that included studies provide reliable insights to support implementation of CSE programmes with gender and power content among adolescents.

Implications for Policy, Practice, and Research

Whilst our synthesis does not allow for causal inference on mechanisms of impact that describe how school-based CSE interventions with a gender and power component

ultimately impact adolescents' SRH outcomes, the evidence suggesting empowerment, meaningful contextualisation of students' experiences, and transformation of gender norms as relevant mechanisms correspond with the theoretical literature and existing empirical evidence. These mechanisms are facilitated by student participation, open discussions, and student-facilitator relationship-building and rely on skills of facilitators and a supportive context for effective intervention delivery.

This research can thus contribute to the growing body of literature to inform programme design, adaptation, transferability, and the evaluation of interventions to improve adolescent SRH. The mechanisms identified in this review can inform future research in which they are empirically tested and refined, for example through linked, rigorous outcome and process evaluations investigating the pathways to change of how sex education programme content impacts on the multiplicity of SRH outcomes, which constitutes a gap in the current literature. Furthermore, as it is considered best practice to guide intervention design, implementation, and the evaluation of complex interventions such as CSE by a relevant theory of change (De Silva et al., 2014; Moore & Evans, 2017), our results can inform the evaluation of ongoing programmes and inform the theory of change of future programmes—which is currently not often made explicit in interventions to improve SRH (Ruane-McAteer et al., 2019). Our review identified only one study which incorporated an explicit focus on complexity into the evaluation of school-based CSE (Joyce et al., 2019; Kearney et al., 2016). Their results suggest that feedback loops and the evaluation itself may have an important effect on programme implementation and outcomes and should be considered in future intervention planning and theories of change (Kearney et al., 2016).

In the field of knowledge co-production in public health research, co-produced (research) knowledge has long been argued to be more relevant to research users, empower communities, increase the chance of research uptake, and to ultimately affect health outcomes, but evidence supporting this has been scarce (Oliver et al., 2019). Whilst preliminary, our findings elucidate how the non-hierarchical, discussion-based co-production of knowledge on gender, sex, and relationships in sex education interventions makes this knowledge more relevant to participants, which may inform other interventions employing co-production approaches as part of an intervention in SRH and other public health fields.

Whilst not discussed in depth, our results also show that sex education with gender and power content does leave some entrenched norms unchanged (Namy et al., 2015; Ngabaza et al., 2016), calling for wider efforts targeting these norms. This should include interventions starting at a much younger age, that is before gender norms and roles become ingrained, continuing through childhood and adolescence (Goldfarb & Lieberman, 2021), and reaching beyond the classroom, including components targeting the broader school environment (Denford et al., 2017; Vanwesenbeeck, 2020). Further evidence suggests that school-based interventions should be coupled with interventions targeting social contexts outside of school, where both policies and community-wide interventions are needed to improve access to youth-friendly SRH services, address discriminatory practices, and support equitable gender norms at scale (Denford et al., 2017; DFID PPA Learning Partnership Gender Group, 2015; Starrs et al., 2018).

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Data Availability Search strategies are available as online supplementary material.

Code Availability Not applicable.

Declarations

Ethics Approval As all included data were publicly available, the ethics boards of the London School of Hygiene and Tropical Medicine (MSc Ethics reference 16696) determined that no ethical approval was required.

Competing Interests The authors declare no competing interests.

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