What works to support girls to reach their full capabilities?

A review of reviews of girls' empowerment programming and interventions

Working paper

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December 2024

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Introduction

It is now widely recognised that empowering adolescent girls through interventions that directly address gendered inequalities offers a means to accelerate global progress on reducing poverty. A decade on from the 2014 Girl Summit, examining the wealth of evidence on girls' empowerment that has been generated in the intervening period offers an opportunity to reflect on what has been learned so far, and identify what knowledge gaps are still necessary to fill if we are to fulfil the promise of the Sustainable Development Agenda and fast-track social change for and with girls. This review of reviews consolidates understanding of the effects of different characteristics and components of interventions aimed at empowering girls, and identifies broader implications for future efforts.

Methods

Four key intervention modalities for girls' empowerment not covered by basic state provisioning were identified through an initial scoping literature review: non-formal education and life skills interventions; girls'/gender clubs and safe spaces; economic interventions; and digital interventions. Outcomes of these interventions were grouped according to the Gender and Adolescence: Global Evidence (GAGE) conceptual framework, which focuses on the capabilities critical for young people to realise their full potential in the second decade of life and as they transition into early adulthood: bodily integrity and freedom from violence; health, and sexual and reproductive health; economic empowerment; education; voice and agency; and psychosocial wellbeing. A total of 32 systematic, rigorous, literature, narrative and rapid evidence reviews of studies and reviews of girls' empowerment interventions were then assessed and assigned a rating for the level of confidence in the evidence for outcomes in each domain. Data was also extracted from the reviews according to a number of key characteristics: the setting of interventions; the context; whether it was single- or multi-component; the socioecological level of intervention; the linkages that the programme or intervention established; who delivered the intervention; and any spillover effects identified.

Key findings

Intervention modalities

Life skills and non-formal education
There is some evidence of positive trends for life skills and non-formal education interventions across all outcome domains, but due to the content and delivery of curricula often being poorly reported, it is challenging to be definitive about what specifically is working well.

Girls'/gender clubs and safe spaces
We find promising evidence for girls' and gender clubs and safe spaces as a way to improve health outcomes, especially sexual and reproductive health knowledge and practices, but we find mixed evidence for their effectiveness for girls' economic empowerment when used as standalone interventions, though as conduits for economic interventions they may hold more potential.

Economic interventions
We find promising evidence for economic interventions for improving girls' economic and education outcomes, especially through cash and asset transfers, but more mixed evidence for other outcome domains.

Digital interventions

There is very little quality evidence for digital interventions, with most interventions focusing on health, and particularly sexual and reproductive health. Although the evidence shows promise for these types of interventions in relation to health outcomes, more research is needed overall. We found mixed evidence for the impact of digital interventions on psychosocial wellbeing.

Intervention characteristics

Intervention components

All reviews of economic interventions concluded that integrated interventions showed more promise for empowering girls across domains. Multi-component life skills and non-formal education interventions were also found to be more effective for supporting girls' outcomes than single-component interventions. Combining digital interventions with other strategies also improves impacts for girls. Girls' and gender clubs meanwhile are inherently multi-component interventions because they are spaces for the delivery of different forms of training, support from peers and trusted adults, interventions, programmes or referral processes; however, it was not always possible to disentangle the effects of girls' clubs from other components they were paired with, and so more research is needed to understand the effects of different intervention arms. Overall, it appears that multi-component interventions that involve a combination of non-formal education or life skills (especially vocational training and sexual and reproductive health education), girls' clubs (specifically mentoring) and economic interventions show particular promise for health, bodily integrity and economic outcomes.

Intervention settings

Although studies have been undertaken in a variety of settings, including within schools or as part of extra-curricular activities, within communities, and online, there is a lack of rigorous evidence to show which settings are the most effective for delivering particular types of intervention. There are nonetheless advantages associated with certain settings; for example, digital interventions may offer privacy, autonomy and anonymity to adolescents when accessing sexual and reproductive health information or services; in-school interventions may be more easily scaled, whereas community-based interventions may offer the opportunity to engage with out-of-school adolescents.

Interventions in humanitarian contexts

There is limited evidence on what works in humanitarian and conflict-affected settings in low- and middle-income countries (LMICs). However, the few studies available suggest that girls' clubs may be promising for addressing girls' psychosocial, bodily integrity, voice and agency, and, to a lesser extent, economic capability outcomes.

Intervention levels

Overall, there is limited evidence on the impact of interventions at multiple socioecological levels – for example, engaging with parents, partners, brothers and other stakeholders. Girls' empowerment programming often appears to overlook the linkages between girls' individual capabilities and broader social dynamics. Where interventions did engage with other stakeholders as well as girls, the mechanisms through which multi-level activities operated were often not clearly conceptualised. However, some reviews do note some evidence of promise for multi-level interventions, whereby family and community support can enhance intervention effectiveness through reducing barriers to girls' behavioural change and thus enabling girls to use the knowledge and skills they acquired through interventions.

Service linkages

There is limited evidence on the effectiveness of linkages with support services. The available evidence focuses on linkages to healthcare, particularly sexual and reproductive health services and systems,

but points to the need for these services to be effective and functional if they are to contribute to positive outcomes for girls.

Mentor type
The relative impact of adult versus peer mentors for improving girls' outcomes is not assessed in the existing evidence base in large part because information such as age of mentors or their relationship

to participants is not routinely included in reporting of interventions.

Spillover effects
Only two reviews noted spillover effects of interventions on others in girls' communities, particularly for girls' peers who were not part of interventions themselves. Those reviews observed both positive and negative effects, so more research is needed in this area.

Conclusions

This review finds that although there is promising and positive evidence for certain interventions in relation to key outcome areas for girls, the evidence base remains thin for other outcome areas. There is promising evidence for girls' clubs and safe spaces as a way to improve health and psychosocial outcomes; for life skills and non-formal education interventions for improving girls' psychosocial and bodily integrity outcomes; and for economic interventions for improving girls' economic and education outcomes. Multi-component interventions that involve a combination of non-formal education/life skills (especially vocational training and sexual and reproductive health education), girls' clubs (specifically mentoring) and economic interventions show promise for health, bodily integrity and economic outcomes.

However, significant evidence gaps must be addressed in future research and praxis on girls' empowerment. Overall, the reviews used broad age categorisations for adolescents (for example, 10–24 years, or 10–19 years) and therefore fail to properly unpack the specific needs of different groups of girls at different junctures of adolescence and youth. There is a lack of evidence on the effectiveness of digital interventions, on interventions in humanitarian contexts, and on intervention characteristics including intervention levels, settings, mentor types, linkages and spillover effects. There is also little attention to outcomes within the domain of voice and agency across the evidence base, despite growing interest in adolescent-led initiatives and the emphasis on 'nothing for us without us'. The findings on evidence quality also underline the vital need for greater consistency and transparency on definitions of modalities, clearer explanations of outcomes, and improved age disaggregation of findings.

Recommendations

Assessing new areas for multi-component interventions
While there is good-quality evidence on the positive impacts of multi-component interventions for bodily integrity, health and economic empowerment outcomes, the evidence on effects on girls' education outcomes is mixed, and more research is needed to explore outcomes for girls' voice and agency and psychosocial wellbeing.

Evaluating multi-level interventions comprehensively
It is essential that programming engages beyond the level of girls (for example, with parents, community leaders and faith leaders) and identifies ways to properly assess change in community and contextual factors such as social norms. This will also allow for better-quality evidence to be generated on the impact of multi-level interventions, which the review finds are promising but under-researched.

Improving reporting on the content and delivery of life skills and non-formal education curricula
Heterogeneity in the content of programmes and modes of delivery makes it difficult to draw comparisons between intervention outcomes. There is therefore a need for transparent and consistent reporting to improve understanding of what types of life skills and non-formal education interventions work.

Strengthening linkages to a wider range of services and supports for girls' capabilities
At present, interventions prioritise sexual and reproductive health services; none of the reviews noted linkages to justice systems, psychosocial support or child protection services. However, evidence from GAGE shows that these linkages can be integral to girls' empowerment across capability domains.

Exploring how to engage adolescents in the design and delivery of interventions
Given both the relative effects of multi-component and multi-level interventions and the evidence supporting participatory approaches, there is a need for more work that engages adolescent girls as stakeholders and partners rather than just as beneficiaries.

Introduction

It is now widely recognised that investing in adolescents offers the opportunity to accelerate progress on reducing poverty and inequality, and to foster positive development trajectories, both in the present and for future generations (Chandra-Mouli et al., 2013; Sheehan et al., 2017; Patton et al., 2018; Ross et al., 2022). The transition through adolescence is also a critical period in the lives of girls and young women, during which significant social, emotional and biological changes interact and shape their trajectories into adulthood (Kågesten et al., 2016; Jones et al., 2018). During this second decade of life, social norms about gender and age are increasingly rigidly enforced, resulting in a narrowing and curtailing of girls' mobility, opportunities and aspirations (Blum et al., 2017; GAGE consortium, 2018).

It is therefore essential to invest in interventions that attend to these gendered inequalities and are effective in expanding girls' freedoms, both in the present and as they mature into adult women. Attending to this imperative, a substantial body of work over the past decade has reviewed the evidence for the effectiveness of different modalities for empowering girls (see, for example, Arango et al., 2014; Plourde et al., 2017; Noble et al., 2019; Marcus et al., 2017; Stavropoulou, 2018; Haberland et al., 2018, 2021; Temin and Heck, 2020; Bergstrom and Özler, 2021; Psaki et al., 2022; Mortara et al., 2024). This literature has explored the outcomes of a broad spectrum of programmes not covered by basic state provisioning that are aimed at empowering girls in lower- and middle-income countries (LMICs) economically, socially and politically. These programmes include (but are not limited to) vocational training, non-formal education programmes, life skills programmes, sexual and reproductive health education (both in and out of school settings), various violence prevention initiatives, digital interventions, community dialogues, cash and asset transfers, and girls' clubs. However, this evidence base largely remains fragmented across sectoral silos, making it challenging to identify connections between findings, and to draw out implications in particular for multidimensional approaches and outcomes.

It has now been a decade since the 2014 Girl Summit. Examining the wealth of evidence on girls' empowerment that has been generated in the intervening period offers an opportunity to reflect on what has been learned and identify what knowledge gaps are still necessary to fill if we are to fast-track social change for and with girls during the last half-decade of the Sustainable Development Agenda and beyond. Engaging with this evidence base through a review of reviews allows us to consolidate understanding of the outcomes of different characteristics and components of interventions, and to identify broader implications for future efforts to empower girls. However, a comprehensive assessment of what works to empower girls is complicated by a number of factors: the heterogeneity of interventions and outcome measures; the unevenness of the evidence for certain interventions; the impact of context on the effectiveness of different modalities; and definitional differences in how programmes are described within the existing literature. Furthermore, there are notable gaps in available reviews of reviews with regards to the outcomes and effectiveness of digital interventions, which research indicates are increasingly being used in the context of girls' empowerment programming. Digital interventions can constitute a modality for delivering information to girls; but efforts to improve girls' digital literacy itself are connected to the growing recognition of internet connectivity as a key site of growing socioeconomic and political inequalities in LMIC contexts (World Bank Group, 2018; UNESCO, 2020; Meherali et al., 2021a).

In undertaking this review of reviews, a unifying conceptual approach was required that accounts for the multidimensionality of interventions with adolescent girls. To this end, we draw on the Gender and Adolescence: Global Evidence (GAGE) conceptual framework, which focuses on how girls' capabilities are shaped by age, gender, ability, marital status and location, with attention to how these are constrained or enabled by broader social, economic, political and cultural factors in different

contexts (GAGE consortium, 2019). It also attends to the change strategies that are effective in the collective and individual transformation of girls' capabilities. GAGE proposes six 'capability domains' as being key to adolescent girls' empowerment:

- **Education and learning** focuses on the services and support that support girls to acquire cognitive skills and knowledge.
- **Bodily integrity and freedom from violence** focuses on girls' freedom and protection from gender-based violence, including child marriage, harmful traditional practices and other forms of coercion.
- **Health, nutrition, and sexual and reproductive health** is concerned with girls' knowledge of how to stay healthy and their access to the services and supplies they need to manage menstruation, protect against sexually transmitted infections and prevent pregnancy or space childbirth.
- **Psychosocial wellbeing** addresses girls' internal sense of self and resilience, and their sources of external support.
- **Voice and agency** refers to the ability of girls to meaningfully participate in household, school and community life.
- **Economic empowerment** refers to girls' opportunities and choices for work and control over their income and assets.

Research questions

This review of reviews sought to answer the following research questions:

1. What are the characteristics and components of interventions to empower adolescent girls?
   - What is the primary entry point of multi-component interventions?
   - To what extent are interventions seeking to make linkages and referrals to a wider set of services and support?
2. What interventions are effective in empowering girls across capability domains?
   - In which capability domains and for which interventions is there the strongest evidence base?
   - What, if any, are the spillover effects of different areas of intervention focus?
   - What is the impact of context (humanitarian versus development), setting (school versus out of school versus online), mentor type (adult versus peer), and single versus multi-component interventions?
3. What are the implications for future interventions?

Methodology

The challenge for this review was to assess the strength of the evidence for the effectiveness of different interventions and programmes to empower girls across the six capability domains, while working within time constraints that would not permit for the full body of work on girls' empowerment to be reviewed. A review of reviews of interventions that cover critical dimensions of programming for girls that are not covered by basic state provisioning was therefore selected as the appropriate methodology.

However, to be able to identify more clearly what works and where there are still evidence gaps, and to reflect critically on future pathways for empowering girls based on what is known (Grant and Booth, 2009), a rapid review was not appropriate as these do not incorporate an assessment of evidence quality for different interventions and programming. An approach was needed that could accommodate the heterogeneity of reviews (including systematic reviews, rapid evidence reviews, rigorous reviews, literature reviews, narrative reviews), as the inclusion criteria allowed for the inclusion of reviews of qualitative and longitudinal studies as well as experimental and quasi-experimental studies such as randomised controlled trials (RCTs).

We therefore chose to use systematic review principles, which would include an assessment of the confidence it was possible to have in reported findings and accommodate the heterogeneity of study characteristics and reported outcome measures across studies. Moreover, such an approach also allowed for critical analysis and reflection on next steps by the authors based on their knowledge and experience of working on the issue of girls' empowerment. To develop this methodological and analytical approach, we drew on the systematic principles of the GRADE (Grading of Recommendation, Assessment, Development and Evaluation) and GRADE-CerQual (Confidence in Evidence from Reviews of Qualitative Research) approaches. The GRADE approach assesses how much certainty to place in findings from reviews of the effectiveness of interventions; however, as it is not appropriate for reviewing qualitative research, the GRADE-CerQual approach was developed to better support systematic qualitative evidence synthesis and assessment (Goldet and Howick, 2013; Lewin et al., 2015).

While it is important to caveat that GRADE-CerQual was not designed for the assessment of mixed-methods syntheses, or narrative summaries of quantitative findings (as characterises many of the reviews we include in this review paper), the fundamental principle of assessing evidence quality (as defined by the level of confidence in the evidence for a particular effect) through a series of clear steps that can support an overall evidence rating is a useful starting point for assessing, organising and presenting evidence for the range of girls' empowerment interventions and programming. For this reason we opted not to use the more common AMSTAR-2 (Assessment of Multiple Systematic Reviews, updated version (Shea et al., 2017)) approach, which cannot be used to generate an overall confidence rating.

Review process

The review itself included several distinct steps. First, the authors undertook a brief literature review to assess the state of evidence on girls' empowerment, and to identify reviews to include through the inclusion criteria shown in Table 1. After identifying a set of reviews to include, the authors read each review in order to compile a summary of outcome measures per capability domain drawn from the reviewed interventions and programmes. This summary of outcome measures was based on the GAGE conceptual framework, which allowed for the reviews to be organised by capability domain. The allocation of a review to a capability domain was based on the review's stated outcome focus (for example, if it assessed interventions to reduce violence against women and girls, it was allocated to

the 'Bodily integrity and freedom from violence' capability domain). Table 1 shows the number of reviews falling within each capability domain, and which were multi-domain. The table shows that the majority of reviews (n=8) looked at multiple capability outcomes, while 6 focused primarily on bodily integrity and freedom from violence. Notable here is the absence of reviews in which adolescent girls' psychosocial wellbeing was the primary outcome examined for interventions, though some multi-domain reviews did include findings on interventions that addressed this (for example, Marcus et al., 2017; Temin and Heck, 2020; Mortara et al., 2024).

Table 1: Reviews by capability domain, with colour coding to indicate strength of evidence

Domain	Reviews
Bodily integrity and freedom from violence (7 reviews)	Yount et al., 2017; Arango et al., 2014; Keith et al., 2023; Stark et al., 2022; Philbrick et al., 2022; Greene et al., 2024; Noble et al., 2019
Health, nutrition and sexual and reproductive health (9 reviews)	Rose-Clarke et al., 2019; Iwelunmor et al., 2020; Goldstein et al., 2023; Gottschalk and Ortayli, 2014; Feroz et al., 2021; Goh et al., 2022; Plourde et al., 2017; Nkhoma et al., 2020; Meherali et al., 2021b
Economic empowerment (1 review)	Stavropoulou, 2018
Education and learning (2 reviews)	Psaki et al., 2022; Sampa et al., 2020
Voice and agency (1 review)	Mortara et al., 2024
Psychosocial wellbeing (2 reviews)	Singla et al., 2020; Zimmerman et al., 2021
Multiple capabilities (10 reviews)	Marcus et al., 2017; Haberland et al., 2018; Perera et al., 2022; Catalano et al., 2019; Haberland et al., 2021; Temin and Heck, 2020; Bergstrom and Özler, 2021; Huang et al., 2022; Taukobong et al., 2016; Meherali et al., 2021a;

Table 2: Study inclusion criteria

Domain	Criteria
Document type	• Systematic reviews, rapid evidence reviews, rigorous reviews, literature reviews, narrative reviews
Timeframe	• Published since 2014
Population	• Intervention includes adolescent girls (can be part of a mixed-sex or mixed-age intervention if findings are gender- and age-disaggregated). • Any LMIC country context
Reviews	• Evaluate the impact of the intervention on specified measures • Assess the quality of evidence for different interventions
Interventions/ areas of focus	• Life skills programmes • Mentorship programmes • Girls'/gender clubs and safe spaces (both school- and community-based) • Financial and economic interventions (inclusive of social protection, such as cash transfers, asset transfers) • Digital literacy interventions • Must have an objective of empowering girls in at least one capability domain and specify the empowerment mechanism(s) of the intervention
Outcomes	• Specified outcomes linked to the relevant capability domain(s) • Relevant and clear measures for the specified outcome

Drawing on GRADE-CerQual protocol, an initial review of methodological limitations, coherence, adequacy of data and relevance was undertaken to form an overall rating of the confidence in the evidence offered by each review; the authors also assessed the relevance of the review specifically for

the research objective of understanding what works to empower girls. (See Annex 1 for a full overview of the ratings for methodological limitations, coherence, adequacy of data and relevance accorded to each review.)

Table 3 shows the assessed strength of confidence across the reviews as a whole. It shows that based on methodological limitations, coherence, adequacy of data and relevance, only a small number of reviews were identified overall as offering high confidence in reported findings. Allocating a rating of confidence in reviews at the outset of the review process familiarised the authors with the selected studies and allowed for the clear identification of weak points in the evidence base, which could be used as part of the assessment of the evidence for particular intervention modalities and components.

Table 3: Overall confidence rating in review findings

Reviews	Overall rating	Summary explanation	Age/sex
Yount et al., 2017	High	Study is systematic and rigorous – main limitation is the lack of age disaggregation in the discussion and findings.	10–24 (girls and young women)
Marcus et al., 2017	High	The review is comprehensive and methodologically sound, with detailed reporting on individual study findings.	10–19 (girls)
Haberland et al., 2018	High	Study is rigorous and includes a wide range of studies, though lacks age-disaggregated evidence.	10–24 (girls and young women)
Rose-Clarke et al., 2019	High	Review is comprehensive of a nascent evidence base and draws important conclusions from the findings.	10–19 years (both sexes)
Singla et al., 2020	High	Dissects the different interventions comprehensively through a systematic review and meta-analysis, focusing on high-quality studies in discussion.	10–19 years (both sexes)
Perera et al., 2022	High	Extensive review of social protection outcomes across LMICs, with findings specific to girls (age-disaggregated evidence).	All ages/sexes
Arango et al., 2014	Moderate/High	Some concerns about descriptive nature of findings and lack of analysis/interpretation.	Not specified (women and girls)
Stavropoulou, 2018	Moderate/High	Some concerns about methodological approaches (some included studies had thin evidence, but this was not weighted).	10–19 years (girls)
Catalano et al., 2019	Moderate/High	The review is methodologically sound but the evidence is generally not strong and the discussion of findings lacks nuance and detail.	10–29 years (girls and young women)
Temin and Heck, 2020	Moderate/High	Studies included are high quality and the assessment is good but the evidence base for recommendations is limited.	10–24 years (girls and young women)
Iwelunmor et al., 2020	Moderate/High	The review is high quality but limited in usefulness for understanding either which components of the implementation worked, or why they worked.	10–19 years (girls and young women)
Haberland et al., 2021	Moderate/High	Some concerns about quality of evidence base, and loss of nuance in analysis, meaning that findings are ambiguous.	12–35 (girls and young women)

Bergstrom and Özler, 2021	Moderate/High	The review is comprehensive but lacks nuance and detail in discussion of findings, which are high level and broad.	10–19 years (girls)
Psaki et al., 2022	Moderate/High	Review is extremely detailed and comprehensive but it is not always possible to understand what works, and the sample of studies is very small.	'School age' (girls)
Goldstein et al., 2023	Moderate/High	Focus on young people and includes elements like socioeconomic position and sexual orientation/gender identity.	10–25 (both sexes)
Gottschalk and Ortayli, 2014	Moderate	Clear overview of different modalities and approaches of interventions (including successes and failures) but relies on literature rather than systematic review, and evidence is limited.	10–19 (both sexes)
Stark et al., 2022	Moderate	Lack of rigour to assessment of evidence and small number of included studies, as sample excluded qualitative/participatory assessments.	Not specified (women and girls)
Philbrick et al., 2022	Moderate	No age disaggregation of study evidence. Small number of studies. Few rigorous studies exist, so evidence is limited. Evidence review rather than systematic review.	Not specified (women and girls)
Feroz et al., 2021	Moderate	Moderate quality interventions included in the review but no age- or gender-disaggregation of findings.	10–24 (both sexes)
Zimmerman et al., 2021	Moderate	Small number of interventions and a lack of gender/age disaggregation, limited attention to mental wellbeing outcomes.	Below 22 years (both sexes)
Keith et al., 2023	Moderate	Considers a reasonable number of studies on a range of intervention modalities but evidence is not robustly assessed and adolescents are not specifically targeted.	Not specified (women and girls)
Greene et al., 2024	Moderate	The lack of quality evidence on actual interventions for norms change is a challenge for assessing what works.	10–19 (girls)
Taukobong et al., 2016	Low	Serious concerns about the lack of analysis and major evidence gaps for certain intervention modalities.	Not specified (women and girls)
Plourde et al., 2017	Low	The evidence base on LMICs is small and lacks detail or quality assessment.	10–29 (girls and young women)
Noble et al., 2019	Low	Systematic and rigorous, and focuses on adolescent girls, but very small number of evaluation studies means an absence of evidence.	10–19 (girls)
Sampa et al., 2020	Low	No analysis of data from the studies and the quality of studies is not assessed.	10–19 (girls)
Nkhoma et al., 2020	Low	Offers limited insights into what works in girls' empowerment programming, due to a lack of detail and small number of studies.	10–19 (girls)
Meherali et al., 2021a	Low	Does not include an assessment of study quality in the discussion and analysis of findings.	10–19 (girls)

Meherali et al., 2021b	Low	Claims for the effectiveness (or not) of certain interventions are based on minimal evidence.	10–24 years (girls and young women)
Huang et al., 2022	Low	Rapid review that does not examine evidence strength. Poor writing quality.	10–19 years (both sexes)
Goh et al., 2022	Low	Evidence is not disaggregated by LMIC versus high-income country; not an evidence review so does not evaluate evidence quality, and includes a range of types of studies.	10–24 years (both sexes)
Mortara et al., 2024	Low	Limited number of studies; lack of quality assessment of evidence is disregarded in the claims made by the authors.	Not specified (women and girls)

Next, the different types of interventions featured in the reviews were assessed and organised into four types: non-formal education and life skills interventions; safe spaces and girls' clubs; economic interventions; and digital interventions. Their different components were then tabulated in relation to capability domain outcomes. Findings on various additional elements of interventions (setting, mentor type, context, components, level and linkages) were also extracted and integrated into a narrative to accompany the matrices of capability outcome findings.

Finally, evidence in the reviews for specific types of interventions and programmes and their various features/components was reviewed in the context of each capability domain, with reference to: (1) each review's initial evidence confidence rating; and (2) a critical appraisal of the interpretation of findings in relation to the wider literature. To allow for visual representation and easy observation of assessed evidence alongside the narrative, colour coding was used in each capability domain matrix to indicate four degrees of evidence strength (see Figure 1).

Figure 1: Degrees of evidence strength

Promising evidence	Positive trend but more evidence needed	Not enough evidence but some positive signs, or mixed findings	Inadequate evidence

Findings

Intervention modalities

Four key intervention modalities were identified through the review of reviews and wider literature search: life skills and non-formal education interventions; girls'/gender clubs and safe spaces; economic interventions; and digital interventions. The categorisation of the first three (girls'/gender clubs and safe spaces, life skills and non-formal education, and economic interventions) was based on the definitions of the interventions that were provided in the majority of reviews. A review of reviews of digital interventions was added based on growing interest in the potential and pitfalls of this approach for empowering girls. Table 5 shows which reviews provided evidence for each intervention modality alongside overall confidence ratings, underlining that there is the least quality evidence on the effectiveness of digital interventions.

Life skills and non-formal education
Life skills programmes are a type of non-formal education often delivered to girls. There is no mutually agreed definition of 'life skills' in extant literature, and the term is used broadly to cover sexual and reproductive health education, communication and negotiation skills or financial and vocational training, employment readiness schemes, and other types of intervention that support the development of abilities and skills that can help to empower girls' decision-making and expand their opportunities (Marcus et al., 2017). In practice, non-formal education is often used interchangeably with life skills programmes (Bergstrom and Özler 2021). Non-formal education is officially termed by UNESCO (2012) as 'an addition or complement to formal education', mostly delivered in a structured setting, but leading to qualifications that are not recognised by formal education authorities in a given context but which contribute nonetheless to individuals' lifelong learning. Non-formal education thus provides foundational, transferable skills, and supports young people to become active global citizens (World Non-Formal Education Forum, 2019). Non-formal education differs from informal education, which refers to unstructured learning that occurs within daily life activities and is thus unintentional and incidental (Yang, 2015). For adolescent girls who are marginalised within formal education settings, non-formal education can offer opportunities to improve knowledge, capacities, and agency over their bodies and the world they live in (United Nations Population Fund (UNFPA), 2019).

The setting in which life skills and non-formal education programmes take place is one of the ways in which a distinction between types of interventions is made in the reviews. Marcus et al. (2017) distinguish between community-based clubs, extra-curricular clubs, and school-based life skills programmes. However, all of these offer life skills programmes of different types (see Table 4). Similarly, Bergstrom and Özler (2021) distinguish between interventions that either take place in the classroom or in other spaces in the community that are only available to girls during the training sessions, and those delivered in the context of girls' clubs, which offer safe spaces and the opportunity to build social assets through improving peer networks and mentorship. Marcus et al. (2017) describe school-based life skills programmes as largely growing out of sexual and reproductive health programmes, and four of the six school-based life skills programmes they review included content on reproductive health/HIV. Meanwhile, 26 out of the 33 community-based clubs they reviewed also included content on reproductive health/HIV in their life skills training, while 22 included training in communication skills (ibid.); communication skills were the central activity in extra-curricular clubs.

Notably, there are several items not included in Table 4. One is awareness of different types of violence, rights to bodily integrity specifically, and consent, though these are now often included in life skills programmes, especially those with comprehensive sexuality education (CSE) components. Vocational skills components now also increasingly include computer literacy classes, reflecting the shift towards preparing adolescents for the future world of work. Sport may also include self-defence

classes and sport for development. Finally, programmes may also include art therapy, music therapy and photography.

Table 4: Distinguishing between life skills and 'additional components' (Marcus et al., 2017)

Life skills components	Additional/other components
Changing gender norms and attitudes	Catch-up basic education
Financial literacy	Vocational skills
Knowledge of laws and rights	Political /civic engagement
Reproductive health/HIV	Sport
Training in communication skills	Savings and loans
	Stipends and incentives
	Training peer educators
	Youth-friendly services

Girls'/gender clubs and safe spaces
Girls'/gender clubs are often venues for the delivery of non-formal education interventions and life skills programmes, as well as specific initiatives such as sexuality education/CSE, gender and rights awareness, and types of skills training (Marcus et al., 2017). Girls'/gender clubs offer two functions: 'safe spaces', in which girls are organised and can be reached with a variety of interventions and educational topics; and the building of social assets, including friendships, trusting relationships and self-esteem, which can have a positive influence on girls' livelihoods and health (Chakravarty et al., 2015). In some literature, safe spaces are differentiated from 'girls' clubs' or 'gender clubs' as often being provided for women and girls more broadly, and thus pursuing somewhat different types of interventions to those centring on adolescent girls (Stark et al., 2022). For example, girls'/gender clubs may offer structured curriculum-based skills building or awareness-raising programmes as opposed to just spaces where girls can gather but without guidance or group work towards a specific outcome. Girls' clubs and safe spaces may be based in the community, but may also be part of formal education systems, such as after-school or in-school clubs for girl students. Gender clubs are clubs that focus on shifting gender discriminatory attitudes and practices and invove girls and boys. Programming may also be multi-level and syncrhonistic, focusing not only on girls but also on men and boys, parents, community influencers, and faith leaders in an effort to create an enabling environment for girls at the same time as supporting girls' individual and collective agency and empowerment. Some of these initiatives involve structured curriculum so that the curriculum targeting girls is complemented by tailored curricula for boys, for parents and for community influencers so that all actors in the socio-ecological environment are exposed to consistent messaging.

Box 1: Girls' club programming is surprisingly heterogeneous

Girls club programming differs widely in terms of approach and content, and it is important to be aware of these differences when assessing intervention effectiveness and cost-effectiveness. Some initiatives provide a safe space for girls to congregate safely and to interact with peers outside of a formal school setting. For example, in refugee camps in Bangladesh, Kenya and Jordan a range of NGOs offer spaces that have adult supervision, art supplies, play and sports equipment in which girls can play in girl-only spaces. This is especially valued by girls in over-crowded camp settings and in settings where there is a strict division of the sexes (e.g. UNFPA, 2015). In other cases, clubs are set up to share and disseminate awareness-raising messages to girls about key social issues such as the risks of child marriage or female genital mutilation. This is the case with Save the Children's Economic and Social Empowerment Programme for Girls and Women in Pastoralist Areas in Ethiopia and the Foundations programme on adolescent sexual and reproductive health in Mali, Niger and Sierra Leone. Group facilitators encourage discussion around harmful cultural practices and norms and provide information about the risks of these practices but without following a bespoke curriculum (Endale et al., 2022). While such approaches are less resource intensive there is also typically less control over messaging and the risk of superficial uptake of messages (Marcus et al., 2017). At the other end of the sprectrum are initiatives that work with trained mentors to take adolescent girls (and in some cases boys also) through a carefully designed, age-tailored curriculum aimed at supporting girls to develop personal agency and empowerment, equip her with key life skills information and raise her awareness about discriminatory gender roles and attitudes. One such example is the Act with Her gender transformative programme in Ethiopia (run by Pathfinder and Care International) offer a 10 month curriculum to girls that covered a wide range of information and tools related to puberty, menstraual health, sexual and reproductive knowledge, gender roles and attitudes in the family, community and schools, self-esteem and resilience, goal setting and financial literacy (Hamory et al., 2024).

Economic interventions

Economic interventions seek to address barriers to girls' economic participation and wellbeing, on the basis that economic empowerment can both help to address the drivers of gendered poverty, and have a ripple effect on other wellbeing outcomes (Haberland et al., 2021). Economic interventions may include: livelihood training (such as vocational training, business training, access to savings programmes, or employment and internship programmes); financial education (such as financial literacy programmes); and cash or asset transfers (such as educational incentives, payment for uniform costs and other financial support for schooling, or unconditional cash transfers) (Stavropoulou, 2018).

Digital interventions

Digital literacy refers to the capacity of individuals to use digital platforms to seek out information and resources and use these in their own decision-making (Meyers et al., 2013). Digital literacy is increasingly recognised as important for girls' empowerment because it offers opportunities not only for expanding one's sources of information about the world and one's rights within it, but also for engaging with online learning and searching for work (Meherali et al., 2021a). Digital interventions for girls' empowerment therefore includes programming that educates and informs girls about access to online spaces safely and effectively. Digital interventions can also refer specifically to interventions that use technology to deliver intervention components in ways that empower girls – for example, using mobile phones, tablets and web-based communications to convey information about health, rights or available services (Philbrick et al., 2022).

Table 5: Key intervention modalities (with confidence rating) and relevant reviews

Intervention type	Relevant reviews
Life skills and non-formal education	Marcus et al., 2017; Yount et al., 2017; Haberland et al., 2018; Singla et al., 2020; Haberland et al., 2021; Stavropoulou, 2018; Arango et al., 2014; Temin and Heck, 2020; Stark et al., 2022; Keith et al., 2023; Greene et al., 2024; Bergstrom and Özler, 2021; Psaki et al., 2022; Noble et al., 2019; Mortara et al., 2024; Plourde et al., 2017
Girls'/gender clubs and safe spaces	Marcus et al., 2017; Haberland et al., 2018; Yount et al., 2017; Stavropoulou, 2018; Arango et al., 2014; Temin and Heck, 2020; Haberland et al., 2021; Bergstrom and Özler, 2021; Psaki et al., 2022; Stark et al., 2022; Keith et al., 2023; Greene et al., 2024; Noble et al., 2019; Plourde et al., 2017
Economic	Yount et al., 2017; Haberland et al., 2018; Haberland et al., 2021; Arango et al., 2014; Psaki et al., 2022; Stavropoulou, 2018; Bergstrom and Özler, 2021; Iwelunmor et al., 2020; Temin and Heck, 2020; Keith et al., 2023; Greene et al., 2024; Nkhoma et al., 2020; Taukobong et al., 2016; Sampa et al., 2020; Noble et al., 2019
Digital	Goldstein et al., 2023; Feroz et al., 2021; Philbrick et al., 2022; Meherali et al., 2021a; Huang et al., 2022; Goh et al., 2022

Intervention characteristics and components

This review of reviews indicates that empowerment interventions with adolescent girls are highly heterogeneous. Differences identified across the reviews in the characteristics of interventions include: their setting (in school, out of school or online); the context (humanitarian/emergency or development setting); their components (multi- or single-component); the level of intervention (single- or multi-level – for example, working solely with girls or in combination with other stakeholders); the linkages established with either service providers (including child protection, psychosocial support, justice or healthcare providers) or transfers of assets or cash; the type of mentor delivering the intervention or programme (peers, near-peers or adults); and finally, the spillover effects of interventions.

Intervention settings
Despite the importance of understanding the strengths and weaknesses of intervention settings in terms of scalability, tailoring interventions to specific populations and contexts, and reaching the most disadvantaged young people, few reviews systematically explored how intervention setting affected outcomes for girls. This is a major gap that we argue (in the concluding section) needs to be addressed in future evidence reviews.

None of the reviews of economic interventions interpreted outcomes in relation to whether they were undertaken in school or in out-of-school settings. Interventions where the primary entry point was girls'/gender clubs and safe spaces or life skills and non-formal education also by and large did not offer insights into whether particular settings are more effective than others for achieving different outcomes for girls, even where they were mentioned (for example, Plourde et al., 2017; Catalano et al., 2019), because of a lack of evidence on the relative contribution of school or community-based groups. The review by Singla et al. (2020) finds that there is good evidence for school-based life skills interventions as a way to improve adolescent and youth mental health and wellbeing, but this is in part because the vast majority (78%) of the included studies were undertaken in school settings, and only 10% in the community. In their review of peer-facilitated interventions for adolescent health and wellbeing, Rose-Clarke et al. (2019) are similarly ambivalent about the role of school settings in intervention outcomes. On the one hand they note that pre-existing support systems for peer facilitators, and the 'captive audience' of participants in a classroom setting can support delivery. However, hierarchies between teachers, peer facilitators and participants may prevent open

communication, and out-of-school adolescents are unable to participate in this setting (ibid.). More recent reviews of girls' club/gender club settings document only community-based girls' clubs and safe spaces (Temin and Heck, 2020; Stark et al., 2022).

Only the reviews of digital interventions looked at virtual spaces; all other reviews included solely in-person interventions. However, Goh et al. (2022) suggest that virtual interventions may be successful in part because of adolescents' distrust of formal service providers, especially in conservative settings; digital modes of accessing information may also come at the cost of adolescents' use of in-person services.

Humanitarian versus development contexts
There is overall also a dearth of evidence on the specifics of interventions in humanitarian contexts, as opposed to developing country contexts more generally. There were two reviews of girls' clubs (recognising that the term 'gender club' is a more recent usage) in humanitarian settings, and their findings indicated limited but positive evidence about girls' clubs as a means for improving elements of girls' psychosocial wellbeing, bodily integrity, voice and agency, and, to a lesser extent, economic capability outcomes. Bergstrom and Özler (2021) note that girls' clubs may be protective of school attrition in emergency settings, based on evidence from Sierra Leone. Noble et al. (2019) describe three multi-component girls' club and safe space interventions in humanitarian settings, with varied combinations of components: one that focused on safe spaces and also held weekly girls' groups, mentor meetings, parent/guardian meetings, and training sessions on topics that included prevention of gender-based violence, reproductive health, and financial literacy. Another two projects combined safe spaces for adolescent girls to support livelihood activities with a mentoring model whereby girls learned from older women who had themselves received skills training, and with livelihoods training directly (ibid.). The outcomes of these interventions were mixed across capability domains, with promising outcomes for social assets in all cases and involvement in livelihood activities in the latter two projects. However, one programme noted the challenge in humanitarian settings of continuous participation, with one-third of beneficiaries no longer participating by midline due to marriage and lack of parental support. More evidence is thus needed in order to understand best practices for protecting and empowering adolescent girls in such settings.

No studies looked specifically at the impact of economic interventions in humanitarian settings. One study looking at girls' clubs in humanitarian settings did include interventions that had an economic component relating to livelihood training, but the evidence to support impact was not strong (Noble et al., 2019). Humanitarian settings are particularly difficult contexts for implementation of economic interventions with adolescents because of the nature of emergency settings and the prioritisation of other services, with economic interventions operating largely at household level or with adults. More research is therefore needed to explore the potential of economic interventions in humanitarian settings as a way to empower girls.

Multi-component versus single-component interventions
Recognition of the interrelated nature of girls' vulnerabilities across all areas of life has led to a growing interest in the effectiveness of multi-component interventions as a way to build up girls' overall capabilities more robustly. Several reviews of economic interventions concluded that integrated interventions showed more promise for empowering girls across domains. Arango et al. (2014) find that economic interventions alone show conflicting evidence. However, they find that economic interventions such as microfinance programmes, vocational training, and cash or asset transfers *in conjunction with* gender equality and violence prevention interventions are promising for addressing various forms of violence against women and girls, including intimate partner violence and child marriage. These findings are based in part on findings from a review conducted by Lee-Rife et al. (2012) on effective measures to prevent child marriage, which concluded that programmes that work

to end early marriage are those that are designed to address its multiple drivers through combined interventions. Haberland et al.'s (2021) review of economic interventions finds that two programme approaches are promising for girls' increased involvement in income-generating activities: vocational training and business training – both alone and as a multi-component intervention that combines vocational training with other interventions such as internships.

Although other interventions show some signs of positive trends – including cash or asset transfers and financial literacy training leading to increased employment and savings behaviour respectively – there was not enough evidence for the authors to class these as definitively promising. Stavropoulou (2018) reports on 17 integrated interventions that sought to empower adolescent girls by combining a number of other strategies alongside an economic component. These included peer groups and mentors, life skills training, sexual and reproductive health education, and community mobilisation. Evaluations of 11 interventions reported some positive economic outcomes: these included the acquisition of livelihoods skills, increased involvement in income-generating activities, improved financial literacy, increased savings and access to economic assets. While it is unclear from the review which specific strategies worked in relation to these outcomes, Haberland et al. (2021) find that combining financial education with sexual and reproductive health education specifically shows promise for improving girls' HIV knowledge.

Perera et al. (2022) meanwhile find that standalone social protection programmes such as cash and asset transfers are actually more effective than multi-component integrated interventions, suggesting that programmes with multiple components addressing several issues can add complexity to implementation that can undermine their quality, and make them harder to sustain or bring to scale. They also note that this may be an issue of evaluation, with longer-term effects (24 months-plus) often not measured in the evaluations included in their review (ibid.).

Economic component combinations and outcomes that are identified in the included reviews are shown in Table 6.

Table 6: Multi-component economic interventions and promising outcomes

Additional component	Promising outcomes
Gender equality and violence prevention training	Violence against women and girls (reduced levels of intimate partner violence and child marriage)
Internships	Increased involvement of girls in income-generating activities
Peer groups and mentors	Improved confidence of girls in pursuing employment/businesses
Sexual and reproductive health education	Improved sexual and reproductive health knowledge and contraceptive uptake
Community mobilisation	Improved support for girls within the community
Life skills training	Improved participation and more effectiveness of economic components

Life skills programmes may be standalone or delivered as part of interventions on particular issues that may be tackled through multi-pronged approaches. Marcus et al. (2017) find that multi-component interventions are more effective for supporting girls' outcomes than single-component interventions, based on the evidence from programme evaluations that sought to disentangle the effects of different arms of interventions. These findings are echoed by Catalano et al. (2019) who observe that targeting several youth outcomes through combined interventions shows promise for scalability. Haberland et al. (2021) find that livelihood or vocational training, when combined with life skills training, shows promising outcomes for adolescent girls' earnings and income, and although

more research is needed, a positive trend is also observed for savings behaviours and amounts. They also note promise for this combination for improving contraceptive use. Financial education in combination with sexual and reproductive health programming meanwhile shows promise for improving HIV-related indicators such as testing and use of condoms (Haberland et al., 2021). Bergstrom and Özler (2021) meanwhile find mixed evidence for life skills training delivered via girls' clubs/gender clubs as a way of increasing educational attainment. Those delivered in classroom settings also have mixed effects, but there are more studies showing positive impact, with the authors highlighting that aspirations in particular are fostered by such interventions; however, they caveat these findings with the observation that life skills interventions differ substantially in terms of what they include and what approach is taken, which makes it difficult to generalise across interventions (Bergstrom and Özler, 2021). The type of outcome that is supported appears to be contingent upon intervention pairing, as shown in Table 7.

Table 7: Multi-component life skills programmes and promising outcomes

Combination	Promising outcomes			
Life skills + *economic interventions*	Earnings and income	Savings behaviour	Improved contraceptive use	HIV prevention (specifically for sexual and reproductive health life skills)
Life skills + *girls'/gender clubs*	Educational attainment		Aspirations (specifically for life skills in classroom settings)	

By and large, girls' clubs/gender clubs are intrinsically multi-component interventions because they are spaces for the delivery of different forms of training, support, interventions, programmes or referral processes. Several reviews found that it was not always possible to disentangle the effects of girls' clubs/gender clubs from other components they were paired with (Marcus et al., 2017; Temin and Heck, 2020; Haberland et al., 2021). As an exception, Haberland and colleagues (2018) identified eight studies on girls' empowerment interventions that compared a multi-component arm to a single-component arm. Five of these studies found that the multi-component arm performed better, although most studies did not control for length of exposure. Haberland et al. (2021) echo that despite these approaches being common, there is limited evidence indicating which combination of components are effective or what the effects are of different components in isolation. Psaki et al. (2022) further note that despite most of the studies included in their review being unable to isolate the effects of safe space interventions on their own, results were mixed, and did not reveal a strong pattern of effective interventions even when other components were present.

The effects of girls' clubs/gender clubs on particular capability outcomes and thus the selected measures for outcomes of interventions also often reflected which components were included; for example, when girls were given training on sexual and reproductive health, outcomes in relation to their knowledge about sexual health matters was measured. Table 8 shows the frequency with which girls' clubs/gender clubs were combined with other components according to Marcus et al. (2017); however, it was not possible to identify promising practices based on the included reviews.

Table 8: Frequency of girls' clubs/gender clubs combined with other intervention components (Marcus et al., 2017)

Component	Frequency of combination with girls' clubs/gender clubs
Economic	
Vocational or business training	15/33 clubs
Financial literacy	17/33 clubs
Access to cash transfers	1/33 clubs

Savings and loans	14/33 clubs
Social	
Life skills (sexual and reproductive health, gender norms, rights, communication)	33/33 clubs
Mentoring/guidance counselling	33/33 clubs
Activities with community/family	8/33 clubs
Sports and recreation	6/33 clubs
Political	
Political and civic engagement	3/33 clubs

All studies on digital interventions meanwhile reviewed the evidence for digital interventions on their own, with the exception of Huang et al. (2022), which compared multi- and single-component technology-based approaches for improving sexual and reproductive health outcomes. Their study finds that texting alone tends not to be sufficient to improve sexual and reproductive health knowledge and practices, but that combining text messaging with other strategies like life skills training, financial incentives, and psychosocial support contributes to improvements in rates of outcomes like sexually transmitted illness (STI) and HIV screening and avoiding unprotected sex (ibid.). However, a higher-quality review of mHealth interventions by Goldstein et al. (2023) observes that while digital interventions may be used as part of more complex interventions, due to inadequate measurement and evaluation there is an absence of quality evidence on the impact of digital components versus other aspects.

Intervention levels
As with multi-component interventions, multi-level interventions that engage not only with girls but also those around them (including boys, partners, parents, community members and other stakeholders) are often perceived as a way to create an enabling environment that is more conducive to social change that empowers girls. Multi-level approaches can also allow for interventions to address unintended or negative knock-on effects on others within girls' socioecological environment, which may also affect outcomes for girls (Perera et al., 2022). Only one review in the review by Haberland et al. (2021) quantitatively examined the added value of multi-level programmes (Haberland et al., 2018), finding insufficient evidence at the time to conclude whether these are more effective. Nonetheless, a number of reviews suggested that community involvement and participation of stakeholders beyond girls can improve programme effects. Bergstrom and Özler (2021) note that programmes that work to improve gender-equitable attitudes, including among males, may produce effects in the longer run. Yount et al. (2017) also find that multi-level interventions that include community engagement and expand girls' social and support networks show more impact for preventing violence against women and girls. Gottschalk and Ortayli (2014) observe that programmes which gain community buy-in and use a combination of elements that fit their needs – that is, those that are both multi-level and multi-component – can help support programme success.

Marcus et al. (2017) note that 22 of the 44 life skills programmes they reviewed included activities to engage with community members, the household, or girls' partners, and identify nine life skills programmes that led to successes in reducing child marriage rates – all of which were community-based and engaged parents and other family members in activities, as well as empowering girls to speak out (ibid.). These findings from qualitative evidence suggest that engaging other stakeholders is vital but this engagement needs to be sustained to lead to clear change in gender discriminatory attitudes and practices (ibid.). In their review of life skills interventions, Singla et al. (2020) observe that skills that support positive relationships between parents and children had the most influence of all life skills on effectiveness of interventions for improving mental health outcomes for young people – but these are frequently overlooked within interventions. The authors find promising evidence for focusing on improving and supporting interactions between parents and children to influence young people's mental health and self-esteem (ibid.).

Mortara et al. (2024) find that life skills programmes consistently improved girls' 'power within' (defined broadly as self-efficacy and self-belief), regardless of whether there was an additional component such as remedial and/or vocational training associated with the programme. However, they note that life skills programmes alone may only be effective where internal barriers are a primary cause of girls' disempowerment. They note the role of external barriers that limit girls' agency and the potential risk of backlash from parents and community in relation to being able to capitalise on the information and skills developed in life skills training.

This point is echoed by Goh et al. (2022) in relation to digital interventions. Change as a result of digital interventions is often still considered at the level of individual behaviour change. Goh et al. suggest there is little consideration of the meso- or macro-level (that is, group-level) change, organisational change, or change at the level of the health system or health policy. Nonetheless, Philbrick et al. (2022) suggest that the most promising type of intervention involving information and communications technology (ICT) for primary prevention would be one that has an objective related to changing gender and social norms (towards sexual and gender-based violence). This would include changing underlying attitudes toward the acceptability of such violence, by both the perpetrator and the victim/survivor. In some cultures, women and girls (and others in the community) may have internalised that sexual and gender-based violence is something to which they must acquiesce and resign themselves.

Some girls' clubs/gender clubs included outreach or involvement of other adults in girls' communities. However, as with life skills programmes, these activities and the mechanisms through which they sought to empower girls were often not well-described. Marcus et al. (2017) provide the most comprehensive evidence on the targeting of other stakeholders, including parents, other relatives, men and boys in the community, government officials, religious leaders and other people in girls' lives. They find that parents (especially mothers) were most commonly targeted, and this was seen as helping to build trust in some interventions. Two evaluations in Marcus et al.'s review included community dialogues, but these provide ambiguous evidence on their effectiveness or why they were seen as important. A number of programmes included work with men and boys, either in single-sex or mixed-sex groups, as a way to address gender norms, but overall programmes that sought to do this did not find strong effects for changing social norms and attitudes among men and boys. The lack of evidence for this approach was also noted by Keith et al. (2023), who observe that while it shows promise as an approach, there is a need for more research to explore how to engage with male partners effectively to prevent violence. Temin and Heck (2020) note that most programmes with community-based girls' clubs included activities to engage community members that theoretically have the potential to reduce barriers to behavioural change. However, details on community engagement and its influence on girl-level outcomes was rarely reported in the impact evaluations they included in their sample. In their review of efforts to address social norms, Greene et al. (2024) note that safe spaces where girls could meet and talk with peers was an approach used by several interventions, but the way that these activities were linked to broader community or social norms was often poorly described.

There was limited evidence for solely economic interventions that operated at different levels. However, based on a review of multi-component economic interventions, Stavropoulou (2018) proposes that intensive family and community mobilisation that includes parents, husbands or partners, brothers and other stakeholders can enhance intervention effectiveness because having a supportive environment can enable girls to use their newly acquired knowledge and skills.

Linkages to other support and services
Establishing linkages between specific interventions for girls' empowerment and a variety of services such as child protection, psychosocial support, justice or healthcare providers, or programmes offering

transfers of assets or cash, can improve the sustainability of interventions by embedding them within the wider infrastructure in a given context. However, there is currently limited evidence across intervention modalities for these types of linkages being created for girls. Linkages of life skills training or non-formal education programmes with support services is minimal, especially outside of healthcare, which is noted by Haberland et al. (2021) to be the main service linkage provided across all interventions to support girls' empowerment. Mortara et al. (2024) examine only one study that provided linkages to support services but does not specify whether the intervention outcomes were connected to this, or indeed, what they entailed. Marcus et al. (2017) examine five studies that included linkages to health services and find that only two of these led to positive outcomes for girls. In her review of economic empowerment interventions, Stavropoulou (2018) finds that studies did not mention linkages to other services and systems being an element of economic interventions specifically, but linkages to health services were mentioned as part of multi-component programmes. Goldstein et al.'s (2023) review of digital mHealth interventions observes that these show promise for supporting linkages between adolescents and young people living with HIV or AIDS and linkages to care, including medical services but also psychosocial support.

For girls' clubs/gender clubs, the evidence on linkages also points to sexual and reproductive health services being the primary focus of efforts to connect girls with services. Bergstrom and Özler (2021) suggest that based on the evidence, girls' clubs/gender clubs or groups may be good spaces through which to promote comprehensive sexual and reproductive health services to adolescents. Temin and Heck (2020) find that nine of the 30 programmes included in their review incorporated activities to

strengthen access to and/or quality of health services, such as health vouchers. Marcus et al. (2017) note that perceptions of low-quality services with long waiting times, and restrictions on married girls' mobility, limited the potential of interventions to promote health service use. Programmes also did not, on the whole, improve knowledge of services and support (7 out of 33 programmes which measured this outcome), and they note that only the evaluation by Rushdy (2012) included efforts to improve reporting to the justice system in cases of sexual violence. No studies reported linkages to child protection services. See however Box 2 for an example of a promising practice in a humanitarian setting.

Box 2: Multi-purpose centres for children and adolescents: a promising practice in humanitarian centres

UNICEF's Makani ('My Space') multi-purposes centres for children and adolescents affected by forced displacement in Jordan (and more recently) Lebanon are an example of promising practice to support adolescent girls' (and boys') empowerment and wellbeing. Initially set up in Jordan during the influx of Syrian refugees in 2014-2015 to provide education for Syrian refugee communities before the double shift school system was scaled up, the Makani programme has evolved over time to offer a package of services for young people from both refugee and host communities. The package includes learning support to complement adolescents' formal schooling transitions, life skills including communication, negotiation and resilience tools, awareness sessions on gender roles and attitudes, art and sports for development, financial literacy, English and computer skills classes, as well as child protection and psychosocial referrals to specialist services depending upon need. The programme is managed by UNICEF country offices but implemented through local non-governmental, community- and faith-based organisations to ensure community ownership and sustainability, and in the case of camp settings is implemented by refugees themselves. Findings from the Gender and Adolescence: Global Evidence (GAGE) study which is carrying out a longitudinal evaluation of the programme in Jordan and Lebanon suggests that the programme is providing invaluable opportunities for adolescent girls in particular to access safe spaces to interact with peers and non-family trusted adults and content on key life skills that are too often not available in the formal education system, including how to identify and report different forms of age- and gender-based violence (Banati et al., 2021).

Adult versus peer mentors

There has long been limited attention to who exactly is engaging with girls in the course of interventions, but evidence increasingly indicates that mentors and facilitators can play a key role in

girls' behaviour change through mechanisms such as role-model effects (Eger et al., 2018; Guglielmi et al., 2024). There is, however, a lack of attention in the majority of reviews as to whether mentors who are older than girls are more (or less) effective than girls' peers, because at the review and intervention level this detail is often simply not reported.

The intervention modality where there is the most attention to mentoring is in the area of life skills and non-formal education interventions. Rose-Clarke et al. (2019) examine the effects of 20 peer-facilitated programmes with reported outcomes relating to HIV and AIDS, sexual and gender-based violence, health, psychosocial wellbeing, and educational and employment marginalisation. Of these 20 interventions, 12 involved additional, non-peer-facilitated components. However, findings were mixed across intervention areas. Singla et al. (2020) find that in the 43 included evaluations of life skills interventions for improving psychosocial outcomes in their review that actually reported on who delivered the programme, the most common delivery agent was teachers (35%), followed by a health specialist or researcher (25%) and peers (20%). The majority of facilitators (70%) had a postgraduate education background (ibid.).

There is also some attention to the role of peer facilitators within individual studies on girls' clubs/gender clubs, which show a tendency for these programmes to follow an adult mentorship model. Marcus et al. (2017) observe that of the 44 programmes reviewed, 35 were delivered by a trained facilitator from the local community – usually a young woman with secondary education (10 were facilitated by teachers). Peer educators were involved in delivery in only four, but in these interventions they were working alongside teachers or adult facilitators from the community. However, Marcus et al. (2017) note that the reviews included only minimal information on facilitators' profiles, with only nine studies providing information on age, background, level of education and other basic details.

Several studies in this review of reviews note weaknesses in mentors' knowledge of particular issues, and associated concerns about the quality of training they can deliver (Marcus et al., 2017; Plourde et al., 2017; Temin and Heck, 2020). Temin and Heck (2020) similarly observe that information such as selection criteria, job descriptions and training strategies is not routinely included in reporting of interventions. Of the 30 studies included in their review, the majority recruited 'female mentors local to the community' and four recruited professionals such as teachers and programme staff. Mentors did receive specific training and ongoing support in general, but the quality or nature of this is not assessed. Among the five studies reviewed by Plourde et al. (2017) looking at girls' clubs and mentoring programmes in LMICs, three interventions involved mentors who were adult females (mothers and university students); their age or relationship to participants is not described in the other two studies.

Spillover effects
Only two reviews noted spillover effects, and observed mixed findings from individual interventions. Marcus et al. (2017) note positive outcomes on knowledge, mobility, savings behaviour and social support for girls who were the peers of female participants in four community-based girls' clubs/gender clubs, with a fifth after-school club also positively impacting upon school teachers; yet they also find that one intervention had negative effects on educational aspirations and self-efficacy of participants' peers. Stavropoulou (2018) notes positive spillover effects for girls' economic participation in the context of a single combined girls' club/gender club and financial/vocational training intervention.

Evidence for intervention outcomes across capability domains

Table 9: Overall evidence assessment for each modality and capability domain

	Health, nutrition and sexual and reproductive health	Psychosocial support	Bodily integrity	Economic empowerment	Education and learning	Voice and agency
Girls' clubs / gender clubs and safe spaces	Promising	Positive trend	Positive trend	Mixed evidence for standalone interventions	Positive trend	Positive trend
Life skills and non-formal education	Positive trend	Positive trend	Positive trend	Positive trend	Positive trend	Positive trend
Economic interventions	Insufficient evidence	Insufficient evidence	Positive trend	Promising	Promising	Insufficient evidence
Digital interventions	Positive trend	Positive trend but insufficient evidence	Little/no evidence	Little/no evidence	Little/no evidence	Little/no evidence

Health, nutrition and sexual and reproductive health
Girls' clubs/gender clubs and safe spaces show promise for girls' health outcomes, especially in improving knowledge, attitudes and practices in relation to sexual and reproductive health (Marcus et al., 2017; Temin and Heck, 2020; Haberland et al., 2021). Marcus et al. (2017) find that 31 out of 33 girls' clubs/gender clubs programmes showed changes in knowledge about sexual and reproductive health topics. Overall, the evidence for life skills training and non-formal education for health outcomes also shows a positive trend, though the evidence is not as strong as for girls' clubs/gender clubs. Haberland et al. (2021) and Meherali et al. (2021b) find evidence that life skills programmes show promise for increasing girls' knowledge about sexual and reproductive health, and that they may also help improve knowledge, attitudes and practices on pregnancy and HIV/STI prevention such as condom use. However, given the wide range of programmes that can be categorised as 'life skills', it is not clear which types of approaches to teaching about sexual and reproductive health are most effective, and whether improved health-related practices and attitudes always follow improvements in knowledge. Meherali et al. (2021b) also do not distinguish between different spaces and modalities for delivering education about sexual and reproductive health within an overall small sample, limiting the value of their findings.

Meanwhile, the evidence on economic interventions and digital interventions is more mixed. Studies looking at the link between health outcomes and economic interventions focused on four outcomes: pregnancy rates, nutrition, and sexual health and HIV/STI knowledge, attitudes and practices. There is some evidence of a positive impact of cash or asset transfers on pregnancy prevention. There is some mixed and limited evidence for HIV and AIDS knowledge and prevention as a result of economic interventions from a review that was not of strong quality (Iwelunmor et al., 2020). Perera et al. (2022) find that although livelihood programmes are associated with improved knowledge about sexually transmitted illnesses, they do not seem to be associated with changes in sexual and reproductive health behaviours and outcomes (such as contraceptive use or pregnancy). However, they note that there is some evidence for cash transfers specifically being associated with reductions in unintended pregnancies among adolescent girls and young women. Other evidence for improved sexual health

and HIV/STI knowledge was from multi-component interventions that included a financial or livelihoods component, but the relative impact was not assessed (Stavropoulou, 2018). Similarly, there was very little evidence for economic interventions as contributing to improved nutrition due to the small number of studies that measured this outcome for girls.

Five of the six reviews of digital interventions focused on improving adolescent girls' sexual and reproductive health through digital technologies such as mHealth and eHealth (Feroz et al., 2021; Meherali et al., 2021a; Goh et al., 2022; Huang et al., 2022; Goldstein et al., 2023). Both Goldstein et al. (2023) and Meherali et al. (2021a, 2021b) find that the evidence for the effectiveness of internet-based and mHealth interventions improving knowledge of sexual and reproductive health among adolescents (for Meherali (2021a), girls specifically) is mixed, though Goldstein et al. (2023) note that the high-quality evidence available does support these interventions as showing promise for improving HIV testing and service linkage. The most positive effects are in engaging girls who are at higher risk of poor sexual and reproductive health outcomes, such as adolescents with low parental education and support, with low knowledge in the first place, or who started having sex at a young age (Meherali et al., 2021a; Goldstein et al., 2023). This is echoed by Huang et al. (2022), who find that online social media and technology-based strategies like texting and internet-based information have been reported to have small but positive impacts on sexual and reproductive health knowledge, attitudes and behaviours such as condom use and STI screening; but effects appear to be short term regardless of context. However, it should be noted that only one of these reviews was rated as moderate/high in quality, and only findings from studies that reviewed the effects of interventions on specific outcomes captured within the capability domains were integrated into the digital interventions evidence matrix.

Psychosocial wellbeing
The evidence for girls' clubs/gender clubs improving psychosocial wellbeing outcomes is particularly promising, especially in expanding and improving the quality of girls' peer groups and support networks. Marcus et al. (2017) report 13 programme evaluations that found positive impacts on girls' social networks outside their family by enabling them to meet regularly with other girls. Haberland et al. (2021), however, note that none of the reviews they include quantitatively isolate the consequent effects of group solidarity or networks on girls. Temin and Heck (2020) find that girls' clubs reduce social isolation.

Similarly, the main psychosocial outcomes substantiated by the evidence on life skills training are those relating to girls' widened and improved peer and support networks, for which they appear to show promise. Indeed, Marcus et al. (2017) find that for girls, meeting in groups was found in two evaluations of multi-component interventions to be more important for changing outcomes than the actual life skills activities girls participated in. These findings are echoed by the review by Stark et al. (2022) of interventions within humanitarian settings, where improved peer support was a key outcome identified across the included evaluations. Singla et al.'s (2022) review of life skills interventions also finds that social interconnectedness with peers as well as with parents is an important dimension of mental health for young people and can be targeted by life skills interventions. The authors also note that because negative influences on psychosocial wellbeing may be gender-specific, more attention should be paid to gender in life skills curricula.

Overall, the evidence for economic interventions as a way to address psychosocial outcomes is limited. Some evidence suggests promise for economic interventions to improve girls' emotional resilience, and that livelihoods interventions specifically may improve girls' peer networks. Increased support networks and increased peer networks were noted by Stavropoulou (2018) but in terms of multi-component interventions (which often include safe spaces and group-based life skills), it is difficult to disentangle the effects of economic components from these other dimensions. Zimmerman et al.

(2021) note some limited but largely low-quality evidence for cash transfers as showing promise for some aspects of young people's psychosocial wellbeing, specifically their hope for the future and sense of self-efficacy, with these positive effects enhanced by higher amounts of cash. Perera et al. (2022) meanwhile find that both conditional and unconditional cash transfers for girls' education may reduce girls' likelihood of reporting mental health problems; and conditionality of increasing transfers linked to girls' school performance may have a negative impact on their psychosocial wellbeing due to increased pressure.

There is insufficient overall evidence for digital interventions as a way to improve psychosocial outcomes, though Goh et al. (2022) suggest that digital interventions that create virtual shared spaces may foster solidarity between adolescents going through the same issues, by way of sharing of stories,

dialogue, and engagement between peers, and thus support their emotional resilience.

Bodily integrity
A number of reviews contribute to evidence of a positive trend for economic interventions as a way to address certain aspects of bodily integrity, especially the impact of cash and asset transfers (and, to a lesser extent, vocational training) on child, forced and early marriages (Arango et al., 2014; Stavropoulou, 2018; Bergstrom and Özler, 2021; Haberland et al., 2021; Perera et al., 2022). Evidence for economic interventions, including cash transfers, financial education and livelihoods training, as a way to prevent female genital mutilation/cutting (FGM/C) and intimate partner violence also shows some impact in some contexts (Arango et al., 2014; Nkhoma et al., 2020; Perera et al., 2022), though Perera et al. (2022) note that most of the evidence does not support the association of such interventions with non-physical forms of intimate partner violence (such as emotional or financial abuse and other behaviours). There are also positive trends indicated by the evidence for girls' clubs/gender clubs as being interventions through which child marriage norms and practices can be successfully addressed and shifted. Girls' clubs/gender clubs may also help to shift girls' attitudes towards their rights in relation to bodily integrity and freedom from gendered violence (Arango et al., 2014; Marcus et al., 2017; Temin and Heck, 2020; Bergstrom and Özler 2021; Stark et al., 2022; Keith et al., 2023).

The strongest evidence for impacte of interventions addressing bodily integrity and freedom from violence is in reviews of life skills and non-formal education interventions, where similarly to the literature on girls' clubs/gender clubs and economic interventions, early/forced marriage has been a focus (Arango et al., 2014; Marcus et al., 2017; Bergstrom and Özler, 2021; Stark et al., 2022; Mortara et al., 2024). Yet while there is evidence of promise for life skills interventions in addressing attitudes on child marriage, it is not clear from the reviews whether this necessarily translates into changes in practices. Life skills programmes are also found to be promising for changing attitudes towards FGM/C and intimate partner violence, though again, evidence on whether this translates into changed practices is less clear. It is also not clear what kinds of life skills interventions or which combination of skills are the most effective for producing these outcomes.

There is insufficient evidence for digital interventions as a way to address girls' bodily integrity and freedom from violence. Philbrick et al.'s (2022) review of eHealth interventions and mHealth interventions, including applications (apps) that support users to make decisions about their safety and risk of gender-based violence in different scenarios, concludes there is insufficient evidence on the effects of these interventions for reducing violence against women and girls. They also note that while safety apps may be strategic in reducing gender-based violence by helping potential targets to manage risk, they do not necessarily address the underlying attitudes and norms fuelling such violence.

Economic empowerment

Unsurprisingly, the capability domain for which there seems to be the strongest evidence for the effectiveness of economic interventions was economic empowerment (Marcus et al., 2017; Stavropoulou, 2018; Bergstrom and Özler, 2021; Haberland et al., 2021). Evidence is promising for the potential of economic interventions (including livelihood and skills training, financial literacy and education interventions, and cash or asset transfers) to improve girls' financial literacy and savings behaviours, and increase their involvement in income-generating activities, their access to credit, and their ownership of assets. Life skills training meanwhile shows a positive trend in relation to economic outcomes, particularly for improving girls' financial literacy and savings behaviours, with Haberland et al. (2021) observing that these effects are strongest where life skills training was combined with livelihood training specifically. Girls' involvement in income-generating activities is also connected to life skills in combination with economic interventions (see 'Multi- versus single-component interventions', page 16).

There is, however, much more limited and mixed evidence on girls' clubs/gender clubs as a standalone intervention to improve economic outcomes for girls. For example, Temin and Heck (2020) find that of the programmes that reported various financial and economic outcomes, no interventions improved financial literacy, and only one increased savings amounts, but five out of six improved employment opportunities. Marcus et al. (2017) report mixed evidence regarding the effectiveness of girls' clubs/gender clubs to improve economic behaviours such as involvement in income-generating activities, savings, and accessing credit; they note that this may be because girls' clubs/gender clubs are often aimed at younger adolescent girls who are not economically active. Haberland et al. (2021) do not specify the content of girls' clubs/gender clubs interventions that led to economic empowerment outcomes, but note that pooling savings is not common in girls' clubs, and that those which include savings typically facilitate girls' own savings accounts and seek to foster a culture of savings, planning and budgeting. The evidence that does suggest a positive contribution is from interventions that used girls' clubs/gender clubs to specifically deliver forms of economic, vocational and livelihood training (see 'Multi-component versus single-component interventions' on page 16, and 'Economic interventions' on page 13).

Education and learning

There is evidence that economic interventions are promising as a way to improve girls' educational capabilities. The strongest evidence is in relation to girls' enrolment and retention in schools, particularly in relation to cash or asset transfers (Stavropoulou, 2018; Perera et al., 2022; Psaki et al., 2022; Sampa et al., 2022). There is also some promising evidence for livelihood training raising girls' educational aspirations (Stavropoulou, 2018). Some studies also find promising and positive links between cash or asset transfers and girls' continuation into higher levels of schooling, as well as their performance in school (Nkhoma et al., 2020; Perera et al., 2022; Sampa et al., 2022). Perera et al. (2022) also note that conditional cash transfers appear to have a greater effect on girls' enrolment than unconditional transfers, and that these effects are greater as girls move through adolescence.

There is some evidence that girls' clubs/gender clubs can improve learning skills and performance in school (Marcus et al., 2017; Plourde et al., 2017; Temin and Heck, 2020; Haberland et al., 2021; Psaki et al., 2022). There is also some evidence suggesting that girls' clubs/gender clubs may help to improve girls' enrolment, retention and progression through school as well as their aspirations, but more research is needed to verify under what conditions and through which components these outcomes are supported (Haberland et al., 2021). Bergstrom and Özler (2021) suggest nascent literature on classroom-based interventions for increasing aspirations and improving empowerment are promising but more (and longer-term) evidence is needed on final outcomes. Psaki et al. (2022) also note that the mixed nature of evidence indicates that safe/protected spaces alone may be insufficient to lead

to improvements in education outcomes, especially skills, without provision of additional training or economic empowerment components.

There is also some evidence that life skills training specifically can raise girls' aspirations in relation to schooling, along with some more limited evidence that life skills training can improve girls' educational retention, enrolment and progression. Marcus et al. (2017) note that school-based life skills programmes (versus after-school clubs or community-based clubs) primarily led to knowledge-related outcomes, while also contributing to girls' psychological empowerment. Based on findings from 9 out of 11 reviewed studies, Mortara et al. (2024) suggest that life skills training that enhances adolescent girls' decision-making power with respect to their education, informs them about the returns to education, and supports their ability to advocate for participation in school, may lead to improvements in educational participation.

Only one study included in the review by Meherali et al. (2021a) explored the impact of digital literacy on education outcomes. It found that adolescents from low-income backgrounds who had no internet access reported lower digital literacy as well as poorer academic performance and aspirations, and worse family and peer relationships. However, as low-income children with internet access did not show significant differences from non-low-income groups across all these dimensions, it is not possible to state that it is a lack of internet access driving such outcomes, but rather poverty.

Voice and agency
Few reviews assessed life skills interventions for voice and agency outcomes, but some evidence suggests that life skills interventions are promising for strengthening girls' decision-making about their time use and mobility (Marcus et al., 2017). There is also evidence that points to the potential of life skills training for expanding girls' civic and public participation (ibid.). There is some evidence that girls' clubs/gender clubs also improve girls' access to safe spaces, as well as strengthening their civic and community participation (Plourde et al., 2017; Noble et al., 2019). Some limited evidence also suggests that girls' clubs/gender clubs can improve girls' decision-making about their time use or mobility; for example, Haberland et al. (2021) find mixed results for participation in girls' clubs/gender clubs having an impact on girls' mobility. Only Stavropoulou (2018) reports findings on the relationship between economic interventions and voice and agency outcomes, specifically improved decision-making about time use and mobility for adolescent girls. However, these benefits accrued in the context of multi-component interventions where it was not clear which components had contributed to these outcomes.

Although there were no studies reporting on digital interventions as a way to improve voice and agency, Goh et al. (2022) find from their review of 26 studies (16 of which are in LMICs) that digital technologies create a 'safe space' where adolescents do not feel judged, as it is confidential and anonymous. In this way, they suggest that the digital world can work as a 'shield' against gatekeepers such as parents, and can allow adolescents to transgress prevailing socio-cultural norms, stigma and discrimination.

Discussion: what are the implications for future interventions?

Multi-component interventions are more effective than single-component interventions
Many of the most effective girls' clubs/gender clubs and safe spaces, life skills and non-formal education, and economic interventions detailed in the reviews were multi-component. Across the bodily integrity, health, and economic empowerment capability domains, certain combinations showed promise for improved outcomes. Combining microfinance programmes, vocational training and cash or asset transfers with gender equality and violence prevention interventions shows promise for bodily integrity outcomes. For economic outcomes, combining vocational training and business

training with internships showed promise for girls' involvement in income-generating activities, while combining multi-level life skills training and mentoring also improved girls' financial literacy, and increased their ability to save and access to assets. Combining financial education with sexual and reproductive health education specifically shows promise for improving girls' HIV knowledge. The evidence on combined interventions for girls' education outcomes is more mixed. More research is needed to address outcomes of combined interventions for girls' voice and agency and psychosocial wellbeing.

Multi-level interventions are more effective than those that just target girls
Some of the strongest quality reviews included in this review find positive evidence for multi-level interventions that engage with communities and other stakeholders, as being more effective for girls' empowerment, especially in the domain of bodily integrity and freedom from violence. Yet despite the prevalence of multi-level interventions, we find surprisingly limited and mixed evidence for their effectiveness in the evidence base as a whole. Although some reviews report on community engagement and stakeholder participation, there is overall very little reporting on how these initiatives can be linked to changes beyond the level of individual girls and to outcomes in the community – despite many of the reviews recognising the importance of addressing social norms. This perhaps reflects the overall difficulty of measuring change in community and contextual factors such as social norms, which may be affected by interventions but not result in specific measurable outcomes, or these outcomes may happen so slowly that interventions have long finished by the time they might be captured. This underlines the need for follow-up and impact assessment protocols that can capture the complexities of social change over time. Moreover, inattention to these broader factors is identified by Mortara et al. (2024) as being a problem of an individualistic conceptualisation of girls' empowerment, which inadequately considers the socio-ecological embeddedness of girls and the consequences for their capacity to capitalise on knowledge and skills developed through participating in interventions. A move towards programming that not only engages beyond the level of girls, but properly measures treatment effects, would allow for the generation of better-quality evidence on the impact of multi-level interventions.

Linkages to sexual and reproductive health are prioritised over other forms of services and supports for girls' capabilities
Across all four intervention modalities – girls' clubs/gender clubs and safe spaces, life skills and non-formal education, economic interventions and digital interventions – service and support linkages prioritise sexual and reproductive health services. None of the reviews noted linkages to justice systems, psychosocial support or child protection services. This is despite recognition in the wider literature of the multidimensional nature of girls' disempowerment, which is not just limited to an absence of sexual healthcare. Service linkages through interventions offer important enabling mechanisms for girls to claim their rights and access other kinds of support they may need as they navigate adolescence, especially as these services will continue to exist beyond the lifespan of said programmes. There is therefore a need for more research that attends to the outcomes of linkages for girls' empowerment outcomes across domains.

Content and delivery of life skills and non-formal education curricula lack adequate attention
Other than the review by Marcus et al. (2017), which bases its distinction on what was 'commonly covered' by different programmes (see Table 4), reviews generally did not provide detailed information on what individual life skills programmes included, nor did they look at clearly defined types of programmes, often reflecting the fact that such details were not provided in intervention reporting. This heterogeneity, and the lack of a clear definition, mean that it is difficult to draw comparisons between life skills and non-formal education interventions, and it is challenging to identify evidence gaps. For example, while none of the reviews reported on improved knowledge about menstruation and pubertal development, this topic may be subsumed within 'sexual and

reproductive health' more generally. Singla et al. (2020) also note that there is a lack of reporting on whether life skills curricula properly account for the gendered dimensions of poor psychosocial wellbeing, or whether young people are involved in its development and delivery. Furthermore, the quality of life skills and non-formal education interventions cannot be properly evaluated without attention to the facilitators delivering them; yet few reviews included information about who the facilitators were, what training they themselves had received, and what makes an effective facilitator.

Notable evidence gaps

The evidence on digital interventions of all kinds is limited in breadth and quality, with reviews that do present intervention research findings focusing largely on the outcomes of health and violence prevention initiatives with digital modalities. This in part reflects the relative novelty of the field. However, with growing digital uptake across LMICs and the increased salience of sources such as social media as a means for adolescents to obtain and share information, measures for capturing the impact of digital participation must be urgently explored. It is also important to better understand the relationship between digital and in-person interventions in relation to different groups of girls, desired capability outcomes and contexts.

There is inadequate analysis in the available evidence base of how certain characteristics of interventions impact on outcomes for girls. There is a dearth of evidence on spillover effects, possibly because of the size and scale of interventions and the challenge of measuring for programme impacts beyond direct participants, especially over time. However, this makes it difficult to assess what kinds of programmes can generate legacies of collective empowerment for girls throughout communities, rather than accruing any benefits just to the individual girls who participate. With regards to mentor type within non-formal or life skills interventions and girls' clubs/gender clubs, there is often little information about who the mentors are, or how they are recruited and trained; their own level of knowledge and attitudes is also not discussed, implying that they are conduits for interventions rather than individuals who may translate or relay information to participants depending on their own positionality, agenda, and alignment with dominant societal norms. There is also a major lack of research on what works to support girls' capabilities in humanitarian and conflict-affected contexts, and on the effects of linkages for girls to other services and forms of support beyond sexual and reproductive healthcare.

On the capability domains themselves, the evidence on voice and agency is also limited, despite growing interest in adolescent-led initiatives and the emphasis on 'nothing for us without us' within the global girls' empowerment agenda (Guglielmi et al., 2024. Studies looking at life skills, girls' clubs/gender clubs and economic interventions observe effects mainly for decision-making about time use and mobility, overlooking civic participation, expanded networks and related effects. Agency is frequently framed as a matter of self-efficacy, which obscures the relational and interconnected nature of girls' capacities (see the GAGE conceptual framework (GAGE consortium, 2019. Overlooking other dimensions of voice and agency also ignores the salience of adolescence as a period of progression into adulthood and participation in community life beyond the household – and the need for interventions to attend both to the gendered barriers that constrain girls from actualising citizenship rights, and the connections between voice and agency and other capability outcomes.

Relatedly, several reviews noted a nascent but growing shift towards more youth engagement in the implementation of programme activities. This can include their participation in the design of interventions, making decisions about intervention activities, providing peer facilitation and support, and monitoring impacts. Yet while there is notable evidence to suggest that participatory approaches support programme impact and can empower intended beneficiaries, these effects are not currently being conceptualised or rigorously measured as part of evaluations of interventions with girls.

Addressing this evidence gap is key to improving understanding of the mechanisms for expanding girls' capabilities.

Limitations

The review and rating of evidence was undertaken by two researchers adhering to the standards of the GRADE-CerQual protocol and included iterative ongoing discussion and review of evidence assessments throughout the process. However, it should be noted that other researchers may offer different interpretations and conclusions to those identified in this review. The review focused on interventions from the past decade and therefore publications with relevant evidence from before 2014 will have been excluded. The researchers searched for reviews between March and June 2024 using three comprehensive databases (International Bibliography of the Social Sciences, Google Scholar and PubMed) using specified search terms, so some reviews may have been unintentionally omitted through this process.

Conclusion

The purpose of this review was to assess the effectiveness of different approaches for improving outcomes for adolescent girls across six capability domains: education, health, bodily integrity, voice and agency, psychosocial wellbeing, and economic empowerment. Identifying four key intervention modalities, we also presented findings on their variations, components and features, and discussed these in relation to the evidence for improvements in six broad capability outcomes. We find promising evidence for girls' clubs/gender clubs and safe spaces as a way to improve health and psychosocial outcomes. We find promising evidence for life skills and non-formal education interventions for improving girls' psychosocial and bodily integrity outcomes. We find promising evidence for economic interventions in improving girls' economic and education outcomes. Multi-component interventions that involve a combination of life skills (especially vocational training and sexual and reproductive health education), girls' clubs/gender clubs (specifically mentoring) and economic interventions show promise for health, bodily integrity and economic outcomes.

However, this review of reviews also identifies a number of evidence gaps that are vital to address. Overall, the selected reviews were organised around very broad age categorisations (e.g. 10–24, 10–19) and thus did not properly address implications of findings in relation to meeting the specific needs of girls at different junctures of adolescence and youth. There is a need for more research into what works to improve voice and agency outcomes for girls. There remains little evidence on the outcomes of digital interventions of all types. There is a need for a stronger focus on humanitarian contexts, where the stakes are high but the evidence base remains thin. Across the evidence base, there is also a need for clearer age disaggregation when it comes to the findings of interventions, as this is currently unevenly reported, despite many reviews noting variation in the kinds of interventions and their effects according to whether they targeted younger or older adolescents. More consistent reporting on who delivers interventions, in what setting, and the connections between activities with girls and activities with other stakeholders can also contribute to a better understanding of how these design characteristics impact on girls. Given observed ambiguities in reporting, there is also a need for greater consistency and transparency regarding the definitions of intervention modalities and intervention outcomes. This is relevant across all domains, but particularly in the context of life skills and non-formal education and girls' clubs/ gender clubs, where the description and reporting of curricula, activities and outcomes is often either imprecise or absent. This will improve comparability of findings, as well as clarify with more precision which activities have the most potential for empowering girls and should therefore be scaled.

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Annex 1

Year	Title	Authors	Journal	Domain	Intervention modality/ies	Type of intervention and outcome measured	Study sample and geographic areas	Noted limitations	Comments	CerQUAL: Methodological limitations	CerQUAL: Coherence	CerQUAL: Adequacy of data	CerQUAL: Relevance of included studies	Relevance for FCDO review	Overall rating
2014	Interventions to prevent or reduce violence against women and girls: a systematic review of reviews	Arango, D., Morton, M., Genmari, F., Kipleund, S. and Ellsberg, M.	*Women's Voice and Agency Research Series, World Bank*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Violence prevention with women and girls that measured outcomes on prevention, reduction, and changing norms and attitudes.	58 reviews were selected for inclusion. Only 11% of evaluations were conducted in Africa, and 7% were conducted in the South Asia region. 2% or less of all evaluations	The main limitation in the findings is that the team relied on evidence presented in either systematic or comprehensive reviews that met the inclusion criteria for this review. Therefore, some interventions with statistically significant	The evidence from LMIC countries is very limited. There are no age-disaggregated findings so it is not possible to know what interventions are effective with adolescent girls vs older women.	Minor concerns. AMSTAR used to assess methodological quality.	Minor concerns - the findings are descriptive and cautious.	No/minor concerns - 58 comprehensive and systematic reviews were included for GRADE assessment. Limited evidence from LMICs.	Moderate concerns. High quality evidence found for multi-component approaches involving multiple stakeholders. Exclusion of qual studies, dated findings, no age-disaggregated findings (study looked at girls and women in totality).	Minor concerns. Review finds that successful interventions were those which engaged with multiple stakeholders over time and took multi-pronged approa	Moderate/high confidence

						were conducted in the Latin America and Caribbean region, the MENA region, or the East Asia and Pacific region.	positive results may have been left out because they were not included in a systematic or comprehensive review. There was no meta-analysis as this was beyond the scope of the review. Recently published articles were possibly excluded. Only English language reviews were included.	The review is now dated. The main relevant finding is that successful interventions were those which engaged with multiple stakeholders over time and took multi-pronged approaches addressing different risk factors and drivers of violence.					ches addressing different risk factors and drivers of violence.	

| 2016 | Does addressing gender inequalities and empowering women and girls improve health and development programme outcomes? | Taukobong, H. F. G., Kincaid, M. M., Levy, J. K., Bloom, S. S., Platt, J. L., Henry, S. K., and Darmstadt, G. L. | *Health Policy and Planning* | Multiple capabilities | Economic interventions | Different types of interventions which measured gender equality and empowerment as an outcome | 76 studies on LMICs were included. Some studies included multiple countries and others focused on just one, however the majority looked at interventions in sub-Saharan Africa. | Limitations are not given much attention in this article. The authors do note that the nature of programming, level of investment and opportunities for leveraging vary substantially between the groups of levers: support for 'wedges' is greatest, whereas evidence for 'facilitators' is much more limited and context-specific. The evidence base is | The review's purpose is to present rather than examine evidence on the link between gender equality and girls' empowerment and health and development outcomes. It was also funded by the Bill and Melinda Gates Foundation. It is a literature review rather than a systema | Major concerns. Literature review rather than systematic or other type of review, so quality of evidence was not assessed. | Moderate concerns. Findings are based on associational rather than causal outcomes. | Moderate concerns. Notable geographic evidence gaps for certain types of associations (eg studies on interpersonal relationships as a factor in nutrition outcomes had only been undertaken in South Asia). | Moderate concerns. There is limited evidence for certain types of intervention and outcomes in the reviewed literature. | Moderate concerns. None of the findings were disaggregated by age, so it is not possible to know whether certain 'levers' are more impactful for different age groups. | Low confidence |

								strongest for the effects of female education on a variety of outcomes, but evidence about interventions and health and development outcomes beyond this is largely based on association rather than causality. There also is a lack of evidence on the causal pathways by which interventions produce sector outcomes.	tic review. The quality of evidence was not assessed, and in many cases causal relationships were not claimed in the literature (but were identified by the authors of the review as nonetheless significant associational factors). Because none of the findings were						

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studies on interpersonal relationships as a factor in nutrition outcomes had only been undertaken in South Asia). The organisation of the different 'levers' reflects elements of the GAGE conceptual framework in regard to individual capacities (wedges),

									interpersonal and collective enablers (foundations) and change strategies (facilitators).					
2017	Mentoring Interventions and the Impact of Protective Assets on the Reproductive Health of Adolescent Girls and Young	Plourde, K., Ippoliti, N. B., Nanda, G. and McCarraher, D. R.	*Journal of Adolescent Health*	Health and sexual and reproductive health	Girls'/gender clubs and safe spaces	Mentoring interventions that sought to address health outcomes and/or knowledge, attitudes, and behaviours.	19 articles were included in the review. Only five studies focused on programmes in LMICs (Burkina Faso, Egypt, and South	None of the studies examining the impact of programmes with multiple components sought to identify the relative impact of each individual intervention component. It is	The number of studies in LMICs is very small, and the geographic breadth of this is limited to just three African countries. There is also no	Moderate concerns. The authors' definition of mentoring obscures how diverse mentoring can be or the related consequences. No studies	Moderate concerns. Findings draw on evidence from across HICs and LMICs without differentiation.	Major concerns. Only five studies focused on programmes in LMICs (Burkina Faso, Egypt, and South Africa).	Major concerns. None of the examined studies sought to identify the relative impact of individual intervention components so the review was not able to do this either.	Moderate concerns. No disaggregation by age – 10-29 is a large age range and there may be differences in which combinations	Low confidence

	Women						Africa) with none in East Asia and the Pacific, South Asia, or Latin America and the Caribbean.	therefore difficult to know what the impact of mentoring itself is within these programmes. Longer term studies are needed to understand the evidence base. Despite SRH outcomes being typically poorer for gay, lesbian, bisexual, or transgender youth, none of the interventions identified explicitly targeted LGBT youth nor did they	disaggregation by age – 10-29 is a large age range and there may be differences in which combinations of interventions or types of mentoring are effective at different ages. The description of mentoring used also obscures how diverse mentoring can be and the consequences of this: it	were excluded based methodological quality (quality was not assessed in the review at all).				of interventions or types of mentoring are effective at different ages.	

| | disaggrega te results based on sexual orientatio n or gender identity. Some more recent and emerging studies were not included because of the timeline of the review. | may be other young people, older peers, adults, and people in differen t social relation ships with mentee s, and all of these will have differen t characte r. There is also no attentio n to longer- term changes once the mentors hip relation ship conclud es or | | | | | | | |

2017	State of the Evidence: A Systematic Review of Approaches to Reduce Gender-Based Violence and Support the Empowerment of Adolescent Girls in	Noble, E., Ward, L., French, S. and Falb, K.	*Trauma, Violence and Abuse*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces	Programming in humanitarian settings that addressed girls' empowerment, agency, choice, violence reduction, psychosocial health, delayed marriage, risky sexual behaviour reduction, or delayed	3 pre- and post-intervention evaluations were included in the review, all undertaken in sub-Saharan Africa.	The main limitation is the small number of studies available.	changes. There was no measurement of outcomes in relation to certain issues eg psychosocial health, delayed marriage, childbearing or risky sexual behaviour. Only	Moderate concerns - small number of studies (3) available. All used nonexperimental designs. Rigorous evidence is lacking to understand best practices.	Minor concerns - findings are appropriately cautious given the limited evidence base, and focus on future areas for study.	Major concerns - 3 implementation evaluation studies were included for PRISMA review.	Moderate concerns. Studies selected are appropriate, but the most recent is now 10 years old.	Moderate concerns. There was no measurement of outcomes in relation to certain issues eg psychosocial health, delayed marriage, childbe	Low confidence

	Humani tarian Setting s					childbeari ng.			quant studies with evaluati on were included .					aring or risky sexual behaviour.	
2017	Preventing gender-based violence victimization in adolescent girls in lower-income countries: Systematic review of reviews	Yount, K. M., Krause, K. H. and Miedema, S. H.	*Social Science & Medicine*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces	Interventions to address VAWG (child abuse, FGM/C, child marriage, intimate partner violence, and sexual violence), measuring changes in these forms of violence.	18 high quality studies of were selected from 35 eligible reviews. This was supplemented with a review of intervention studies (n34 studies describing 28 interventions). 16 studies took place in sub-	A meta-analysis of the findings from extracted intervention studies was not possible. Studies also did not include male perpetrators of violence but focused solely on girls and young women.	Studies only needed to include girls and young women whose ages overlapped with the 10-24 range. There was no disaggregation of evidence on what works with different age groups within this	Minor concerns. AMSTAR and PRISMA used to assess methodological quality.	Minor concerns. Findings organised around different factes of interventions.	Minor concerns - 18 high quality studies selected for AMSTAR/PRISMA assessment.	Minor concerns. Studies did not include male perpetrators of violence but focused solely on girls and young women.	Moderate concerns. No disaggregation of what works with different age groups (no specific focus on adolescent girls as authors focused on 10-24 age range).	High confidence

							Saharan Africa, 8 in South Asia, two in East Asia, and one each in North Africa and Latin America.			bracket in the included reviews.					
2017	Girls' clubs, life skills programmes and girls' well-being outcomes	Marcus, R., Gupta-Archer, N., Darcy, M. and Page, E.	*GAGE*	Multiple capabilities	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Impact of girls club programmes providing life skills education on social and psychosocial environment, changes in knowledge, changes in access to and use of services, economic empower	44 interventions reviewed by 63 studies in LMICs which targeted adolescent girls	Lack of insights from South-East Asia, East Asia and the Pacific, and Latin America; there is also a total absence of materials from conflict-affected contexts. The evolution of the methodolo	Relevant study with comprehensive evidence on girls' clubs from a range of sources. Many identified issues and directions for future research remain	Minor concerns. Rigorous review that included all types of studies showing the impact of an intervention or policy. However, confidence in findings	Minor concerns. The evidence presented for each outcome is detailed and refers specifically to the studies which contribute to the evidence base.	Minor concerns. There were 44 interventions evaluated by 63 studies, most of which (60% were RCTs). Majority of the remainder were quasiexperimental evaluati	Minor concerns. Results are specific to adolescent girls in LMICs. Studies all include girls club components and there is detail provided on the nature of these activities.	Minor concerns. Review is directly relevant but this is a geographic bias to studies included.	High confidence

Year	Title	Authors	Journal	Capability	Intervention	Outcome	Sample								
						ment, attitudes and practices		gy (moving from a method that favours quantitative studies to one which included a wider range of qualitative studies) may have led to the exclusion of some relevant studies.	pertinent.	is not reported /assessed.		ons. Results are specific to adolescent girls in LMICs.			
2018	A Systematic Review of Adolescent Girl Program Implementation in Low- and Middle-Income Countries: Evidence Gaps	Haberland, N. A., McCarthy, K. J. and Brady, M.	*Journal of Adolescent Health*	Multiple capabilities	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Health, social and economic interventions, measuring changes in knowledge, attitudes, behaviour, and/or status	77 studies. 70% in sub-Saharan Africa or South Asia; around 15% were in Latin American or the Caribbean; fewer than	There was a heavy skew towards programmes in sub-Saharan Africa and South Asia. The review was also limited by the small number of studies which provided sufficient detail to address	the authors only selected publications that included quantitative reporting, excluding qualitative studies. Studies were only included	Minor concerns. Quality of studies was assessed though the authors did not use a specific systematic review tool.	Minor concerns. Authors assess quality of studies in their analysis and presentation of findings.	Minor.concerns - 77 studies included for review, review focused on implementation science questions with included studies used to address these.	Minor concerns. Study is now relatively outdated.	Moderate concerns. Study looked at differences in multi vs single component interventions with a focus on girls. However no	High confidence

	and Insights					10% were undertaken in the Middle East or North Africa, Central Asia, East Asia and the Pacific.	the research questions. Girl-centred interventions were assessed, but the authors did not look specifically for programmes addressing subfields such as mental health or nutrition.	up to 2014, meaning the scope of this review is now dated. They also did not disaggregate findings by age, despite the age range selected (10-24) being extremely broad - meaning that it is not possible to identify whether certain interventions are more effective with particul			However only a small number of studies provided sufficient detail to address the research questions.		age disaggregation (10-24 range) and scope of review outdated (only studies up to 2014 included).	

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									ar age groups (eg younger adolesc ents, older youth). As it focuses primaril y on the effectiv eness of differen t modes of implem entation , it also does not differen tiate as to whether certain types of approac hes are more effectiv e for addressi ng certain issues.						

| 2018 | Interventions promoting adolescent girls' economic capabilities: what works? A rapid evidence review | Stavropoulou, M. | *ODI* | Economic empowerment | Economic interventions | Financial education, skills training and integrated interventions with outcomes for girls' empowerment across all capability areas | 74 relevant studies were included. Most of the interventions were implemented in sub-Saharan Africa, followed by South Asia. Three were implemented in North Africa and one each in East Asia, Southeast Asia and the Pacific | Because this was a rapid review, the quality of studies was not assessed. Some other relevant studies may have also been discarded because inclusion and exclusion decisions were made by a single researcher. | Other than the rapid rather than systematic nature of the review, its key limitation is it is now dated. | Moderate concerns. Some studies included had a thin evidence base and quality was not assessed. | No concerns - findings reflect complexity and nuance of the data presented. | No/minor concerns - 74 studies included and authors identify a number of specific programme components that play a critical role in supporting girls' economic participation. | Minor concerns. Study is now relatively outdated. | No/minor concerns. Very relevant as uses capabilities lens. | Moderate/high confidence |

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| 2019 | Positive youth development programs in low- and middle-income countries: A conceptual framework and systematic review of efficacy. | Catalano, R. F., Skinner, M. L., Alvarado, G., Kapungu, C., Reavley, N., Patton, G. C., and Petroni, S. | *Journal of Adolescent Health* | Multiple capabilities | Non-formal education and life skills | Positive youth development programmes and their impact on adolescent behaviours (substance use, risky sex, developmental outcomes, employment, health) | Systematic review of 35 evaluations of PYD-related interventions. To be initially included, a program had to address more than one PYD construct or address one PYD construct across multiple socialization domains (e.g., home, school, and peers) | The search terms used to identify different PYD constructs were many and varied. As a result of this intentionally broad scope, a large number of titles were retrieved and screened. The number and complexity of search terms may have resulted in missing some relevant studies. Nonsignificant results were reported along with significant ones, but it is possible | The range of outcomes covered include mediators of positive youth development as well as actual behaviours, making it challenging to interpret findings in relation to the conceptual framework of the GAGE review. The discussion is not very detailed and does | Minor concerns. The rigour of studies was assessed and only those meeting 6 of the 8 criteria for the Checklist for Blueprint Program Evaluation Criteria were included in the review. | Minor concerns. The authors recognise that the constructs used to organise findings were theirs and not study authors', but they use a clearly defined rationale for selection. | Moderate concerns. Whilst there are a number of studies across a range of constructs, the sheer number of constructs means that there is limited adequate evidence for each once the evaluations were cut down to 35 deemed rigorous. However in general the | Minor concerns. Studies are on young people aged 10-29 in LMICs which use PYD constructs but do not have to specify this in their design. | Moderate concerns. Studies include a wider age range than adolescents, and do not disaggregate findings for gender or age groups. | Moderate/high confidence |

						in LMICs. These constructs were then placed into one of four domains: assets, agency, contribution, and enabling environments. Then, only those with an experimental design component were included in the final assessment.	that some intended effects were found to be nonsignificant but not reported, eading to an overly positive impression of the program.	not discuss context differences and how these might affect programme success. The recommendations about gender/ girls are quite vague. Majority of evaluations are of interventions in school settings but this is not discussed.			evidence seem adequate for the cautious claims made regarding outcomes of programmes, though the authors some outcomes may be overstated due to reporting within studies included.			

| 2019 | Peer-facilitated community-based interventions for adolescent health in low- and middle-income countries: A systematic review. | Rose-Clarke, K., Bentley, A., Marston, C., and Prost, A. | *PLOS ONE* | Health and sexual and reproductive health | Non-formal education and life skills | Effects of peer-facilitated community interventions for adolescent health in LMICs: key areas were infectious and vaccine preventable diseases, undernutrition, HIV and AIDS, sexual and reproductive health, unintentional injuries, violence, physical disorders, mental disorders and substance use | 43 articles on 20 studies, all RCTs, conducted in LMICs with adolescents aged 10-19 years (median) and with facilitators who were aged 10-24 years (median). | The diversity of interventions and outcomes precluded meta-analysis. It also meant it was not possible to know whether it was facilitator characteristics that might explain results in some areas. Publication bias was not assessed. Several trials only included the outcomes of interest to the authors as secondary indicators. | This review focuses on interventions with peer facilitation elements, making it a useful and distinctive contribution for understanding whether this type of delivery is effective for improving adolescent health outcomes, hence its inclusion here. | Minor concerns. The authors did not assess publication bias but only included RCTs. However they do highlight that study quality was variable and only 3 studies were clearly at low risk of bias - most did not report on methods. | Modeate concerns. The review focuses on outcomes which are often reported secondarily within study findings rather than being the purpose of the study. However, the reporting is clear and does acknowledge this challenge in the interpretation of findings. | Minor concerns. 20 studies were included and the evidence for different findings is critically assessed. | Minor concerns. Studies all included adolescents in LMICs. The only issue is that the authors do not make it consistently clear what countries are focused on within individual studies, so at times the findings appear not well contextualised. | Uniquely relevant for insights into the evidence on peer facilitators in relation to adolescents. No gender disaggregation of findings. | High confidence |

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	Year	Title	Authors	Journal												
									The info on schooling settings vs OOS settings is also useful. However it points to the need for more quality studies.							
	2020	Girls' Empowerment and Adolescent Pregnancy: A Systematic Review	Nkhoma, D. E., Lin, C.-P., Katengeza, H. L., Soko, C. J., Estinfort, W., Wang Y.-C., Juan, S.-W., Jian, W.-S. and Iqbal, U.	*International Journal of Environmental Research and Public Health*	Health and sexual and reproductive health	Economic interventions	Girls' empowerment interventions and their impact on adolescent pregnancy.	9 studies met the inclusion criteria. Only 5 focused on LMICs (Nepal, Nigeria, Kenya, Brazil, Tanzania and Malawi)	Only three of the nine studies were assessed as being high quality. Most of the studies were medium or low quality. Most of the evidence is from non-experimental studies. No grey literature which	This is a low-quality review. Inclusion criteria were not fully defined with no specified topics or themes. Only five of the nine included studies were undertaken in	Moderate concerns. PRISMA and other tools used for different studies. Inclusion criteria for the review were poorly defined.	Major concerns. Findings are vague with authors suggesting that empowering adolescent girls 'may' reduce adolescent pregnancy but providing limited evidence.	Major concerns. 9 studies included. Only three of the nine studies were assessed as being high quality. Only five of the nine included studies were undertaken in LMICs.	Major concerns. Lack of overall detail - summaries of some of the studies do not even describe specific interventions. Summaries of evidence are very brief and descriptive with no analysis or critical discussion of approaches, methods or findings, and often very little detail. No real analysis or discussion of	Major concerns due to lack of detail/nuance.	Low confidence

| | | | | | | | reports empowerment programming was included. The small sample size reduces the strength of evidence gathered. | LMICs. There is no discussion of the mechanisms by which interventions achieved outcomes. The summaries of evidence are very brief and descriptive with no analysis or critical discussion of approaches, methods or findings, and often very little detail | | | | the mechanisms by which interventions achieved outcomes. | | |

(eg the study of Brazil is simply described as showing that social norms influence adolescent pregnancy). Some studies do not even describe specific interventions.

| 2020 | Is it time to RE-AIM? A systematic review of economic empowerment as HIV prevention intervention for adolescent girls and young women in sub-Saharan Africa using the RE-AIM framework | Iwelunmor, J., Nwaozuru, U., Obiezu-Umeh, C., Uzoaru, F., Ehiri, J., Curley, J., Ezechi, O., Airhihenbuwa, C. and Ssewamala, F. | *Implementation Science Communications* | Health and sexual and reproductive health | Economic interventions | Economic empowerment HIV prevention interventions and implementation outcomes of reach, efficacy/effectiveness, adoption, implementation, and maintenance. | 45 articles were included in the review, looking at 25 unique interventions in sub-Saharan Africa. | The authors' conclusions are based on the degree to which the included studies reported on specific RE-AIM dimensions, rather than what may be been included in the intervention but were not included in the final study. The risk of bias assessment tool used in assessing study quality is limited in appraising mixed and qualitative study designs, with the | The findings focus on implementation fidelity rather than effectiveness or impact of the interventions studied. Whilst the authors claim that the RE-AIM assessment shows that economic empowerment interventions provide adolescent girls with skills to reduce their risk of HIV, | No/minor concerns. Findings focus on implementation fidelity using a specific data extraction tool developed for the intervention. | Minor/no concerns. Studies are evaluated for implementation fidelity and findings are specific and clear. | Minor/no concerns. 45 studies looking at 25 interventions were included for fidelity assessment. | Minor concerns. All studies used the RE-AIM framework. | Moderate concerns. Findings focus on implementation fidelity rather than effectiveness or impact of the interventions studied. Whilst the authors claim that the RE-AIM assessment shows that economic empowerment interventions provide adolesc | Moderate/high confidence |

| | | | | | | | only qualitative study in the review being dismissed as highly biased. | there is thus no analysis of the reported outcomes which are merely re-reported in the description of implementation within the context of the RE-AIM framework. However, there is also no discussion of what enabled implementation fidelity; this makes the review limited | | | | | ent girls with skills to reduce their risk of HIV, there is thus no analysis of the reported outcomes which are merely re-reported in the description of implementation within the context of the RE-AIM framework. The only qualitative study include | |

	Year	Title	Authors	Journal												
									in usefulness for understanding either which components of the implementation worked, or why they worked.						d was dismissed as highly biased.	
	2021	Interventions for Keeping Adolescent Girls in School in Low- and Middle-Income Countries: A	Sampa, M., Musukuma, M., Fisa, R., Musonda, P. and Young, P.	*Frontiers in Education*	Education	Economic interventions	Interventions for keeping girls in school, measured by effectiveness in school continuation of girls	18 studies were included in the scoping review. 14 were conducted in sub-Saharan Africa and 4 in South	The authors note that the review may have missed some relevant studies and thus relevant sources of information may be omitted. Grey	The discussion of studies is very weak with no synthesis or analysis of the review findings at all. Only the impact	Moderate concerns. This was a scoping review so all relevant studies were included regardless of design.	Major concerns. There is no analysis of study data.	Moderate concerns. 18 studies were included including a range study types. No quality assessment was	Minor concerns. Studies included are directly related to the research objectives of investigating what works to keep girls in school.	Minor concerns. All studies focus on 10-19 year olds in LMICs, though 14 focused on SSA.	Low confidence

	Scoping Review						Asia. Studies without gender-disaggregated results, and studies which included participants outside of the age range of 10-19, were excluded.	literature was excluded from the search. No rating of the quality of evidence was provided.	of funding incentive interventions is discussed. The number of studies included is low and with narrow geographic scope.			undertaken.			

2020	Close to Home: Evidence on the Impact of Community-Based Girl Groups	Temin, M. and Heck, C.	*Global Health: Science and Practice*	Multiple capabilities	Girls'/gender clubs and safe spaces	The effect of community-based girls groups on girls' health beliefs and attitudes; gender attitudes and beliefs; education-related effects; psychosocial outcomes; knowledge of gender and health topics; and economic and financial outcomes.	30 programs were analysed. 60% took place in Africa and 30% in South/Southeast Asia.	The limited evidence and the lack of comparability between studies make these results preliminary. Too few multicomponent studies compared different combinations of interventions and content to enable a detailed assessment of attribution.	The review mentions complementary activities in the abstract and conclusions but does not actually discuss these much in the article itself, only to note that complementary activities to increase health service access were not actually effective half of the time. The	Minor concerns. The review was non-systematic but focused on RCTS and quasi-experimental studies.	Moderate concerns. Complementary activities mentioned in the abstract and conclusions but not substantively discussed beyond a note that complementary activities to increase health service access were not actually effective half of the time. The authors also note they could not assess the effect of group-level changes resulting from community engagement activities which may have influenced girl-level effects.	Minor/moderate concerns. 30 interventions were assessed but comparability was difficult due to heterogeneity of interventions and components.	Minor concerns. All studies looked at community-based girls groups but the place of these in interventions varied significantly (eg standalone vs part of wider interventions with different arms).	Minor concerns. Age-based disaggregation is missing.	Moderate/high confidence

								authors also note they could not assess the effect of group-level changes resulting from community engagement activities which may have influenced girl-level effects.						

| 2021 | Does Digital Literacy Empower Adolescent Girls in Low- and Middle-Income Countries: A Systematic Review | Meherali, S, Rahim, K. A., Campbell, S. and Lassi, Z. S. | *Frontiers in Public Health* | Multiple capabilities | Digital interventions | Impact of digital literacy interventions on girls's sexual and reproductive health and rights empowerment, health information and decision making, and social and educational empowerment. | 35 articles were included. 12 interventions were undertaken in Asia, 5 in Central and South America, 1 in the Middle East, and 20 in sub-Saharan Africa. (Some studies included multiple countries.) | The majority of the included studies were based on cross-sectional/observational study designs and cannot say anything about the long-term impact or effectiveness of digital literacy on empowering adolescent girls in LMICs. Intervention studies were heterogenous in terms of intervention used and outcomes reported and so no meta-analysis of | Studies were not excluded based on assessment of quality, as the purpose of the review was to examine and gain insight into the existing research in this field. Whilst this is helpful for assessing the extent of the knowledge base it also means that it is not possible to know from the | Moderate concerns. The review is comprehensive and includes different types of studies and evaluations, but whilst quality was assessed and many were found to be low quality, all were still included in the final analysis. | Major concerns. The review contains uneven information and detail about studies, with more in depth description of some studies and interventions than others with no rationale given. Despite one of the stated aims of the review being to identify and evaluate the effectiveness of digital literacy interventions employed to empower adolescent girls in LMICs, the authors do not in the end comment on what works in terms of different interventions. | Moderate concerns. 35 articles were included but studies were not excluded based on assessment scores as the purpose was to examine and gain insight into the existing research in this field. | Minor concerns. Studies all included digital components linked to different forms of empowerment of girls. | Minor concerns. Age based disaggregation is missing and the review does not indicate what works based on the evidence. | Low confidence |

								data could be performed .	review what kinds of interven tions were effectiv e or why. This is also despite one of the stated aims of the review being to identify and evaluate the effectiv eness of digital literacy interven tions employe d to empow er adolesc ent girls in LMICs. The review also					

								contains uneven information and detail about studies, with more in depth description of some studies and interventions than others.							
2021	Adolescent girls' and young women's economic empowerment programs: Emerging insights from a	Haberland, N., de Hoop, T., Desai, S., Engebretsen, S., and Ngo, T.	*Evidence Consortium on Women's Groups Working Papers*	Economic empowerment	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Interventions (especially group-based interventions) with an economic or livelihood component an the impact on economic outcomes, empower	17 reviews of reviews were included. Because these were reviews, no information on geographic scope	The review of reviews was not systematic and may have missed/excluded some reviews unintentionally. Reviews included rest on a thin and uneven	This review of reviews is a useful starting point for understanding the breadth and scope of studies looking	Minor concerns. All reported limitations were considered in the assessment of evidence.	Moderate concerns - nuances of different reviews may be lost or subsumed within generalisable findings.	No/minor concerns. There was not enough evidence to classify any of the examined interventions as clearly effective	Moderate concerns. Exclusion of qual studies, thin evidence base for some reviews etc, but this is addressed in findings.		Moderate/high confidence

| | review of reviews | | | | | ment outcomes, or other developmental impact measures. | was provided. | evidence base, with some studies included in multiple reviews and others appearing only in one or two. The magnitude of effect and sample sizes was not considered when assessing the reviews. No reviews looked at what works better for younger versus older girls/young women, for rural versus urban girls, or for more marginalized | at economic empowerment for women and girls, but the lack of age-disaggregated findings is a central problem. The exclusion of qualitative studies from the reviews which were included means that there is also limited evidence on dimensions of outcome | | | , but many could be classified as promising. | | | |

| | populations. No reviews assessed the added benefit of working at multiple levels of systems. | measurement, such as change pathways. It is not possible to properly pay attention to contextual differences in a review of reviews such as this, but this is an important element in understanding what works. The high-level analysis of the review also means | | | | | |

| 2021 | Improving the Well-Being of Adolescent Girls in Developing Countries | Bergstrom, K. and Özler, B. | *World Bank Policy Research Working Papers* | Multiple capabilities | Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills | Interventions to address supply or demand side constraints on girls' empowerment, and their effects on educational attainment, delayed marriage and delayed childbearing. | 104 interventions from 70 studies were included (11 interventions were from 7 HICs and the rest from LMICs, not disaggregated). | The authors note that these suggested policy strategies are based on which interventions have been the most successful in altering a short-term outcome. They also note that many of the interventions we review in | Multifaceted interventions were placed by the authors in the category which they felt it fitted best, so the nuance of multicomponent interventions and which compon | Major concerns. Narrative literature review format with no transparent quality assessment process - interventions are classed as effective on the basis of numbers of intervent | Minor/moderate concerns. Whilst the authors recognise some limitations to their findings, others are overlooked. Multifaceted interventions were placed by the authors in the category which they felt it fitted best, so the nuance of multicomponent interventions and which components were effective | Moderate concerns. There were 104 studies included and results from LMICs and HICs were not disaggregated. Data focuses on short-term impacts and does not | Minor concerns. Authors include all studies that examine interventions that might have reasonably affected any of the three outcomes of interest among adolescent girls, but regardless of whether they explicitly sought to improve those outcomes. | Moderate concerns. Many of the interventions were not offered at scale or were not scalable and this was not assessed in the decision to include. | Moderate/high confidence |

(Continuation from previous row, above the 2021 row: "that the nuances of different reviews may be lost or subsumed within generalisable findings.")

								the literature are not offered at scale and therefore their ability to extrapolate whether a successful intervention will remain successful when offered at scale is limited.	ents were effective in achieving the described impacts was almost completely lost.	ions and authors own expertise.	in achieving the described impacts was almost completely lost.	consider scale.				
2021	Using mobile phones to improve young people sexual and reproductive health in low and middle-income countries: a system	Feroz, A., Ali, N A., Khoja, A., Asad, A. & Saleem, S.	*Reproductive Health*	Health, nutrition and sexual and reproductive health	Digital interventions	Use of mHealth solutions for improving young people's SRH	15 studies on different mHealth interventions.	Overall, most studies included in this review were of moderate quality, indicating the significance of increasing the methodological rigor of future research. The heterogen	Seeks to highlight potential barriers and facilitators for the uptake of mHealth interventions for young people SRH in LMICs. Its main	Minor concerns. Mixed Methods Appraisal Tool (MMAT) was utilized for assessing quality of studies.	Minor concerns. Studies were of moderate quality and assessed against clear criteria.	Moderate concerns. Only 15 studies fit with the definitions used of three types of interventions.	Minor concerns. Focus on 10-24 year olds in LMICs and their use of SRH digital interventions.	Moderate concerns. Lack of gender/age disaggregation makes it difficult to know how to use findings for understanding	Moderate confidence

atic review to identify barriers, facilitators, and range of mHealth solutions						eity of the interventions and outcomes measures restricted the interpretation through meta–analyses. It was hard to know in multifaceted interventions which aspects were comtribtuing to outcomes.	limitation is the lack of attention to gender, making it difficult to identify specific implications for adolescent girls.					what works for adolescent girls in LMICs.	

| 2021 | The impact of cash transfers on mental health in children and young people in low-income and middle-income countries: a systematic review and meta-analysis. | Zimmerman, A., Garman, E., Avendano-Pabon, M., Araya, R., Evans-Lacko, S., McDaid, D., and Lund, C. | *BMJ Global Health* | Psychosocial wellbeing | Economic interventions | Cash transfer interventions and mental health outcomes in children and young people below the age of 25 years as part of specific poverty reduction interventions. | 12 articles on 13 different interventions in nine LMICs. Countries were mostly in Central and Latin America (Ecuador, Niagarua, Mexico) and Africa (Uganda, Kenya, Malawi, Liberia, South Africa), and one in Cambodia. 8 papers focused on adolesc | For most mental health outcomes, a narrative synthesis was performed as less than four studies measured the same mental health outcome. It was challenging to assess differences across studies of a small number, hence meta-analyses could not be carried out for specific mental health oucomes other than depressive symptoms. The financial poverty | The review assesses evidence for an underresearched capability domain (PSS). It includes various measures of psychosocial outcomes. However the small number of included studies make it difficult to reach conclusions that are definitive and meant that only a narrative | Minor concerns. Methods are clearly documented. The narrative synthesis is appropriate for the number of studies looking at specific outcomes. Studies were only included if they provided a direct comparison of mental health outcomes for treatment and control groups | Moderate concerns. Studies were selected from very broad criteria (perhaps to address dearth of studies). There is only limited detail on study findings. The purpose of the cash transfers (in relation to whether they were intended to address mental health) is not clearly explained. | Moderate concerns. Only 12 studies on 13 interventions were included, requiring a narrative syntehsis be performed. Only 7 studies included in the meta-analysis. Studies were overall judged as having moderately high bias. | Moderate concerns. There is no distinction made between findings on the impact of cash transfers for much younger children and older adolescents, nor is data gender-disaggregated. | Moderate concerns. Lack of gender and age disaggregation of findings is a concern but there is overall a lack of data in this area so it is an important study to include. | Moderate confidence |

| | | | | | | ents and young adults aged 11–22 years. 7 studies included in a meta-analysis. | reduction schemes assessed in this review may also be heterogeneous in their focus on different aspects of poverty and target beneficiaries. | syntehsis could be performed. The meta-analysis was also limited by small numbers. Evidence quality could not be assessed. Most studies looked at depressive symptoms and anxiety rather than self-esteem or confidence, so it is difficult to emplace this within the | or pre-intervention and post intervention outcomes. | | | | | |

Year	Title	Author		Focus	Intervention	Aim	Method								Confidence
									GAGE conceptual framework.						
2021	Interventions and strategies to improve sexual and reproductive health outcomes among adolescents living in low- and middle-income	Meherali, S., Rehmani, M., Ali, S., & Lassi, Z. S.	*Adolescents*	Health and sexual and reproductive health	Non-formal education and life skills; girls'/gender clubs and safe spaces; economic interventions; digital interventions	Assessing the effectiveness of community and school-based interventions for improving the SRH of adolescents in LMICs. Primary outcomes of interest were unintended pregnanci	Systematic review of studies. 54 articles: 12 were quasi-RCTs and 42 were RCTs. Three studies were entirely conducted on young people	Many of the evidence came from single studies. Heterogeneity was higher for most of outcomes that suggested more robust trials be conducted to overcome these. In addition, many	Overall not very descriptive and detailed about studies or findings. Included studies published from 1990 onwards but with no attention to how contexts have	Major concerns. Studies were not excluded based on assessment scores as the purpose was to examine and gain insight into the rigor of existing research - which means that	Moderate concerns. It is not possible to easily understand the evidence being presented for particular interventions as the authors only intermittently report confidence ratios and study numbers in relation to findings.	Major concerns. Studies dated from 1990 with no attention to shifting contexts over time, or indeed whether findings are context-specific at all. Claims	Minor concerns. Studies focus on adolescents and youth, in LMICs, but from a long timeframe (since 1990).	Major concerns. Findings are not disaggregated for differences between the two age groups. No attention to gender differen	Low confidence

| countries: a systematic review and meta-analysis. | | | | | es, rate of abortion, use of family planning methods, teenage pregnancy, repeated teenage pregnancy, the incidence of STI/HIV, and rates of unprotected sex | aged 10–24 (n = 5929), whereas the remaining 51 studies were conducted either with adolescents aged 10–19 (n = 69,553) or youth aged 15–24 (n = 19,348). 38 studies were conducted in Africa, 9 in Asia, 7 in the Caribbean. | studies failed to use allocation concealment, blinding, and randomization to optimize their outcomes. Hence, most were rated as low or moderate in methodological quality. | shifted over time. The exclusion of lower quality studies on the basis of methodology means that there may be some relevant findings excluded. | some lower quality studies were included and there was no examination of this when making claims about evidence for certain outcomes and interventions. | | made based on single studies with no interrogation of the evidence base. | | ces either. | |

| 2022 | Policies and interventions to remove gender-related barriers to girls' school participation and learning in low- and middle-income countries: A systematic review of the evidence | Psaki, S., Haberland, N., Mensch,B., Woyczynski, L and Chuang, E. | *Campbell Systematic Reviews* | Education | Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills | Interventions to remove gender barriers and their outcomes on girls' enrolment, retention and learning skills | 82 studies were included. Just over half of the studies were conducted in Sub-Saharan Africa (n = 43), followed by South Asia (n = 24). | The authors organised their review around barriers that interventions sought to address rather than types of intervention. However, there is no clear framework for assessing barriers; interventions and policies often sought to address multiple barriers; and the importance of different barriers in different contexts will vary considerab | Overall starting with barriers rather than interventions means that it is not possible to know from the review which components are effective in addressing specific challenges facing girls, making the review limited in usefulness for understanding what works. Further | Minor concerns. Systematic review approach was used in line with Cochrane principles, and only RCTs and other quasi-experimental studies were included. However there is no framework for assessing barriers. | Moderate concerns. The authors present detailed findings, but do not address the issue of many interventions seeking to address multiple barriers, nor the ways that barriers vary in significance acorss contexts, so limiting transferability of findings.Many studies are not designed in a way that allows for the disentangling of the effects of different components easily. However these limitations are noted. | Minor concerns. 82 studies included in the review from LMICs. Study quality is rated highly. | Minor concerns. Literature reviewed is appropriate and relevant to the study objectives. | Major concerns. Overall starting with barriers rather than interventions means that it is not possible to know from the review which components are effective in addressing specific challenges facing girls, making the review limited in usefulness for | Moderate/high confidence |

							ly, meaning that findings may not be transferable to other settings. Many studies are not designed in a way that allows for the disentangling of the effects of different components easily.	more, the outcomes assessed are limited to enrolment, retention and learning skills without attention to how this translates into empowerment of girls over time. The authors also only selected publications that included quantitative reporting, excluding qualitati						understanding what works.	

								ve studies and limiting the scope of their review.							
2022	The Effectiveness of Women and Girls Safe Spaces: A Systematic Review of Evidence to Address Violenc	Stark, L., Robinson, M. V., Seff, I., Gillespie, A., Colarelli, J., and Landis, D.	*Trauma, Violence and Abuse*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces; Non-formal education and life skills	Women and girls' safe space programmes in humanitarian settings and their outcomes for girls' exposure to violence.	7 studies were selected for inclusion. Two interventions were implemented in Asia (Pakistan and Bangladesh) while the	Studies included had to involve a formal quantitative evaluation of a WGSS intervention, so lack evidence derived from qualitative and participatory assessmen	A limited number of interventions are included. The ambiguous findings are challenging to interpret overall; it seems	Moderate concerns. All studies had to involve a formal quantitative evaluation of a WGSS intervention but no clear systematic approac	Major concerns. Authors claim moderate improvements found but the evidence shows more variation, with what works well in one context less effective in others	Major concerns - 7 studies included, limited detail on what factors (or components of the interventions) were significant in interven tions	Minor concerns. Focus on adolescent girls, but exclusion of qual studies and participatory assessments.	Moderate concerns. Ambiguous findings are challenging to interpret overall; it seems that what works well in	Moderate confidence

e Against Women and Girls in Humanitarian Contexts						remaining interventions were conducted in Sub-Saharan Africa (Uganda, Kenya, Tanzania, Ethiopia, and DRC).	ts, which can provide further insights on WGSS' effectiveness.	that what works well in one context is less effective in others, but it is difficult given the limited detail included in the article to know what factors (or components of the interventions) were significant in these effects. While the article framing focuses on violence	h followed.	tion effects	one context is less effective in others, but it is difficult given the limited detail included in the article to know what factors (or components of the interventions) were significant in these effects.

| 2022 | Applying technology to promote sexual and reproductive health and prevent gender based violence for adolescents in low and middle-income countries: | Huang, K.-Y., Kumar, M., Cheng, S., Urcuyo, A. Y. and Macharia, P. | *BMC Health Services Research* | Multiple capabilities | Digital interventions | What are the digital health intervention designs, effective digital health implementation strategies, and impact evidence for (i) promoting adolescent SRH, (ii) preventing IPV and GBV, and (iii) promoting adolescen | 17 studies total: 7 review articles from the SRH digital health category, 4 review articles from the GBV including IPV digital health category, and 6 review articles from | Rapid review that does not examine evidence strength. | prevention, other outcomes were measured and found to be impacted by WGSS programming.

Quality of writing and analysis is low. Focus on feasibility and acceptability of digital interventions, but most of the data is from HICs. The authors pay inadequate | Moderate concerns. Authors used one database for the search and the review may have missed some studies despite its aim of an umbrella approach. The search criteria were not | Major concerns. There is no analysis of study data. The level of detail of study mechanisms is not sufficient for the claims made in the discussion or the identified implications/recommendations. There is no attention to context in recommendations made, or how to interpret findings from HICs in relation to LMICs. | Moderate concerns. 17 studies included in a literature review approach. Inclusion criteria are minimally described. | Major concerns. Study included literature from both high-income countries and LMICs because of limited adolescent-focused digital health research from LMICs. | Moderate concerns. Gives overview of different modalities for digital interventions, but no quality assessment. | Low confidence |

	digital health strategies synthesis from an umbrella review					t development	the adolescent development and behavioral health category.		attention to context and how this might shape these factors.	detailed well.						
2 0 2 2	Information and communications technology use to prevent and respond to sexual and gender-based violence in low- and middle-income	Philbrick, W., Milnor, J., Deshmukh, M. and Mechael, P.	*Campbell Systematic Reviews*	Bodily integrity and freedom from violence	Digital interventions	Use of ICT for preventing and responding to SGBV against women and children in LMICs.	10 studies - 4 systematic, literature or scoping review, 6 individual studies. Countries represented among the individual studies include	No age disaggregation of study evidence. Small number of studies. Few rigorous studies exist so evidence is limited. Review was an evidence and gap map rather than systematic	Looks at violence against women and children rather than adolescents.	Minor concerns. Methods are clearly documented with a conceptual framework for guiding analysis and appraisal of study quality.	Minor concerns. Interpretation of data and the building of the gap map is coherent and clear with a good level of detail.	Moderate concerns. Study only includes 10 studies published in English of which 4 were systematic, literature or scoping reviews directly addressing some aspect	Moderate concerns. Study focuses on women and children and not adolescents.	Major concerns. Relevant in identifying gaps for digital interventions and evidence on effectiveness but not focused on adolescents.	Moderate confidence

	countries: An evidence and gap map						Cambodia, Kenya, Nepal Democratic Republic of Congo (DRC), and Lebanon.	, on this basis.					of the use of ICT for SGBV prevention and/or response in women and girls. All based in LMICs.			
2 0 2 2	Impact of social protection on gender equality in low- and middle-income countries: A systematic review of reviews.	Perera, C., Bakrania, S., Ipince, A., Nesbitt-Ahmed, Z., Obasola, O., Richardson, D., and Yu, R	*Campbell Systematic Reviews*	Multiple capabilities	Economic interventions	Outcomes of social protection programmes for women, men, girls, and boys in LMICs, looking at the outcomes of Economic security and empowerment; health, education; mental health and PSS; safety and protection; voice	Review of systematic reviews. 70 systematic reviews were included. 9 had global coverage, the remaining 61 covered 121 LMICs. 2 focused on sub-Saharan	The diverse range of included outcomes and interventions mean that in some cases findings, especially within the topic of design and implementation, come from a small sample of reviews or sometimes a single systematic review. 5	The review of systematic reviews addresses directly six outcomes that link clearly to the GAGE capability domains. The authors also identify implications for practice	Minor concerns. The authors report thoroughly on limitations. All included reviews are systematic and quality is rated through the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for	Minor concerns. The main issue is that while the authors' objective is to look at outcomes for women, men, boys and girls, the evidence they present is often not clearlt age disaggregated.	Minor concerns. 70 studies covering a total of 3289 studies were included in the review. There was however still insufficient evidence in some domains (particularly voice and	Minor concerns. There are a lot of studies included which do not look at adolescent outcomes.	Mioderate concerns. Findings are detailed and relevant. It is possible to investigate studies further where it appears the authors did not include sufficient detail	High confidence

| | | | | | | and agency. | Africa. Kenya (51), India (45), Mexico (40) and Bangladesh (38) were the most represented. | key findings are applicable across more than one intervention area, and some apply to certain areas more than others. A lack of adequate descriptions of interventions as part of the synthesis process make it difficult to analyse features of programmes. Most systematic reviews present positive findings, reflecting a tendency for only interventions with | that are based on the evidence generated by the review. | Systematic Reviews and Research Syntheses. | | agency and PSS) but the authors acknowledge this clearly. Authors do not organise evidence with attention to age. | | in the review itself on age differences. | |

								positive effects to be published.							
2024	Scope, range and effectiveness of interventions to address social norms to prevent and delay child marriage and empower adolescent girls: a system	Greene, M. E., Edmeades, J. and Siddiqi, M.	*BMJ Open: Global Health*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Interventions on norms attitudes about child marriage, and their impact on child marriage outcomes and norms.	12 were concentrated in India, Bangladesh, and Malawi, with the remaining studies distributed across other countries	The intention to measure norm change did not always translate into measurement of norms-related outcomes and impacts, especially as the majority of studies only collected data from adolescent girls. The	The authors recognise that there is a need to explore the impact of efforts to shift norms through structural interventions that go beyond social behavioural commu	Minor/no concerns. Systematic review was preceded by a broader scoping review focused on research on child marriage more broadly.	Minor concerns. Article acknowldges the limitations of the evidence available and is cautious in its claims.	Moderate concerns. 12 studies included, most in just 3 contexts. The exclusion of seven studies because of their design meant that the authors missed the opportunity to look at	Moderate concerns. Only one included programme was high quality in its measurement and engaged in comprehensive norms programming but reported no significant effects except on girls' gender attitudes.The exclusion of seven studies because of their design meant that the authors missed the opportunity to look at the role of labour	Moderate concerns. Findings focus on norm change but the narrow focus of interventions on girls solely means structural change factors are obscured.	Moderate confidence

							one programme that was high quality in its measurement and engaged in comprehensive norms programming reported no significant effects except on girls' gender attitudes.	nications programming. However, the exclusion of seven studies because of their design meant that the authors missed the opportunity to look at the role of labour market, education, legal systems, marriage and family systems, all of which were engaged to different degrees			the role of labour market, education, legal systems, marriage and family systems, all of which were engaged to different degrees in these additional studies. The intention to measure norm change did not always translate into measurement of norms-related outcomes and impacts, especiall	market, education, legal systems, marriage and family systems, all of which were engaged to different degrees in these additional studies.		
atic review														

								in these additional studies.				y as the majority of studies only collected data from adolescent girls.				
2 0 2 4	Boosting Adolescent Girls' Agency Through Life Skills Training	Mortara, A., Adjepong, P and Gopalan, A.	J-PAL	Voice and agency	Non-formal education and life skills	Life skills programmes and their impact on girls' power within, education, labour, early marriage and pregnancy, and/or GBV.	16 life skills programmes were evaluated. 10 of the programmes were implemented in sub-Saharan Africa,	No limitations were identified by the authors.	The effects of different components of multicomponent interventions were not analysed, making	Major concerns. No research questions identified, and no review system was defined.	Major concerns. The findings presented by the authors do not take into account any limitations of the study design for interpreation.	Moderate concerns. Small number of interventions evaluated (16 total) and the lack of contextual detail provide	Moderate concerns. Study evaluations had to follow an expertimental/ quasiexperimental design but the authors did not assess quality of findings in making assertions.	Moderate concerns. The effects of different components of multicomponent interventions were	Low confidence

| | | | | | | five in South Asia (in India and Bangladesh) and one in the Caribbean (Haiti). | | it difficult to know which components and combinations were effective. The small number of interventions evaluated and the lack of contextual detail provided is also a limitation for understanding what works. | | | d limits understanding what works in different contexts. | | | not analysed, making it difficult to know which components and combinations were effective | |

| 2024 | A realist informed review of Digital Empowerment Strategies for Adolescents to improve their sexual and reproductive health and well-being | Goh, K., Contractor, S. & Van Belle, S. | *Journal of Urban Health* | Health and sexual and reproductive health | Digital interventions | Digital empowerment strategies that seek to improve adolescent health and wellbeing, primarily through access to information as a gateway to behaviour change and improved SRHR norms. | 26 studies included - 16 in LMICs. Majority in sub-Saharan Africa. 5 on urban settings, 7 on girls and young women. 12 reported on digital interventions with outcomes relating to SRHR. | Evidence is not disaggregated by country setting - given significant differences in digital access this is a challenge for interpretation. It also is a realist informed rather than evidence review and thus does not evaluate evidence quality and includes a wide range of studies. | The purpose of the review is not to understand what works, but to assess how interventions are used, what actors matter in shaping outcomes, and how they accommodated contextual factors. | Minor concerns. The review takes a realist approach, seeking to understand why and how a complex intervention in a given context produces certain outcomes. | Moderate concerns. Data appears to be a good fit for the review approach and findings. However, there is a lack of detail on aspects of findings which do not fit with the authors' realist approach. | Major concerns. 26 publications but only 3 were evaluations, and one study was a randomized controlled trial. Nine publications were qualitative research studies, including a qualitative survey case studies, an ethnography and a discourse analysis. Four studies | Moderate concerns. Range of included studies but no explanation of how their heterogeneity was accommodated in the review. | Moderate concerns. Review is somewhat relevant for aggregating evidence on digital interventions for SRHR and why adolescents may use these, but does not provide a quality assessment of evidence. | Low confidence |

	Year	Title	Authors	Journal												
													were reports describing interventions, while two papers presented literature reviews. Four publications were commentaries with empirical content.			
	2023	Systematic Review of mHealth Interventions for Adolescent and Young Adult HIV Prevention and	Goldstein, M., Archary, M., Adong, J., Haber, J. E., Kuhns, L. E., Kurth, E., Ronen, K.,	*AIDS and Behavior*	Health and sexual and reproductive health	Digital interventions	Use of mHealth solutions in prevention and care of HIV among young people.	27 studies on mHealth in LMICs.	The majority of studies were single arm, uncontrolled or underpowered. Many studies lack the ability to measure the effectiven	Seeks to understand the postive effects of mHealth interventions in the HIV continuum (prevention, detectio	Minor concerns. mHealth is a broad term. No grey literature search.	Minor concerns. The majority of studies were single arm, uncontrolled or underpowered. Article acknowldges the limitations of the evidence available and is cautious in its claims.	Minor concerns. No strong claims with the current data available. mHealth interventions show potential.	Moderate concerns. Looks only at LMICs and distinguishes between boys and girls; however, this distinctions and related findings could have been better researched and explained.	Focus on young people and includes elements like socio-economic position and sexual orienta	Moderate/high confidence

| the Adolescent HIV Continuum of Care in Low to Middle Income Countries | Lightfoot, M., Inwani, J., John-Stewart, G., Garofalo R. and Zanoni, B. C. | | | | | | ess of mHealth in isolation. Included mHealth interventions were specifically targeting studies looking exclusively at young people and thus excluded studies with broader age ranges where some youth were included. mHealth is broad term. Many studies described in this review were one-off or short term-interventions | n, care, etc.). | | | | | | tion (transgender). | |

2 0 1 4	ntions to improve adolescents' contraceptive behaviors in low- and middle-income countries: a review of the evidence base	halk, L. B. and Ortayli, N.	*eption*	, nutrition and sexual and reproductive health	ender clubs and safe spaces; Non-formal education and life skills	interventions and provision-side interventions (or mixed) in improving contraceptive behaviours among youth.	studies. Sub-Saharan Africa (n=7); Latin America (n=4); South Asia (n=2); Europe/Central Asia (n=1); East Asia (n=1)	ncy of reporting in studies. Studies rely also on self-reporting which is problematic (as the review recognizes). Details of study methodology and statistical analyses also varied dramatically.	a variety of interventions (from the user and supplier side) to see what helps to improve contraceptive behaviours. Also, low-quality studies are included; however, the writer sees this also as a strength because it provides more breadth with which to explore the	concerns. Only searched PubMed for academic papers. But did do a grey literature search (not specified where) and used a snowballing approach. The paper looked at both primary and secondary results. Used a systematic approach to evaluate evidence.	Moderate concerns. Quality of studies is measured but only one study is considered 'high-quality'.	Moderate concerns. Acknowledges that the evidence base is weak. Only one high-quality study, the rest are of low or medium quality.	Moderate concerns. Looks only at LMICs and distinguishes between boys and girls; however, in the findings this distinction could have been better explained.	Sample 10-19 in LMICs. Gives a good overview of different modalities and approaches of interventions (including its successes and failures). However the study is now dated.	Moderate confidence

various
approac
hes that
program
s have
tried.
Also, it
may
paint a
more
accurate
picture
of how
interven
tions
actually
work in
the real
world
rather
than in
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| 2020 | Implementation and effectiveness of adolescent life skills programs in low- and middle-income countries: A critical review and meta-analysis | Singla, D. R., Waqas, A., Hamdani, S. U., Suleman, N., Zafar, S. W., Huma, Z. E., Saeed W., Servili, C. and Rahman, A. | *Behaviour Research and Therapy* | Psychosocial wellbeing | Non-formal education and life skills | Life skills programs which targeted at least one mental health outcome. Most commonly reported life skills were communication skills (57.8%), problem-solving (53.3%), assessing relations (51.1%), stress management (44.4%), emotional regulation (44.4%), identifying /eliciting affect (37.8%), self awareness (35.6%) and exposure (26.7%) or | 45 studies. 19 LMICs. Most commonly in China (n = 9), Uganda (n = 8), Iran (n = 6), and India (n = 6) | The study provides a quantitative synthesis of low to moderate quality, with a high percentage of included studies presenting a high risk of bias. Study did not assess the degree to which a particular element was implemented in a study—thus, the quality and strength with which these elements were delivered was not assessed. Programmes mainly targeted school- | Looks at a variety of Life Skills interientions and its effect on mental health outcomes. Sound methodology and critical assessment of available data. | Minor concern. Only focussed on studies with active control groups, so exclusion of more flexible programmes that were not able to provide such a clinical setting. | Minor concern. All RCTS. 42 were individually randomized controlled trials and 8 were cluster randomized controlled trials. | Minor concern. No strong claims due to limited evidence and some concerns with quality of evidence. Low risk of bias in 27 (60%) of the studies as compared to 18 (40%) studies reporting a high risk of bias | Moderate concern. Lack of gender-sensitive data so no possibility for the review to make conclusions based on gender. | Sample 10-19 in LMICs. Dissects the different interventions well. Shows that interventions focussed on parents are particularly effective. | High confidence |

Year	Title	Author														
						interventions promoting parent-child interactions (26.7%).		going children.								
2022	A Systematic Review of Interventions to Reduce Gender-Based Violence Among Women and Girls in Sub-Saharan Africa	Keith, T., Hyslop, F. and Richmond, R.	*Trauma, Violence, & Abuse*	Bodily integrity and freedom from violence	Girls'/gender clubs and safe spaces; Economic interventions; Non-formal education and life skills	Social empowerment (n = 34), combined social and economic empowerment (n = 9), economic empowerment (n = 2) or psychosocial empowerment interventions (n = 8)	53 studies. All Sub-Saharan African countries	No analysis of bias. No formally assessed methodological rigour. Concerns with evidence (lacked power analyses).	Looks at a variety of interventions and its effect on GBV.	Moderate concerns. No formally assessed methodological rigour. Limited search for grey literature and only a few search terms used.	Moderate concerns. Majority experimental study designs. 33 cluster randomized controlled trials (c-RCTs), 11 randomized controlled trials (RCTs), four quasi-experimental studies, four prospective cohort studies and one mixed methods study. There is a lack of discussion on the quality of these studies. The evidence presented for	Moderate concerns. Large amount of studies included. Data is well organized and gives a good overview of the effectiveness of different intervention types. Lacks clear analysis of	Moderate concerns. Many studies are not specifically focused on adolescents. Discusses gender-sensitive data. Has a specific focus on girls.	Sample does not only include adolescents. Girl-focused. Only LMICs in Sub-Sahara Africa. Discusses different types of interventions seperately.	Moderate confidence

										each outcome is detailed and refers to the studies which contribute to the evidence base.	quality data.			

GENDER & ADOLESCENCE: GLOBAL EVIDENCE

Life skills and non-formal education evidence matrix

Column headers:

- **1. Econom**
  - 1.1 Improved numeracy/financial literacy
  - 1.2 Increased savings/use of formal/informal financial services
  - 1.3 Increased access to credit
  - 1.4 Involvement in income-generation activities
  - 1.5 Ownership of assets
- **2. Educati**
  - 2.1 Enrolment in schooling/education
  - 2.2 Retention in schooling/education
  - 2.3 Completed transition to secondary/tertiary education
  - 2.4 Improved learning skills/performance at school
  - 2.5 Higher educational aspirations
- **3. P**
  - 3.1 Improved emotional resilience
  - 3.2 Increased support networks
  - 3.3 Improvement in quality of peer networks
  - 3.4 Improved access to support services
- **4. Bodily integri**
  - 4.1 Changes in perceptions of violence/rights
  - 4.2 Reduction in early/forced/child marriage
  - 4.3 Reduction in FGM/C
  - 4.4 Reduction in child abuse
  - 4.5 Reduction in intimate partner violence
  - 4.6 Reduction in cyber bullying
- **5. Voice and agen**
  - 5.1 Improved access to safe spaces
  - 5.2 Greater access to information (including accessing the digital environment safely)
  - 5.3 Increased decision-making re: time use/mobility
  - 5.4 Increased civic participation/collective action
- **6. Heal**
  - 6.1 Improved KAP related to sexual health
  - 6.2 Improved KAP on pregnancy
  - 6.3 Improved KAP on HIV/STIs
  - 6.4 Improved KAP on menstruation/puberty
  - 6.5 Improved nutrition status

Matrix (B = blue, G = green, P = purple filled cells):

Study	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	4.5	4.6	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5
Haberland et al 2021		B		G																					G	B	B		
Bergstrom & Ozler 2021	B	B				B										B												P	
Marcus et al 2017									B	B		G	G	G									G	B					
Arango et al 2014																B	B	B	B										
Stark et al 2022	P			P							P	B	P		P	P								P	P	P			
Psaki et al 2022								P	P																				
Mortara et al 2024				P		G	G	B		G					P	P	P	P					G					P	
Meherali et al 2021b																									B	B	B		

Girls'/gender clubs and safe spaces evidence matrix

Column categories: **1. Economic** | **2. Education** | **3. PSS** | **4. Bodily integrity** | **5. Voice and agency** | **6. Health**

Column codes:
- 1.1 Improved numeracy/financial literacy
- 1.2 Increased savings/use of formal/informal financial services
- 1.3 Increased access to credit
- 1.4 Involvement in income-generation activities
- 1.5 Ownership of assets
- 2.1 Enrolment in schooling/education
- 2.2 Retention in schooling/education
- 2.3 Completed transition to secondary/tertiary education
- 2.4 Improved learning skills/ performance at school
- 2.5 Higher educational aspirations
- 3.1 Improved emotional resilience
- 3.2 Increased support networks
- 3.3 Improvement in quality of peer networks
- 3.4 Improved access to support services
- 4.1 Changes in perceptions of violence and rights
- 4.2 Reduction in early/forced/child marriage
- 4.3 Reduction in FGM/C
- 4.4 Reduction in child abuse
- 4.5 Reduction in intimate partner violence
- 4.6 Reduction in cyber bullying
- 5.1 Improved access to safe spaces
- 5.2 Greater access to information (including accessing the digital environment safely)
- 5.3 Increased decision-making re: time use/mobility
- 5.4 Increased civic participation/collective action
- 6.1 Improved KAP related to sexual health
- 6.2 Improved KAP on pregnancy
- 6.3 Improved KAP on HIV/STIs
- 6.4 Improved KAP on menstruation/puberty
- 6.5 Improved nutrition status

Cell colour key: G = green, B = blue, P = purple, R = red (filled cell indicates evidence; blank = no evidence)

Study	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	4.5	4.6	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5
Temin & Heck 2020		P		B	B	B	B		B			P		P	G	P		R					P		G	B	B	B	
Noble et al 2017	B		P									B	B		B						B		B						
Yount et al 2017																B	P	P	P										
Marcus et al 2017	G	G	G	G		B	B		B		G	G	G		G	G							G	G	G				
Plourde et al 2017	G										B		G								G				G	G	G		
Arango et al 2014															G	G			P										
Haberland et al 2021	P	P	P		P	B	B	B	P		B	B	B	B									P		B	G	B		
Bergstrom & Ozler 2021	P	P				P												B											
Stark et al 2022																													

Psaki et al 2022																								
Gottschalk et al., 2014																								
Keith et al 2022																								

Economic interventions evidence matrix

	1. Economic					2. Education					3. PSS				4. Bodily integrity						5. Voice and agency				6. Health				
	1.1 Improved numeracy/financial literacy	1.2 Increased savings/use of formal/informal financial services	1.3 Increased access to credit	1.4 Involvement in income-generation activities	1.5 Ownership of assets	2.1 Enrolment in schooling/education	2.2 Retention in schooling/education	2.3 Completed transition to secondary/tertiary education	2.4 Improved learning skills/ performance at school	2.5 Higher educational aspirations	3.1 Improved emotional resilience and confidence	3.2 Increased support networks	3.3 Improvement in quality of peer networks	3.4 Improved access to support services	4.1 Changes in perceptions of violence and rights	4.2 Reduction in early/forced/child marriage	4.3 Reduction in FGM/C	4.4 Reduction in child abuse	4.5 Reduction in intimate partner violence	4.6 Reduction in cyber bullying	5.1 Improved access to safe spaces	5.2 Greater access to information (including accessing the digital environment safely)	5.3 Increased decision-making re: time use/mobility	5.4 Increased civic participation/collective action	6.1 Improved KAP related to sexual health	6.2 Improved KAP on pregnancy	6.3 Improved KAP on HIV/STIs	6.4 Improved KAP on menstruation/puberty	6.5 Improved nutrition status
Haberland et al 2021																													
Livelihood training				G																									
Cash/asset transfers						B	B	B	B							B										G			
Financial education	B																												
Bergstrom & Ozler 2021																													
Livelihood training																													
Cash/asset transfers	B	B				G	G									P										B			
Financial education							B																						
Stavropoulou 2018																													
Livelihood training	G	G	G	G	G	G	G	G		G	B	P	P		P	B		P							P		P	P	P
Cash/asset transfers	G	G	G	G	G	G	G	G			B	P	B		B			P	P		B				P		P	P	R
Financial education	G	G	G	G	G	G	G	G			P	B	P	P	P	P					P		B		P		B	P	
Marcus et al 2017																													
Livelihood training																													
Cash/asset transfers																													
Financial education	B	B																											
Arango et al 2014																													

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Livelihood training																															
Cash/asset transfers																															
Financial education																															
Sampa et al 2020																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Iwelunmor et al 2020																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Nkhoma et al 2020																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Psaki et al 2022																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Taukobong et al 2022																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Zimmerman et al 2021																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Perera et al 2022																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Meherali et al 2021b																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															
Keith et al 2022																															
Livelihood training																															
Cash/asset transfers																															
Financial education																															

Digital interventions evidence matrix

Study	1. Economic					2. Education					3. PSS				4. Bodily integrity						5. Voice and agency				6. Health				
	1.1 Improved numeracy/financial literacy	1.2 Increased savings/use of formal/informal financial services	1.3 Increased access to credit	1.4 Involvement in income-generation activities	1.5 Ownership of assets	2.1 Enrolment in schooling/education	2.2 Retention in schooling/education	2.3 Completed transition to secondary/tertiary education	2.4 Improved learning skills/performance at school	2.5 Higher educational aspirations	3.1 Improved emotional resilience	3.2 Increased support networks	3.3 Improvement in quality of peer networks	3.4 Improved access to support services	4.1 Changes in perceptions of violence/rights	4.2 Reduction in early/forced/child marriage	4.3 Reduction in FGM/C	4.4 Reduction in child abuse	4.5 Reduction in intimate partner violence	4.6 Reduction in cyber bullying	5.1 Improved access to safe spaces	5.2 Greater access to information (including accessing the digital environment safely)	5.3 Increased decision-making re: time use/mobility	5.4 Increased civic participation/collective action	6.1 Improved KAP related to sexual health	6.2 Improved KAP on pregnancy	6.3 Improved KAP on HIV/STIs	6.4 Improved KAP on menstruation/puberty	6.5 Improved nutrition status
Meherali et al 2021																						■ (purple)			■ (green)	■ (blue)	■ (green)	■ (blue)	
Goh et al 2024											■ (purple)	■ (purple)	■ (purple)								■ (purple)	■ (purple)			■ (purple)	■ (purple)	■ (purple)	■ (purple)	
Huang et al 2022																									■ (purple)		■ (purple)		
Philbrick et al 2022															■ (purple)														
Feroz et al 2021																									■ (blue)	■ (blue)	■ (blue)	■ (blue)	
Goldstein et al 2023																											■ (blue)		

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