

A REVIEW OF CONTROL-COMPARISON INTERVENTIONS ON GIRLS AND HEALTH IN LOW AND MIDDLE-INCOME COUNTRIES

by

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INTEGRATED APPROACHES TO IMPROVING THE LIVES OF ADOLESCENT GIRLS

ISSUE PAPERS SERIES

This paper is one of a series of five Issue Papers commissioned by the Department for International Development, UK (DFID) and the Girl Hub, synthesizing key evidence on integrated approaches to economic assets, health, education, social norms and preventing violence, in improving the lives of adolescent girls. The focus on integrated approaches (addressing more than one area such as health and education) aimed to assess evidence testing the strength of integrated approaches, and to avoid duplicating recent sectoral based reviews.

Each Issue Paper is accompanied by a mapping of relevant research and evaluations of interventions. These mappings are available separately at the address below, where a compilation of mappings is also available.

The Issue Papers were commissioned to feed into a Technical Expert Meeting on Adolescent Girls, hosted by DFID and the Girl Hub on the 17th-18th October 2012 in London. The meeting drew together more than 60 leading experts working on adolescent girl research, programming, and evaluation to discuss priority research and evidence gaps and consider key methodological questions around research in this area.

This report represents solely the view point of the author, and does not necessarily represent the views or policy of Girl Hub, Nike Foundation, or DFID.

All the Issue Papers, the mappings, the compilation of mappings and the workshop report are available on <http://www.girleffect.org>.

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I. EXECUTIVE SUMMARY

Much attention has been devoted in recent years to the adolescent girl in low- and middle-income countries. The large number of related interventions has likely been beneficial to girls, but too little evidence is available on impact. The purpose of this paper is to assess progress made since the release of the influential papers **Girls Count** (Levine et al., 2008) and **Start with a Girl** (Temin & Levine, 2009). Through a structured in-depth literature review we shed light on what has been learned and what research and program evidence is still needed.

The literature review yielded 190 bibliographic references to interventions in low- and middle-income countries that included girls' health as an outcome. These consisted of published primary articles, published secondary literature reviews, grey-literature reports and citations in review articles.

Among the 190, there were 49 citations describing control-comparison pre-post intervention studies for which girl-specific results are reported. This group of 49 forms the basis for the discussion in this paper.

The thematic breakdown of the 49 featured studies is the following:

- ▶ 18 have a primary focus on HIV/AIDS.
- ▶ 18 have a primary focus on sexual and reproductive health.
- ▶ 6 have a primary focus on mental health.
- ▶ 2 have a primary focus on non-communicable disease.
- ▶ 4 have a primary focus on financial education or savings.
- ▶ 1 has a primary focus on leadership.

This group of 49 studies has the following characteristics:

- ▶ Approximately one-half are single-sex girl-only interventions.
- ▶ One-half include girls younger than 14 years of age.
- ▶ One-third target school-enrolled girls with classroom-based content.
- ▶ One-half took place in rural areas only, 20 percent in urban areas, and 27 percent in mixed urban and rural settings.
- ▶ 60 percent involved random allocation of the intervention to participants.
- ▶ 63 percent had a follow-up period longer than 12 months; 29 percent followed participants for longer than 24 months.
- ▶ Costing information was found for 20 percent.
- ▶ 61 percent were multi-level, engaging actors in addition to the targeted girl herself.
- ▶ One-quarter of studies incorporated school retention or school re-entry as a goal.
- ▶ 27 percent incorporated cash or in-kind incentives or offered credit.
- ▶ 31 percent included training in financial education or saving.
- ▶ 20 percent offered vocational training.
- ▶ 29 percent incorporated training in health, economic, social or legal rights.

- ▶ 45 percent had program content designed for an age range of six years or less and/or a school grade range of three or fewer years.
- ▶ Slightly more than one-half offered girls a safe space in the community to meet regularly.

There was not enough information provided in the documents found to classify programs along the following dimensions: girl literacy status/educational attainment, and program implementation methods.

The interventions that demonstrated an impact on health status, health behaviors or health mediators for girls had the following common characteristics. The majority:

- ▶ were single-sex, girl-only interventions;
- ▶ included girls younger than 14 years of age;
- ▶ were offered to rural populations;
- ▶ had a follow-up period of more than 12 months;
- ▶ used a multi-level intervention approach;
- ▶ provided a safe space in the community for girls to regularly meet in groups;
- ▶ offered financial education or savings training;
- ▶ had a rights training element;
- ▶ employed age- or grade-specific targeting and content;
- ▶ collected cost data.

These findings are indicative of promising design and evaluation elements for girls' health. We should not however make simple attributional statements about the merits of these features without first having more evidence from future (and a handful of on-going) studies in which the treatment is randomly allocated and follow up is long term. Better tools are needed for reporting on implementation methods and accurately assessing participant exposure.

II. INTRODUCTION

For the past 15 years the Population Council has undertaken policy and intervention research designed to improve the health and overall wellbeing of girls in developing countries. The approach has consistently been one of utilizing empirical analysis to carefully identify the economic, social and cultural antecedents that directly influence girls' health outcomes and choices; and then attempting - through program and policy experiments - to shift these. Particularly influential early work in this area included **The Uncharted Passage** (Mensch et al., 1998) and **Growing Up Global** (Lloyd, 2005).

With the appearance of **Girls Count** (Levine et al., 2008) and **Start with a Girl** (Temin & Levine, 2009), attention to girls as a program target group blossomed. This burgeoning of girl interventions was also fueled by the recognition that girls lie at the very heart of meeting the MDGs. The purpose of this paper is to assess progress made since the release of **Girls Count** and **Start with a Girl**.

Recently, much attention has been focused on the adolescent girl. October 2012 saw the UN declaration of the first annual "Day of the Girl Child." The explosion of interventions for girls has likely been beneficial to girls, but do we really know to what extent and how girls are faring in the wake of these various programs? Good intentions are needed but they do not always result in improved outcomes. The time is right to assess the impacts of resources going toward girl-focused programs.

Through a structured in-depth literature review the paper will attempt to shed light on what we have learned and what we still need to learn through research and programmatic evidence. With the end of the MDG window approaching and post-MDG discussions ramping up, taking stock is more relevant than ever.

The conceptual framework utilized for the paper is the Sen (1993) capabilities approach. Health capabilities include knowledge, skills and attitudes, but of key importance to influencing health behaviors and outcomes are factors in the environment surrounding the girl (culture, social norms, economic constraints, barriers to access) that influence choice and functioning – in other words, if and how girls are able to put knowledge and skills into action. We were therefore purposeful in our review to include not only programs intended to improve girls' health, knowledge, skills and status; but also those that considered the characteristics of the environment the girl resides in but does not have control over.

The review strategy is described in the next section. The focus was on multi-sectoral and multi-level interventions aimed at HIV prevention, sexual and reproductive health, mental health and non-communicable diseases. Programs that were not necessarily multi-sectoral but prominent in the field were also included.

The "health" impacts discussed in the paper are along the continuum of that deemed necessary to change health behaviors and ultimately health outcomes. Categories along the spectrum include: health knowledge, attitudes, intentions, behaviors, service use, mediators and status.

III. METHODOLOGY

CRITERIA FOR INCLUSION

The following eligibility criteria were used to identify program interventions and studies to be included in the review:

Language: English only (contract resources were not sufficient to cover review in other languages).

Geography: Global with an emphasis on low- and middle-income countries.

Population: Adolescent girls aged 10 to 19.

Types of interventions: Integrated/multi-sectoral interventions that address adolescent girls and health plus another area. Not specifically health alone.

Study design: Qualitative, quantitative (cluster-randomized trials, quasi-experimental design, pre-post designs, post-only designs).

Intervention components: Reproductive health, HIV/AIDS, mental health, substance abuse, non-communicable disease, plus one or more of the following: formal education, livelihood, vocational, microfinance, financial education or other economic components, legal, violence.

Outcomes: HIV, HSV-2, STIs, sexual, reproductive, contraceptive, mental health, alcohol, smoking, substance misuse outcomes and behaviors; health care utilization; health agency, skills and decision-making; health attitudes; health knowledge.

Date: From 1995 to present.

SEARCH STRATEGY

KEY SEARCH TERMS

Based on the main concepts examined in the review, key questions, and eligibility criteria for inclusion, we developed the following key search terms to identify relevant literature:

Population: (Girls, females, or women) AND (adolescents, youth, young, adolescence, teenager, daughter, school girl, teenage mothers).

Interventions: intervention, program, programme, life-skills, skill-building, workshop, training.

Types of interventions: multi-sectoral, multi-level, integrated, multi-pronged, holistic, multi-dimensional.

Health: HIV, HSV-2, STIs, sexual, reproductive, contraceptive, mental health, health, disease, well-being, psychological, mental, physical, reproductive, sexual, maternal, non-communicable disease, smoking, alcohol, substance abuse, misuse.

Other intervention topics: economic, financial, vocational, livelihoods, empowerment, micro-credit, microfinance, savings, leadership.

SOURCES

The review includes published, peer-reviewed studies, gray literature, and conference abstracts. Efforts were also made to identify unpublished studies and program interventions.

The following sources were used in the search:

Bibliographic databases: The following databases were searched for published and peer-reviewed studies:

- ▶ Google Scholar
- ▶ PubMed
- ▶ ProQuest
- ▶ JSTOR
- ▶ POPLINE (Population, family planning, and related health issues)
- ▶ JOLIS (World Bank and IMF Papers)
- ▶ WHOLIS (World Health Organization Library Database)

Website searches: The following websites were searched for relevant research and working paper series:

- ▶ World Health Organization (<http://www.who.int/en/>)
- ▶ The World Bank (<http://www.worldbank.org/>)
- ▶ UNICEF (<http://www.unicef.org/>)
- ▶ CARE (care.org)
- ▶ Plan (<http://plan-international.org/>)
- ▶ Mercy Corps (<https://www.mercycorps.org/>)
- ▶ Nike Foundation (<http://nikeinc.com/pages/the-nike-foundation/>)
- ▶ Department for International Development, UK (www.dfid.gov.uk)
- ▶ Governance and Social Development Resource Centre (<http://www.gsdrc.org/>)
- ▶ The Overseas Development Institute (ODI) (<http://www.odi.org.uk/>)
- ▶ International Centre research for women (<http://www.icrw.org/icrw-library>)
- ▶ The London School of Hygiene & Tropical Medicine (<http://www.lshtm.ac.uk/publications/>)
- ▶ Institute of development studies (<http://www.ids.ac.uk/go/home>)
- ▶ International Development Research Centre (<http://publicwebsite.idrc.ca/EN/Pages/default.aspx>)
- ▶ Poverty Action Lab (<http://www.povertyactionlab.org>)
- ▶ Innovation for poverty action (<http://www.poverty-action.org/>)
- ▶ The Center for Global Development (<http://www.cgdev.org/>)
- ▶ The Center of Evaluation for Global Action (CEGA) (<http://cega.berkeley.edu>)

- ▶ Centre for International Development (CID) Micro-Development Initiative, Harvard University (<http://www.hks.harvard.edu/centers/cid/programs/micro-development-initiative>)
- ▶ The Development Impact Evaluation Initiative (DIME)
- ▶ The Chronic Poverty Research Centre (CPRC) (<http://www.chronicpoverty.org>)
- ▶ UNESCO (<http://www.unesco.org/>)
- ▶ ELDIS (<http://www.eldis.org/>)
- ▶ Freedomfromhunger (<http://www.freedomfromhunger.org/>)
- ▶ Population council (<http://popcouncil.org/>)
- ▶ Policy pointers (<http://www.policypointers.org/>)
- ▶ Search4Development Netherlands (<http://www.search4dev.nl/>)
- ▶ BRIDGE – (<http://www.bridge.ids.ac.uk/>)
- ▶ BRAC (<http://www.brac.net/>)
- ▶ Bread for the World (<http://www.bread.org>)
- ▶ Centers for Disease Control and Prevention (<http://www.cdc.gov/>)
- ▶ Futures without violence (http://www.futureswithoutviolence.org/section/our_work/international)
- ▶ ActionAid International (<http://www.actionaid.org.uk/>)
- ▶ Breakthrough (<http://breakthrough.tv/>)
- ▶ Centre for Development and Population Activities CEDPA (<http://www.cedpa.org/>)
- ▶ EngenderHealth (<http://www.engenderhealth.org/index-main.php>)
- ▶ Human Rights Watch (<http://www.hrw.org/home>)
- ▶ International Planned Parenthood Federation (<http://www.ippf.org/en>)
- ▶ International Women’s Health Coalition (http://www.iwhc.org/index.php?option=com_content&task=view&id=132&Itemid=74)
- ▶ Save the Children (<http://www.savethechildren.org/>)
- ▶ Pathfinder International (<http://www2.pathfinder.org/site/PageServer>)
- ▶ Tostan (<http://www.tostan.org/>)
- ▶ United Nations Development Programme (UNDP) (<http://www.undp.org/content/undp/en/home.html>)
- ▶ UNFPA (<http://www.unfpa.org/public/>)
- ▶ Bill & Melinda Gates Foundation (<http://www.gatesfoundation.org/Pages/home.aspx>)
- ▶ Population Services International (<http://www.psi.org/>)

- ▶ Guttmacher Institute (<http://www.guttmacher.org/>)
- ▶ Family Health International (<http://www.fhi360.org/en/index.htm>)
- ▶ Youth Coalition (<http://www.youthcoalition.org/html/index.php>)
- ▶ Global Fund to Fight AIDS, Tuberculosis and Malaria (<http://www.theglobalfund.org/en/>)
- ▶ USAID (<http://www.usaid.gov/>)
- ▶ World Vision (www.worldvision.org)
- ▶ Partners in Health (<http://www.pih.org/>)
- ▶ International Rescue Committee (<http://www.rescue.org/>)
- ▶ Marie Stopes International (<http://www.mariestopes.org/>)
- ▶ Clinton Foundation (<http://www.clintonfoundation.org/>)
- ▶ African Development Bank (<http://www.afdb.org/en/>)
- ▶ Packard Foundation (<http://www.packard.org/>)
- ▶ JHPIEGO (<http://www.jhpiego.org/>)
- ▶ Restless Development (www.restlessdevelopment.org)
- ▶ Hewlett Foundation
- ▶ Packard Foundation
- ▶ AIDS Alliance
- ▶ HIV and AIDS Consortium
- ▶ Stepping Stones
- ▶ Interact Worldwide
- ▶ UNAIDS

Web searches: We also conducted web searches using Google to identify other relevant organizations that implement adolescent girl interventions or conduct evaluations of such interventions. Once identified, the organization websites were searched for relevant literature.

IV. STATE OF THE LITERATURE

The literature review yielded 190 bibliographic references to interventions in low- and middle-income countries that included girls and health. These consisted of published primary articles, published secondary literature reviews, grey-literature reports and citations in review articles.

Of the 190 citations, 32 were secondary review articles. Among the 158 primary citations describing projects, 4 did not mention having an evaluation component. A further 27 were featured in review documents which did not contain enough detail to determine the evaluation design and for which primary references were not found through the internet search.

This yielded 127 primary studies detailing intervention projects. The following is the breakdown of these:

- ▶ 51 references describe mixed-sex adolescent/youth interventions for which girl-specific results are not reported in the abstract. Many of these are school-based. It is possible that a number of them were not designed with sufficient sample size/statistical power to perform a gender disaggregated analysis. The thematic breakdown of these projects is the following:
 - ▶ 19 have a primary focus on HIV/AIDS
 - ▶ 19 have a primary focus on sexual and reproductive health
 - ▶ 8 have a primary focus on mental health
 - ▶ 5 have a primary focus on non-communicable disease
- ▶ A further 5 citations describe quantitative interventions with fewer than 100 participants. The thematic breakdown is the following:
 - ▶ 2 have a primary focus on HIV/AIDS
 - ▶ 2 have a primary focus on sexual and reproductive health
 - ▶ 1 has a primary focus on mental health
- ▶ 22 references describe projects that did not include a control group in the evaluation design. The thematic breakdown is the following:
 - ▶ 2 have a primary focus on HIV/AIDS
 - ▶ 19 have a primary focus on sexual and reproductive health
 - ▶ 1 has a primary focus on microfinance

The 49 remaining citations describe control-comparison studies with pre- and post-intervention assessments and for which girl-specific results are reported. This group forms the basis for the discussion in this paper.

The thematic breakdown of the featured 49 is the following:

- ▶ 18 have a primary focus on HIV/AIDS
- ▶ 18 have a primary focus on sexual and reproductive health (SRH)
- ▶ 6 have a primary focus on mental health
- ▶ 2 have a primary focus on non-communicable disease (NCD)
- ▶ 4 have a primary focus on financial education or saving
- ▶ 1 has a primary focus on leadership

TABLE 1 provides information on characteristics of program participants (page 33).

GENDER COMPOSITION

Among the projects that provide girl-specific results, approximately one-half are single-sex girl-only interventions. SRH projects are more commonly single-sex (two-thirds) than are those classified as HIV, mental health or NCD. School-based programs featured here (mainly HIV, mental health and NCD) are more likely to be mixed-sex, due to the fact that most are undertaken in co-ed schools and during classroom hours.

INCLUSION OF VERY YOUNG ADOLESCENTS

The formation of health beliefs, attitudes and behaviors begins at a very young age. Many interventions, however, target age groups in which it is more difficult to change these precursors. Although one-half of the featured studies included girls before the age of 14 years, not all incorporated age-specific program content (the latter issue is discussed further in the program features section). SRH and mental health projects were the most likely to include girls younger than 14 years of age.

SCHOOL-ENROLLED VS. NON-ENROLLED GIRLS

Studies also differed by school enrollment status of the intended participants. Enrollment status of participants has a major influence on program design and delivery (including location, time of day, day of week, pedagogical/engagement methods, and single- versus co-ed sessions). In settings where girls' access to schooling is restricted, a study using a school-enrolled population would be non-representative and favor more advantaged girls, leading to a potentially biased picture of the likely impact on the overall population of girls if the intervention was scaled up.

Of the 49 featured studies, one-third targeted school-enrolled girls and only 3 focused exclusively on out-of-school girls, a particularly difficult to reach group. The remainder were largely community-based projects, open to both in- and out-of school participants. The majority of mental health and NCD studies found were school-based interventions.

LITERATE/HAS SOME EDUCATION

Literacy and educational attainment of target participants impact the methods used for engagement and assessment of impact. From a welfare point of view, non-literate girls are among the most difficult to reach, often being members of socially marginalized or mobile populations. Due to the strong social, cultural and economic constraints on such girls, they are also hard to retain in studies. The majority of projects in the review did not clearly specify literacy or educational attainment criteria for participation. The only explicit information found was the extent to which interventions were aimed at school-enrolled participants – and the grade level they were aimed at. The most common were the upper primary or lower secondary grades.

MARRIED VS. UNMARRIED

Compared with unmarried girls, married girls are usually more subject to restrictions on their physical and social mobility, are under pressure to bear children, and more vulnerable to sexual and domestic violence. For these reasons, married girls are problematic to reach and retain in many interventions. Only three projects (five studies) in the review had a clear marital status inclusion criteria: two of these, Zomba in Malawi and the Nyeri Youth Health Project in Kenya, were for never married girls, and one, the First Time Parents Project in India, was designed specifically for young women who were currently pregnant or had an infant.

HAS A CHILD OR NOT

Obviously, girls with children have experiences, needs and constraints that differ from girls who do not have children. Also, depending on the context, girls with children will have experienced pregnancy at a

young age and some outside of a marriage or union. These can present additional social and cultural challenges for girls. Only one project of the 49 case-comparison studies found made a distinction in its design, targeting and content regarding whether a girl had a child or not – the First Time Parents Project in India.

PARENTAL SURVIVAL/CO-RESIDENCE

The majority of programming for orphaned and vulnerable children or displaced children is intended for younger children. Most such interventions lack gender-specificity in their targeting and design. Moreover, among the OVC interventions that have been evaluated, many do not disaggregate results by gender. In this review, we encountered the following with regard to inclusion criteria pertaining to girls' orphan and co-resident parent status: three interventions (four studies) included only orphans and were intended to address HIV prevention and AIDS mitigation. One intervention in Uganda (SUUBI) also assessed reproductive health behaviors, as well as mental health status.

RESIDENCE TYPE

Urban versus rural is obviously a vast oversimplification of the range of different geographic areas where adolescent girls reside. Descriptions of interventions, however, often use these common terms. Half of the studies in the review took place in rural settings; one of five in urban areas; and another 27 percent in both urban and rural settings. HIV prevention interventions were more likely to take place in rural areas (two-thirds); sexual and reproductive health and other types of studies were spread more evenly across geographic areas.

TABLE 2 describes characteristics of the interventions and evaluations (page 35).

STUDY DESIGN

In 60 percent of the 49 studies featured, the intervention was randomly allocated to participants, mostly at the cluster level (enumeration area, school, or classroom) but some at the individual level. The remaining forty percent of studies were quasi-experimental or some variation thereof. Random allocation of the treatment was most commonly observed in HIV prevention and mental health interventions.

FOLLOW-UP INTERVAL

The length of follow-up for measuring project impact ranged from 3 to 108 months, with the average across all studies being 27 months. (Note that single interventions with multiple published studies are represented by publication in each appendix table.) HIV interventions, many of which have larger budgets and more rigorous designs than sexual and reproductive health interventions, have the longest follow-up periods at 38 months on average (though this is skewed to the right due to MKV in Tanzania having five publications in the matrix). SRH interventions had a mean follow-period of 25 months. Mental health studies (most of which were with school-based younger populations) had the shortest mean tracking period at 8 months. This is likely also due to mental health indicators being amenable to change more quickly than many of the HIV and SRH outcomes that the other interventions target. The other three smaller categories of intervention each had a mean follow-up length of 18 months.

Across the 49 featured studies, 63 percent had a follow-up period of more than 12 months, while 29 percent followed participants for longer than 24 months. Again, HIV prevention interventions were more likely than others to have longer tracking periods.

COST INFORMATION

Costing information is not plentiful for health interventions that involve girls. Such data should be collected more regularly, and the capacity to do so needs to be more heavily invested in. Across the 49 studies,

costing information was found for only 20 percent. The majority of these are SRH interventions evaluated by the Population Council for which costing information was coordinated by Sewall-Menon, et al. (2012).

MULTI-LEVEL APPROACHES

Three out of five interventions had components that involved actors in addition to the target girl herself. These included direct training of and/or engagement with educators, parents, community leaders, sexual partners, community health workers, etc. (School-based programs that only worked within the classroom were not classified as multi-level.) SRH and HIV interventions were the most likely to employ this strategy, with the school-based mental health projects being least likely.

MULTI-SECTORAL ELEMENTS

The interventions reviewed were scanned for non-health program components that recognized the multi-dimensional determinants of adolescent health behavior and status.

Approximately one-fourth of studies incorporated school retention or school re-entry as an explicit goal. This did not vary greatly across program theme but was more common among those targeting younger adolescents.

Twenty-seven percent of programs incorporated elements involving credit, cash or in-kind incentives to participants. Most with cash or in-kind incentives involved younger adolescents and were tied to school retention. Those with credit components were mainly for older adolescents and aimed at micro-enterprise development.

Thirty-one percent of interventions included financial education and/or savings as components. Most projects with a credit component did so, but a number of others had financial education as an element in and of itself. Among the health interventions featured, SRH projects were the most likely to include this feature. Vocational or livelihood skills training is a related approach, often – but not always – offered in combination with micro-credit. Vocational training is becoming less common as market demand studies are deemed necessary to determine the type of job training to offer.

Training in health, economic, social or legal rights is another aspect of adolescent interventions. Twenty-nine percent of all projects had such an element, with SRH being the most common type to include it.

AGE AND GRADE-SPECIFIC CONTENT

Social, psychological and physiological needs differ for girls at different stages of development and interventions should in principle be more effective when tailored to the specific age and development stage of the girl.

Forty-five percent of the featured studies had program content designed for an age range of six years or less and/or a grade range of three or fewer years. This was most common for school-based studies that targeted a narrow grade range; in this review, these are the mental health and NCD interventions. Among the non-school-based studies, financial education and saving, and leadership programs were more likely than the HIV or SRH interventions to have age-specific content.

Slightly more than one-half of interventions discussed covered at least two adolescent development stages (an age-range larger than six years) and included content and/or delivery methods that were not described as age-, development stage-, or life-cycle specific.

SAFE SPACES AND SOCIAL SUPPORT

Slightly more than one-half of the 49 studies had a component where girls come together regularly in same-sex groups in safe places in the community. This approach is intended to increase access to mentors,

social support and positive social capital of girls. This approach was the most common in SRH interventions and those that are not school-based.

IMPLEMENTATION METHODS

Insufficient information was provided in the studies reviewed to establish a clear set of mutually-exclusive implementation process descriptors. The ones for which there was any degree of representation among the 49 studies included (a) in-school versus out-of-school, (b) whether the program had a multi-level element or not, and (c) the use of a safe space in the community for girls.

V. WHAT ARE THE CHARACTERISTICS OF PROGRAMS THAT SHOWED IMPACT?

TABLE 3 displays the types of impacts and outcomes reported for girls (page 37).

Only a minority of interventions showed impact on girls' health status. Fourteen of the 49 studies (covering 12 different interventions) reviewed had a significant effect on girls' health status. The most common outcome affected – regardless of project objective – was a reduction in self-reported pregnancies (six studies, five interventions). The second most common was a reduction in HSV-2, reported in two studies (two interventions). For each of the following seven outcomes there was one study (one intervention) that demonstrated impact: HIV, FGM, GHQ-12, depression, conduct problems, pro-social behavior and PTSD.

Of the five interventions that reported a reduction in self-reported pregnancy rates, four were single-sex girl-only; three included girls younger than age fourteen years; only one was for school-enrolled girls only; all five included rural areas (three exclusively rural, two mixed rural and urban); four of five were cluster randomized trials (CRTs); all five had follow-up periods greater than 12 months; three of five included a school retention or re-entry element; two had a school economic incentive; two had age- or grade-specific content; two incorporated safe spaces in the community; and four of the five were multi-level, engaging actors in addition to the girl herself.

The two interventions that reduced HSV-2 incidence (Baird et al. 2012; Jewkes et al. 2008) each had a sizeable number of rural participants, were CRTs, and had follow-up periods of 24 months. The only intervention that impacted HIV incidence was the Zomba study in Malawi (Baird et al. 2012). The Tostan intervention in Senegal (UNICEF et al. 2008) reported a decline in FGM, while Muyinda et al. (2003) reported a decline in STI symptoms among girls in Uganda. The latter two studies utilized a multi-level intervention, intensively training and sensitizing adult women, who then work with local adolescent girls – an approach well worth considering in future interventions.

Of the six interventions that had positive impacts on girls' mental health status, five were targeted to children younger than fourteen years of age; five were school-based programs; five included rural populations; in all six the intervention was randomly allocated to participants.

Seven studies (seven interventions) reported changes to two or more self-reported sexual behaviors. Two of these are classified as HIV prevention programs, four are SRH and one is financial education/savings. Six of the seven are girl-only programs; four included girls younger than age fourteen; all were community-based (none were classroom-based); all seven had a presence in rural areas (four were rural only; three were mixed urban and rural); five had a financial education or savings component; three involved vocational skills training; six brought girls together on a regular basis in groups in a safe space in the community; four had multi-level components; two were CRTs and five were quasi-experimental in design.

Ten studies (ten interventions) reported changing two or more health mediators among girls. Here health mediators are defined as increases in school enrollment, marriage age, self-esteem, communication about HIV or SRH, legal or financial literacy, or safety from violence. Nine of these ten interventions were single-sex girl-only; seven included girls younger than fourteen years of age; six were among rural populations; four had a school retention or re-entry element; six had a financial education or savings component; seven provided training in rights; seven had age-/grade-specific content; all ten utilized safe spaces in the community; seven used a multi-level approach; eight followed girls for more than 12 months; seven had costing information; one was a CRT, the others were quasi-experimental in design.

In sum, the interventions that demonstrated an impact on health status, health behaviors or health mediators for girls had the following common characteristics. The majority:

- ▶ were single-sex, girl-only interventions;
- ▶ included girls younger than 14 years of age;
- ▶ were offered to rural populations;
- ▶ had a follow-up period of more than 12 months;
- ▶ used a multi-level intervention approach;
- ▶ provided a safe space in the community for girls to regularly meet in groups;
- ▶ offered financial education or savings training;
- ▶ had a rights training element;
- ▶ employed age- or grade-specific targeting and content;
- ▶ collected cost data.

VI. CRITICAL OPPORTUNITIES

RESEARCH OPPORTUNITIES

Cluster randomized experiments to test the program characteristics demonstrated as promising in quasi-experimental studies should be funded. The on-going Population Council (2012) study in Zambia will add some evidence.

Segmented interventions (multi-arm studies) to assess the impact of different program elements should be supported. Most interventions only test a package versus nothing, making it impossible to assess which element had what impact. Five on-going studies should shed light on this issue (Poverty Action Lab, 2007; Population Council, 2012; Ashraf, McGinn, Low, 2012; Austrian et al., 2012; Bhattacharjee and Dos, 2011).

Further investigation is needed of the effect of girl-only versus mixed-sex interventions (e.g. through an identical intervention with a girl-only groups tested against mixed-sex groups).

Research is needed on what aspects of the interview environment might most impact girls' self-reporting of sensitive behaviors.

Operations evaluations are needed on how girl programs are implemented. There is still too little information available in the literature. It might be worthwhile to consider developing an mHealth tool to allow programmers to quickly submit "how" information on a regular (e.g., daily/weekly) basis.

Medium- and long-term follow-up of interventions are needed. We currently only know the short-term, or medium-term, impacts of interventions. More longitudinal research of existing well-designed interventions is needed.

Greater use of biomarkers (with funding for adequate sample size and long-term follow-up) and other objective measures are encouraged.

Simple costing tools should be developed and costing data collected.

PROGRAMMING OPPORTUNITIES

Simple clear tools should be developed for documenting in real time (daily/weekly) how the intervention is being implemented, who is getting what, how frequently and with what intensity (mHealth tools perhaps).

A more narrow age range is needed for targeting, developing content and choosing engagement methods with participants.

It appears that interventions with financial education/savings and/or formal education support are promising for girls' health and should therefore be expanded.

Program managers should receive support for implementing simple costing tools.

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ANNEX 1

MAPPING OF INITIATIVES

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
HIV PREVENTION										
Wight, Plummer, Ross. 2012.	Tanzania	MEMA kwa Vijana	Young females and males (15-30 years) who had attended intervention or comparison schools between 1999 and 2002.	Grades 10-12	Teacher-led, peer-assisted in-school education, youth-friendly health services, community activities, and youth condom promotion and distribution	8-9 years	CRT	This piece attempts to explain intervention outcomes by reviewing the process evaluation findings, particularly in terms of contextual factors	The contextual barriers involved four interrelated socio-structural factors: culture (i.e. shared practices and systems of belief), economic circumstances, social status, and gender. At an individual level they appeared to operate through the constructs of the theories underlying MEMA kwa Vijana - Social Cognitive Theory and the Theory of Reasoned Action - but the intervention was unable to substantially modify these individual-level constructs, apart from knowledge.	Wight D, Plummer M, Ross D. The need to promote behaviour change at the cultural level: one factor explaining the limited impact of the MEMA kwa Vijana adolescent sexual health intervention in rural Tanzania. A process evaluation. <i>BMC Public Health</i> . 2012 Sep 14;12:788. doi: 10.1186/1471-2458-12-788.
Doyle et al. 2011.	Tanzania	MEMA kwa Vijana	In 2007, a cross-sectional survey was conducted in the 20 trial communities among 13,814 young females and males (15-30 years) who had attended intervention or comparison schools between 1999 and 2002.	Grades 10-12	Teacher-led, peer-assisted in-school education, youth-friendly health services, community activities, and youth condom promotion and distribution	8-9 years	CRT	Assess differential impact of intervention according to gender, age, marital status, number of years of exposure and time since last exposure to the intervention	No strong effect-modifiers emerged. Impact on pregnancy knowledge and reported attitudes to sex increased with years of exposure to high-quality intervention.	Doyle AM, Weiss HA, Maganja K, Kapiga S, McCormack S, Watson-Jones D, Changalucha J, Hayes RJ, Ross DA. The long-term impact of the MEMA kwa Vijana adolescent sexual and reproductive health intervention: effect of dose and time since intervention exposure. <i>PLoS One</i> . 2011;6(9):e24866. doi: 10.1371/journal.pone.0024866. Epub 2011 Sep 13.
Doyle et al. 2010.	Tanzania	MEMA kwa Vijana	Cross-sectional survey (June 2007 through July 2008) of 13,814 young people aged 15-30 years who had attended trial schools during the first phase of the MEMA kwa Vijana intervention trial (1999-2002).	Grades 10-12	Teacher-led, peer-assisted in-school education, youth-friendly health services, community activities, and youth condom promotion and distribution	8-9 years	CRT	HIV; HSV-2; HIV/AIDS knowledge, attitudes and behaviors	No significant reduction in risk of HIV (males adjusted prevalence ratio [aPR] 0.91, 95%CI 0.50-1.65; females aPR 1.07, 95%CI 0.68-1.67) or HSV-2 (males aPR 0.94, 95%CI 0.77-1.15; females aPR 0.96, 95%CI 0.87-1.06). Reduction in proportion of males reporting more than four sexual partners in their lifetime (aPR 0.87, 95%CI 0.78-0.97) and an increase in reported condom use at last sex with a non-regular partner among females (aPR 1.34, 95%CI 1.07-1.69). Clear and consistent beneficial impact on knowledge, but no significant impact on reported attitudes to sexual risk, reported pregnancies, or other reported sexual behaviors.	Doyle AM, Ross DA, Maganja K, Baisley K, Masesa C, Andreasen A, Plummer ML, Obasi AJ, Weiss HA, Kapiga S, Watson-Jones D, Changalucha J, Hayes RJ; MEMA kwa Vijana Trial Study Group. Long-term biological and behavioural impact of an adolescent sexual health intervention in Tanzania: follow-up survey of the community-based MEMA kwa Vijana Trial. <i>PLoS Med</i> . 2010 Jun 8;7(6):e1000287. doi: 10.1371/journal.pmed.1000287
Larke et al. 2010.	Tanzania	MEMA kwa Vijana	Approximately 14,000 young people aged 15-30 years who had attended trial schools during the first phase of the MEMA kwa Vijana intervention trial (1999-2002).	Grades 10-12	Twenty communities, including 39 health facilities, were randomly allocated to the intervention or comparison arm. Health workers from the intervention arm were trained in the provision of youth-friendly health services, as part of a package of interventions.	2-3 years	CRT	Attendance at health facilities	Attendance by young males was greater in intervention communities at endline after adjustment for baseline differences ($p = .005$), and this difference increased over time (p -trend = $.022$). The mean difference in attendance was however relatively modest, at 1.1 per month after adjustment for baseline (95% CI: $-.5, 1.7$). There was weaker evidence of an intervention effect on attendance by young women ($p = .087$). Few condoms were distributed, although a greater number were distributed in intervention facilities ($p = .008$). Generally, intervention health workers tended to be less judgmental and provided more comprehensive information.	Larke N, Cleophas-Mazige B, Plummer ML, Obasi AJ, Rwakatare M, Todd J, Changalucha J, Weiss HA, Hayes RJ, Ross DA. Impact of the MEMA kwa Vijana adolescent sexual and reproductive health interventions on use of health services by young people in rural Mwanza, Tanzania: results of a cluster randomized trial. <i>Journal of Adolescent Health</i> . Volume 47, Issue 5, Pages 512-522, November 2010.

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
Ross et al. 2007.	Tanzania	MEMA kwa Vijana	9645 adolescents recruited in late 1998 before entering years 5, 6 or 7 of primary school.	Years 5-7 of primary school	Teacher-led, peer-assisted in-school education, youth-friendly health services, community activities, and youth condom promotion and distribution	3 years	CRT	HIV incidence, herpes simplex virus 2 (HSV-2) and other sexual health outcomes	Significant impact on knowledge and reported attitudes, reported sexually transmitted infection symptoms, and several behavioural outcomes. Only five HIV seroconversions occurred in boys, whereas in girls the adjusted rate ratio (intervention versus comparison) was 0.75 [95% confidence interval (CI) 0.34, 1.66]. Overall HSV2 prevalences at follow-up were 11.9% in male and 21.1% in female participants, with adjusted prevalence ratios of 0.92 (CI 0.69, 1.22) and 1.05 (CI 0.83, 1.32), respectively. There was no consistent beneficial or adverse impact on other biological outcomes. The beneficial impact on knowledge and reported attitudes was confirmed by results of a school examination in a separate group of students in mid-2002.	Ross DA, Changalucha J, Obasi AI, Todd J, Plummer ML, Cleophas-Mazige B, et al. Biological and behavioural impact of an adolescent sexual health intervention in Tanzania: a community-randomized trial. <i>AIDS</i> (Lond, Engl) 2007; 21: 1943-1955.
Baird, Garfein et al. 2012.	Malawi	Zomba	3,796 never-married females aged 13-22 years from 176 rural and urban enumeration areas within 16Km radius of Zomba City.	13-22 years	Random assignment by enumeration area (1:1) to receive cash payments (intervention group) or nothing (control group). Intervention enumeration areas were further randomly assigned to conditional (school attendance required to receive payment) and unconditional (no requirements to receive payment) groups. Participants in both intervention groups were randomly assigned by a lottery to receive monthly payments ranging from US\$1 to \$5, while their parents were independently randomly assigned to receive \$4-10.	2 years	CRT	HIV; HSV-2.	For the 1289 persons enrolled in school at baseline with complete interview and biomarker data, weighted HIV prevalence at 18 month follow-up was 1.2% in the combined intervention group versus 3.0% in the control group (adjusted odds ratio [OR] 0.36, 95% CI 0.14-0.91); weighted HSV-2 prevalence was 0.7% versus 3.0% (adjusted OR 0.24, 0.09-0.65). In the intervention group, no difference between conditional versus unconditional intervention groups for weighted HIV prevalence or weighted HSV-2 prevalence. For individuals who had already dropped out of school at baseline, no significant difference between intervention and control groups for weighted HIV prevalence or weighted HSV-2 prevalence.	Baird SJ, Garfein RS, McIntosh CT, Ozler B. Effect of a cash transfer programme for schooling on prevalence of HIV and herpes simplex type 2 in Malawi: a cluster randomised trial. <i>Lancet</i> . 2012 Apr 7;379(9823):1320-9. doi: 10.1016/S0140-6736(11)61709-1. Epub 2012 Feb 15.
Hallfors et al. 2011.	Zimbabwe	none	All orphan girls in grade 6 in 25 primary schools in rural eastern Zimbabwe, were invited to participate in the study in fall 2007 (n=329). Primary schools were randomized to condition.	Grade 6	All primary schools received daily feeding program. Intervention students received school support including fees, exercise books, uniforms, and other school supplies (e.g., pens, soap, underpants, and sanitary napkins). Female teachers at intervention primary schools selected and trained by research personnel as helpers (approximately 1 helper to 10 participants) to monitor participants' school attendance and assist with absenteeism problems, but were not to provide special HIV information or life skills training. A small fund was available to helpers for addressing attendance problems. After grade 7, girls matriculated to high school and new helpers were selected and trained in new schools.	Two follow-ups; 12 months between each survey	CRT	School attendance and retention, marriage status, attitudes about school; sexual and gender attitudes and self-reported behaviors.	The intervention reduced school dropout by 82% and marriage by 63% after 2 years. Compared with control participants, the intervention group reported greater school bonding, perceive that the teachers cared for them, better future expectations (better chances of completing school and making money by age 30), more equitable gender attitudes, and more concerns about the consequences of sex.	Hallfors, D., H. Cho, et al. (2011). "Supporting adolescent orphan girls to stay in school as HIV risk prevention: evidence from a randomized controlled trial in Zimbabwe." <i>Am J Public Health</i> . 101(6): 1082-1088.
Dunbar et al. 2010.	Zimbabwe	SHAZI	out of school, orphan females aged 16 to 19 in per-urban or urban communities. 50 adolescent female orphans in pilot, 315 orphans average age 18 in phase II study	16-19 years	Life-skills-based HIV education, business training and mentorship, and access to microcredit loans for business development.	Pre and post 6 months apart. In phase 2, pre and post 24 months apart.	CRT	Intervention delivery process, HIV knowledge and behavior, economic indicators. Tested for HIV, HSV-2, and pregnancy.	At six months there were improvements in knowledge and relationship power dynamics. Loan repayment and business success were poor. A small percentage of participants were able to pay back the loan. The microcredit component may not be feasible in this setting/ needs to be adjusted	Dunbar, M. S., M. C. Maternowska, et al. (2010). "Findings from SHAZI: A Feasibility Study of a Microcredit and Life-Skills HIV Prevention Intervention to Reduce Risk Among Adolescent Female Orphans in Zimbabwe." <i>J Prev Interv Community</i> . 38(2): 147-161.

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
Cowan et al. 2010.	Zimbabwe	Regai Dzive Shiri Project (RDS)	Impact was assessed in a representative community survey of 4,684 18-22-year-olds after 4 years. Thirty communities were selected and randomised in 2003 to early or deferred intervention implementation.	14-18 years	Theoretically based in social learning theory and stages of change model; aimed to achieve change in societal norms within communities using three components: (1) The youth programme for in- and out-of-school youth. Trained young adults live and work in rural communities for 8–10 months. Act as role models for young people and as a bridge between adults and youth within communities. Used structured, theoretically-based materials, delivered in a participatory manner. (2) Programme for parents and community stakeholders was a 22-session community-based program, aimed at improving knowledge of reproductive health, communication between parents and their children and community support for adolescent reproductive health. (3) The programme for nurses and other staff working in rural health clinics aims to improve accessibility of clinics for out-of-school youth.	4 years	CRT	HIV and herpes simplex virus type 2 (HSV-2) incidence; rates of unintended pregnancy; self-reported sexual behaviour, knowledge and attitudes. At endline participants self-completed a questionnaire and gave a dried blood spot sample for HIV and herpes simplex virus-2 (HSV-2) antibody testing. Young women had a urinary pregnancy test. Analyses were by intention-to-treat and were adjusted for clustering.	Four thousand six hundred and eighty-four, 18-22-year-olds participated in the survey (97.1% of eligible candidates, 55.5% women). Just over 40% had been exposed to at least 10 intervention sessions. There were modest improvements in knowledge and attitudes among young men and women in intervention communities, but no impact on self-reported sexual behavior. There was no impact of the intervention on prevalence of HIV or HSV-2 or current pregnancy. Women in intervention communities were less likely to report ever having been pregnant.	Frances M Cowan, Sophie JS Pascoe, Lisa F Langhaug, Webster Mavhu, Samson Chidiya, Shabbar Jaffar, Michael Mbizvo, Judith M Stephenson, Anne M Johnson, Robert M Power, Godfrey Woelk, and Richard J Hayes, on behalf of the Regai Dzive Shiri Trial team. The Regai Dzive Shiri Project: results of a randomised trial of an HIV prevention intervention for Zimbabwean youth. AIDS. 2010 October 23; 24(16): 2541–2552. doi: 10.1097/QAD.0b013e32833e77c9
Pronyk et al. 2008.	South Africa	Intervention with Microfinance for AIDS and Gender Equity (IMAGE)	Subgroup of 262 14-35 year-old participants. Eight villages were pair-matched and randomly allocated to receive the intervention. This paper covers subgroup at baseline and after 2 years, HIV risk behavior was assessed among female participants aged 14-35 years. Wider range age of women were served.	14-35 years	The IMAGE study had two components: (1) Group based microfinance, in which groups of five women received loans to establish small businesses. Further credit was offered when all women in these 'solidarity groups' repaid their loans. (2) Gender and HIV training curriculum, which was integrated into established meetings of 40 women that took place every 2 weeks for approximately 1 year.	24 months	CRT	HIV communication w sexual partners; HIV counseling and testing; self-reported sexual behavior (multiple partners, condom use)	After 2 years of follow-up, when compared with controls, young participants had higher levels of HIV-related communication (adjusted risk ratio 1.46, 95% confidence interval 1.01-2.12), were more likely to have accessed voluntary counseling and testing (adjusted risk ratio 1.64, 95% confidence interval 1.06-2.56), and less likely to have had unprotected sex at last intercourse with a nonspousal partner (adjusted risk ratio 0.76, 95% confidence interval 0.60-0.96). Qualitative data suggest a greater acceptance of intrahousehold communication about HIV and sexuality. Although women noted challenges associated with acceptance of condoms by men, increased confidence and skills associated with participation in the intervention supported their introduction in sexual relationships.	Pronyk, P. M., J. C. Kim, et al. (2008). "A combined microfinance and training intervention can reduce HIV risk behaviour in young female participants." AIDS 22(13): 1659-1665.
Jewkes et al. 2008.	South Africa	Stepping Stones	70 villages (clusters) in Eastern Cape; 1360 men and 1416 women aged 15-26 years	15-26 years	Improve sexual health through participatory learning approaches to build knowledge, risk awareness, and communication skills and stimulate critical reflection. Villages were randomised to receive either this or a three hour intervention on HIV and safer sex. 50 hour program spanning 6–8 weeks. Consisted of 13 three-hour long sessions complemented by three meetings of male and female peer groups and a final community meeting.	12 months and 24 months	CRT	incidence of HIV/HSV-2, unwanted pregnancy, reported sexual practices, depression, and substance misuse	No effect on HIV incidence (adjusted incidence rate ratio 0.95, 95% confidence interval 0.67 to 1.35). 33% reduction in incidence of HSV-2 (0.67, 0.46 to 0.97; P=0.036)—[i.e., reduced the number of new HSV-2 infections over a two year period by 34.9 (1.6 to 68.2) per 1000 people exposed]. Significantly lower proportion of men reporting perpetration of intimate partner violence across two years of follow-up and less transactional sex and problem drinking at 12 months. In women desired behaviour changes were not reported and those in the Stepping Stones programme reported more transactional sex at 12 months.	Jewkes, R., M. Nduna, et al. (2008). "Impact of stepping stones on incidence of HIV and HSV-2 and sexual behaviour in rural South Africa: cluster randomised controlled trial." BMJ 337: a506.

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Poverty Action Lab. 2007.	Bangladesh	Kishoree Kontha (KK) project	307 villages randomly selected to receive one of four intervention packages. All girls between 15 to 17 in these villages are eligible	15-17 years	1) Basic Package: Literacy and numeracy training, study support and educational mentoring for school-going girls. Social competency training, including information on health, rights, and general negotiation and social skills. 2) Livelihoods Package: Basic package plus additional sessions on financial education and livelihood readiness. 3) Full Package: Livelihood package, plus a direct conditional incentive to delay marriage until the legal age of 18 years old (16 liters of cooking oil per year). 4) Delayed Marriage Package: This package provides only the cooking oil incentive to delay marriage, as described above, without any peer-led sessions in the communities.	3 years	CRT	School attendance and advancement, marriage status, financial literacy, health and rights knowledge, negotiation and social skills	Not yet available	Poverty Action Lab. "Empowering Girls in Rural Bangladesh." from http://www.povertyactionlab.org/evaluation/empowering-girls-rural-bangladesh .
Duflo et al. 2006.	Kenya	Randomized evaluation in western Kenya	70,000 primary school female and male students from 328 schools in two rural districts of western Kenya	Primary school students	328 schools, with random assignment of various combinations of (1) teacher training reinforcement, (2) condom debate and essay work, and/or (3) school uniform subsidy (\$6 US). Intervention combinations resulted in 6 distinct groups. All learners received the default national lifeskills program.		CRT	Childbearing; HIV/AIDS knowledge, attitudes, and behaviors	After two years, girls in schools with extra teacher training more likely to be married in the event of pregnancy. Little impact on knowledge, attitudes, and behavior, or on incidence of teen childbearing. Condom debates and essays increased practical knowledge and self-reported use of condoms without increasing self-reported sexual activity. Paying for school uniforms reduced dropout rates, teen marriage, and childbearing.	Duflo et al. 2006. World Bank Policy Research Working Paper. 4024; Background paper, 2007 World Development Report.
Harvey et al. 2000.	South Africa	DramaAide	Seven pairs of secondary schools were randomized to receive either written information about HIV/AIDS or the drama programme. One thousand and eighty students participated in the first survey and 699 in the second.	Secondary school students	High school drama-in-education program	6 months	CRT	Questionnaire surveys of knowledge, attitude and behaviour were compared before and 6 months after the interventions.	Improvements in knowledge (P=0.0002) and attitudes (P < 0.00001) about HIV/AIDS were demonstrated in pupils at schools receiving the drama programme when compared to pupils receiving written information alone. These changes were independent of age, gender, school or previous sexual experience. In schools receiving the drama programme, sexually active pupils reported an increase in condom use (P < 0.01).	Harvey B, Stuart J, Swan T: Evaluation of a drama-in-education programme to increase AIDS awareness in South African high schools: a randomized community intervention trial. International Journal of STD and AIDS 2000, 11:105-111.
Erulkar et al. 2012.	Ethiopia	Biruh Tesfah	3700 out-of-school girls aged 10-19 years. Participants drawn from house-to-house surveys in poor urban areas.	10-19 years	Formation of girls' groups by female mentors, and education on HIV/AIDS, life skills, and basic literacy. Mentorship also provides girls with social support to deal with situations where violence or coercion might take place. Also covers nonformal education, communication skills, self-esteem, GBV and rape, family planning methods, financial literacy and savings, entrepreneurship.	2 years	Quasi-experimental	Vulnerability, coerced and/or transactional sex, exploitative labor, social isolation, knowledge of sexual and reproductive health, financial literacy.	At endline, girls in the intervention sites were more than twice as likely to report social support (odds ratio (OR) = 2.0) compared to girls in the control site. They were also twice as likely (OR = 1.9) to score highly on HIV knowledge questions, to know where to obtain voluntary counseling and testing (OR = 2.0) and to want to be tested (OR = 1.9).	Erulkar, Annabel S., Ferede, Abebaw; Girma, Waldemariam; Ambebu, Worku. Evaluation of 'Biruh Tesfa' (Bright Future) program for vulnerable girls in Ethiopia. Vulnerable Children and Youth Studies (forthcoming).
Underwood and Schwandt, 2011.	Botswana, Malawi, Mozambique	Go Girls! Initiative (Gender Initiative on Girls' Vulnerability to HIV)	All 10 to 17 year old girls and their guardians in study communities	10-17 years	Community mobilization, Adult-child communication, Entertainment-education through radio and community drama, Life skills curricula in and out of school, Training for teachers and school administrators, Legal literacy training for girls and guardians	1 year	Quasi-experimental	Program participation, HIV knowledge among adults, adult-child communication, school environment, legal literacy among adolescents, legal literacy among adults	High participation rate among girls and parents. Girls reported feeling safer at school and a decrease in teachers asking for sex in exchange for favors. Parent participation increased parent-child discussion of HIV and improved parent-child relationships. Adult knowledge of HIV increased. Significant increases adolescent and adult legal literacy.	Underwood, C.& Schwandt, H. 2011. Go Girls! Initiative Research Findings Report. Johns Hopkins Bloomberg School of PublicHealth/Center for Communication Programs. Baltimore, Maryland. Developed under the terms of USAID Contract No. GHH-1-00-07-00032-00, Project SEARCH, Task Order 01.

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Coffman et al. 2011.	South Africa	HealthWise	n=2383 Adolescent 8 and 9th graders (50% girls) in Western Cape. Four control and 5 intervention schools.	Grade 8 and 9	The program consists of 12 lessons in grade 8, followed by 6 booster lessons in grade 9. Each lesson requires two to three class periods to deliver (see Caldwell et al. 2004 for a further description). Lessons cover topics typical to most social-emotional skills programs (e.g., anxiety and anger management, decision making, self-awareness) but also target the positive use of free time (e.g., beating boredom, overcoming leisure constraints, leisure motivation). These lessons are complemented by specific lessons on attitudes, knowledge, and skills surrounding substance use and sexual risk (e.g., relationships and sexual behavior, condom use, realities and myths of drug use). The curriculum is provided in either English or Afrikaans.	1, 2 and 3 years	Quasi-experimental	Onset of sexual activity; sex in prior month; condom use; initiation of alcohol use; alcohol use in past month; smoking initiation; smoking use in past month; marijuana use in past month	Students were assessed at beginning and end of each school year, beginning in grade 8 and ending in grade 11. Intervention was delivered in 12 lessons during the 8th grade and 6 lessons during the 9th grade. Using three-level multiphase mixed-effects models, HealthWise had a statistically significant positive effect on condom use self-efficacy, although effects differed for boys and girls. HealthWise had an effect during the first phase of the intervention (8th grade) for girls and during the second phase (9th grade) for boys. Authors speculate gender differences occur because the 8th grade lessons taught skills such as discussion, decision making, and negotiation, which may be more salient to girls, and a 9th grade lessons explicitly focused on condom use within the context of sexual relationships, which may have been more salient to boys.	Coffman DL, Edward A. Smith, Alan J. Flisher, Linda L. Caldwell. Effects of HealthWise South Africa on Condom Use Self-efficacy. <i>Prev Sci. Prev Sci.</i> 2011 June; 12(2): 162-172. doi: 10.1007/s11121-010-0196-z PMCID: PMC3102775.
Maticka-Tyndale et al. 2007	Kenya	National primary school HIV intervention in Kenya.	Standard 6 and 7 (upper primary) students in 40 intervention and 40 matched control primary schools	Standard 6 and 7 (11-16 years)	School based lifeskills designed to (1) increase HIV-related knowledge; (2) increase communication with parents and teachers about HIV and sexuality; (3) increased assistance to fellow pupils to avoid sexual activity; (4) increase self-efficacy related to abstinence and condom use; (5) decrease exposure to HIV through delayed first intercourse, decreased sexual activity and increased condom	18 months	Quasi-experimental	Adequacy of program delivery to standard 6 and 7 pupils; HIV-related knowledge; communication with parents and teachers about HIV and sexuality; assistance to fellow pupils to avoid sexual activity; self-efficacy related to abstinence and condom use; age at first intercourse, sexual activity and condom use	Existing infrastructure was deemed adequate for national roll-out of the program; program had its most beneficial effect on sexually inexperienced youth and should therefore be implemented with the youngest age groups possible; gains are gender specific, with boys reporting increased condom use while girls are more likely to decrease or delay sexual activity.	Maticka-Tyndale E, Wildish J, Gichuru M. Quasi-experimental evaluation of a national primary school HIV intervention in Kenya. <i>Eval Program Plann.</i> 2007 May;30(2):172-86. Epub 2007 Jan 26.

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SEXUAL AND REPRODUCTIVE HEALTH										
Population Council. 2012.	Bangladesh	SAFE	8,336 slum dwelling adolescent girls and women; and 2,634 young men in communities surrounding three Marie Stopes clinics in Dhaka located in Mohammadpur, Mohakhali, and Bashabo	unclear	1. Rights awareness among girls and women. 2. Community mobilization to change gender norms to promote gender equity and create an enabling environment for adolescent girls' and women's sexual reproductive health and rights and freedom from violence 3. Making health services adolescent girl and women friendly; related referrals; availability of information, advice and assistance. 4. Action research to inform intervention design, document intervention process, evaluate outcome and create policy and advocacy content	18 months	CRT	Awareness regarding rights of choice and consent; reduction in experience of violence; service use among victims of violence; male attitudes towards violence against women	Not yet available	Population Council. 2012 Growing up Safe and Healthy (SAFE): Addressing Sexual and Reproductive Rights and Violence against Adolescent Girls and Women in Urban Bangladesh. http://www.popcouncil.org/projects/326_SAFE.asp#/QueryUITabs1-1
Ashraf, McGinn, Low. 2012.	Zambia	Negotiating a Better Future	2,400 grade eight girls from 20 schools in Lusaka	Grade 8	Via public lottery, randomly assign girls to Social Capital, Info Only, or Info+ Negotiation group. Two-week intervention period.	not clear	CRT	Survey: Self-perception, locus of control, intra-household allocation, sexual risk exposure. School-reported: Pregnancy, school attendance and advancement.	Not yet available	https://www.poverty-action.org/sites/default/files/499_561_gn_summary.pdf
Austrian et al. 2012.	Zambia	Adolescent Girls Empowerment Programme	10,000 poor and vulnerable adolescent girls in Zambia	10-19 years	Health and financial education and life skills during weekly girls group meetings led by young women from the community; Girl-friendly individual savings accounts that will be developed in partnership with a Zambian financial institution; and Health vouchers entitling girls to health services provided by facilities in the community.	unclear	CRT	social, health, and economic resources; school attendance; marriage status; self-reported sexual activity and pregnancy; biomarkers for HIV & HSV-2.	Not yet available	http://www.makingcents.com/pdfs/ourWork/Making%20Cents.Zambia%20AGEP.pdf
Baird, Chirwa, et al. 2009.	Malawi	Zomba	1,225 never-married 13-22 year-old females in 88 randomly selected	13-22 years	Education conditional cash transfer program. \$10/mo for 10 months to the household: 30% to the girl, 70% to guardian. Plus school fees paid directly to the school. Treatment status was assigned at the EA level.	2 years	CRT	Self-reported marriage, pregnancy and sexual activity	The probability of getting married and becoming pregnant declined 40 percent and 30 percent, respectively. Incidence of the onset of sexual activity was 38 percent lower among all program beneficiaries than the control group.	Baird, Chirwa, et al. 2009. World Bank Policy Research Working Paper 5089. October 2009
Erulkar et al. 2009.	Ethiopia	Berhane Hewan	All girls aged 10–19 (married or unmarried) residing in urban study communities were eligible to participate	10-19 years	Elements: 1) group formation by adult female mentors; 2) support for girls to remain in school (including an economic incentive), and participation in nonformal education (e.g., basic literacy and numeracy) and livelihood training for out-of-school girls; and 3) "community conversations," to engage the community in discussion of key issues	2 years	Quasi-experimental	Marriage status; school attendance; gender norms, and sexual/RH behaviors; experience of violence.	Pilot: Intervention was associated with considerable improvements in girls' school enrollment, age at marriage, reproductive health knowledge, contraceptive use, equitable gender attitudes; decrease in food insecurity, reduction in reported physical and sexual violence. Among girls aged 10–14, those exposed to program more likely to be in school at the endline survey (OR 3.0) and were less likely to have ever been married (OR 0.1). However, among girls aged 15–19, those in intervention area had an elevated likelihood of having gotten married by endline (OR 2.4). Sexually experienced girls exposed to intervention had elevated odds at endline of having ever used contraceptives (2.9).	Erulkar, A. S. and E. Muthengi (2009). "Evaluation of Berhane Hewan: A Program to Delay Child Marriage in Rural Ethiopia." International Perspectives on Sexual and Reproductive Health 35(1): 6-14.
Ssewamala et al. 2009.	Uganda	SUUBI	AIDS-orphaned adolescents in grades 7 and 8 from 15 comparable primary schools. N=277. Randomization at school-level.	7th and 8th grade	Treatment participants received child savings accounts, workshops, and mentorship. This economic intervention was in addition to the traditional care and support services for school-going orphaned adolescents (counseling and school supplies) provided to both treatment and control groups.	10 months	CRT	5-item sexual risk taking attitudes and intentions scale.	Boys in the experimental group reported a significant decrease in the approval of risky sexual behaviors. Experimental girls did not report changes, compared to an increase in acceptance of risky behaviors among control girls.	Fred M. Ssewamala, Leyla Ismayilova, Mary McKay, Elizabeth Sperber, William Bannon, Jr, and Stacey Alicea. Gender and the Effects of an Economic Empowerment Program on Attitudes Toward Sexual Risk-Taking Among AIDS-Orphaned Adolescent Youth in Uganda. <i>J of Adol Hlth.</i> 46 (2010) 372–378.

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
ICRW. 2008	India	Development Initiative Supporting Healthy Adolescents (DISHA)	Married and unmarried, male and female youth, ages 14-24 years (n=4,645), and among adults aged 30 years and older (n=1,601) living in six NGO catchment areas. The program was implemented in poor, urban districts.	14-24 years	1) Improve youth skills and capacity through peer education, youth groups and livelihoods training; 2) Create an enabling environment by building community support; 3) Ensure youth-friendly health service delivery and access; and 4) Build the technical and implementation capacity of the partner NGOs.	2-3 years	Quasi-experimental	Age at marriage, contraceptive use, knowledge and attitudes on early marriage and reproductive health	Increases in age at marriage and contraceptive use, more likely to know legal age at marriage, where to access contraceptives or health services, more likely to think girls should wait to be married	ICRW (2008). Catalyzing Change Improving Youth Sexual and Reproductive Health through DISHA, an Integrated Program in India.
Peña et al. 2008.	Nicaragua	Entre Amigas (Between Friends)	559 10-14 year-old girls in Ciudad Sandino, Managua, Nicaragua	10-14 years	Promotion of sexual health-related knowledge and skills through girl support groups. (1) Group meetings in which girls talked and worked with other girls, (2) mothers taking an active role in the peer groups, and/or (3) girls watching the soap opera "Sexto Sentido."	not clear	Prepost non-equivalent control group design	Sexual and reproductive health knowledge and gender empowerment "vision"	Girls participating in the peer groups were twice as likely to have satisfactory sexual health-related self-esteem as those who did not participate. Eleven percent of the girls achieved satisfactory self-esteem as a result of the (peer groups × mothers) interaction and 15% due to the (peer groups × mothers × "Sexto Sentido") interaction. Girls participating in the peer groups were three times as likely to have satisfactory gender visions; if exposed to all three components, they were almost four times as likely to develop satisfactory gender visions	R. Peña, M. Quintanilla, K. Navarro, J. Martínez, V. Castillo, W. Pérez, and C. Källéstål (2008) Evaluating a Peer Intervention Strategy for the Promotion of Sexual Health-Related Knowledge and Skills in 10- to 14-year-old Girls. Findings from the "Entre Amigas" Project in Nicaragua. American Journal of Health Promotion: March/April 2008, Vol. 22, No. 4, pp. 275-281.
Santhya et al. 2008.	West Bengal and Gujarat, India	First Time Parents Project	Young women married during the two years preceding the survey, young women pregnant for the first time at the time of the survey and young women who had delivered their first child during the 18 months preceding the survey.	late teens-early 20s	The First time Parents project focuses on newly married, pregnant, or postpartum for the first time. Husbands of young women, senior family members, and health care providers were also included. The project consisted of three mutually reinforcing components: <ul style="list-style-type: none"> • Providing health education and information; • Modifying existing pregnancy, childbirth, and postpartum services; and • Establishing groups of married girls to reduce their social isolation and increase their agency. Intervention activities were tailored to reflect the unique characteristics of each population and the comparative strengths of the NGO partners at each site.	2 years	Quasi-experimental	Knowledge of sexual and reproductive health; autonomy; social support and networks; partner relations; attitudes toward gender relations	In both study sites the intervention had a significant, positive net effect on most indicators reflecting married young women's autonomy, social support networks, partner communication and knowledge of sexual and reproductive health. However, the net effect of exposure was mixed with regard to indicators related to reproductive health practices, gender role attitudes, and attitudes towards domestic violence. While exposure to the intervention had a significant, positive net effect on such indicators as use of contraceptives to delay the first birth, comprehensive antenatal care, delivery preparations, routine postpartum check-ups and breastfeeding practices in one or both sites, it did not appear to positively influence institutional delivery at first birth in either site.	Santhya, K. G., N. Haberland, et al. (2008). Empowering married young women and improving their sexual and reproductive health: Effects of the First-time Parents Project. New Delhi, Population Council.
UNICEF et al. 2008.	Senegal	Tostan	Women 15-49 from 53 rural villages in regions where circumcisions have been common practice. Villages split into 3 categories: 1) villages that benefited from a Tostan program before 2000 and publicly declared that they would abandon the practice of circumcision; 2) villages that were associated with a public declaration before 2000 but did not benefit from Tostan program; 3) control villages-villages which perform circumcision but have not been directly or indirectly exposed to Tostan program.	Girls at risk of FGM; intervention targets adult women	FGM education program geared at a group of people in a village, as well as community mobilization. Human rights and responsibilities; the resolution process; basic hygiene; personal health. Culmination of awareness-building state is community mobilization during a public declaration where villagers collectively agree to give up harmful practices. Before, during and after training beneficiaries implement activities they perform on their own or with Tostan's support.	7 years	Quasi-experimental	Knowledge, practices relating to reproductive health and hygiene; participation in a public declaration; early marriage (level and trends); practice of FGM (level and trends); evaluation of the continuation of circumcision at the village level after the public declaration.	Possible influence on prevalence of child marriage but only for those before age 15 (no significant testing); no influence on circumcision rates (DHS). Appears to have had an influence on attitudes towards circumcision, with more women wanting to see it discontinued. Probable impact on prevalence of circumcision among daughters of women surveyed (no significance testing). Qualitative results suggest impact on individuals based on comments recorded.	UNICEF, Long term evaluation of the Tostan program in Senegal: Solda, Thies and Fatick regions. Statistics and Monitoring Section, Child Protection Section Working Paper. September 2008.

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Brady et al. 2007.	Egypt	Ishraq	13–15-year-old out-of-school girls in rural upper Egypt. N=277	13-15 years	Community safe spaces for girls. Literacy classes, life skills, sports and social support.	30 months	Quasi-experimental	Literacy, re-entry into school, health knowledge and attitudes, social networks, self-perception, community and gatekeeper perceptions of girls	Higher levels of literacy, and self confidence. Desire to marry later, less likely to think FGC is necessary, involvement in an outside club or association. Parents and male peers also participated in community discussions and had more progressive views about women	Brady, M., A. Salem, and N. Zibani (2007) 'Bringing new opportunities to adolescent girls in socially conservative settings: The Ishraq program in rural Upper Egypt', Promoting Healthy, Safe, and
Erulcar and Chong. 2005.	Kenya	Tap and Reposition Youth (TRY)	Out-of-school adolescent girls and young women aged 16 to 22 residing in low income and slum areas of Nairobi. N=?	16-22 years	social support, savings and credit opportunities, and mentoring (over the course of different experiments), with the aim of building up girls' health as well as economic resources. The overall aim of the project was to reduce adolescents' vulnerabilities to adverse social and reproductive health outcomes by improving their livelihoods options.	2 years	Quasi-experimental	Savings, assets, health knowledge and attitudes, condom use, refusal of sex	By endline, experimental girls had doubled their savings, and the amount saved was significantly larger than the control group. Experimental girls were nearly three times more likely to be able to insist on condom use, and 1.7 times more likely to refuse sex. They also expressed more liberal gender attitudes. There were no significant difference in health knowledge.	Erulcar, A. and E. Chong (2005) 'Evaluation of a Savings & Micro-credit Program for Vulnerable Young Women in Nairobi', Nairobi: Population Council
Grant, Mensch, Sebastian. 2005.	India	none	1017 adolescent girls ages 14-19 residing in urban slums	14-19 years	Literate 14–19-year-old girls who had their parents' permission were trained to be peer educators. These girls attended a six-day reproductive health training course and a two-day training course to improve their communication skills. Each peer educator was expected to visit every household in her locality and invite all eligible young women to participate in the project. When approximately 20 girls had been given permission to participate, a group was formed that met once a week at the home of a peer educator. Group sessions on reproductive health were held weekly in both experimental and control areas for 7–10 weeks. Participants in experimental areas also received vocational counseling, savings account information, and follow-up support from a peer educator. Over a 10-month period, 19 vocational courses were offered, including tailoring, pot decoration, mehndi (painting of hands or feet), candle making, creative painting, rug weaving, mending and embroidery, beekeeping, food preservation, and basic cooking.	10 months	Quasi-experimental (propensity score matching)	Social connections; social skills; self-esteem; knowledge of reproductive health; leisure activities; gender role attitudes; mobility; work expectations; time use; labor market work.	Girls in the experimental areas were significantly more likely than the matched control respondents to know about safe locations for unmarried women to congregate, be a member of a group, score higher on indexes measuring social skills and self-esteem, be informed about reproductive health, and spend time on leisure activities. On the other hand, the project did not have a demonstrable effect on gender role attitudes, mobility, work expectations, time use, or labor market work, likely because of the short duration of exposure, as well as the limited number of times that groups convened.	Grant, Monica J.; Mensch, Barbara S.; Sebastian, Mary P. Introducing adolescent livelihoods training in the slums of Allahabad, India
van Rossem and Meekers. 2000.	Cameroon	100% Jeune	Youths aged 15-24 years in Cameroon	Aged 15-24 years	Condom social marketing campaign aimed to improve condom use through intensive youth-oriented mass media and interpersonal communications and widespread distribution of subsidized condoms.	13 months	Repeated cross-section	Awareness of sexual risks, knowledge of birth control methods, and discussion of sexuality and contraceptives, use of oral contraceptives, condom use	The intervention had a significant effect on several determinants of preventive behavior, including awareness of sexual risks, knowledge of birth control methods, and discussion of sexuality and contraceptives. The intervention increased the proportion of female youths who reported using oral contraceptives and condoms for birth control. However, condom use is not yet consistent. Although the proportion of young men who reported using condoms for birth control also increased, this change could not be attributed to the intervention. Although this short intervention successfully increased the reported use of various birth control methods, including condoms, there is no evidence that the intervention increased use of condoms for STD prevention of sexually transmitted diseases.	R. van Rossem and D. Meekers, "An evaluation of the effectiveness of targeted social marketing to promote adolescent and young adult reproductive health in Cameroon," AIDS Education and Prevention, vol. 12, no. 5, pp. 383–404, 2000.
Meekers et al. 2005.	Cameroon	100% Jeune	Representative reproductive health survey of youth aged 15-24 years in Cameroon in 2000 and 2002.	Aged 15-24 years	Condom social marketing campaign aimed to improve condom use through intensive youth-oriented mass media and interpersonal communications and widespread distribution of subsidized condoms.	2 years	Repeated cross-section	Perceived condom attributes and access, self-efficacy, and perceived social support, condom use at last sex with regular partner.	Significant changes in perceived condom attributes and access, self-efficacy, and perceived social support. Consistent with these changes, the percentage of youth who used a condom in last sex with their regular partner increased from 32% to 45% for females (p < .05) and from 44% to 61% for males (p < .01). Additional analyses suggest that exposure to the "100% Jeune" campaign has contributed to these trends.	Meekers D, Agha S, Klein M. The impact on condom use of the "100% Jeune" social marketing program in Cameroon. J Adolesc Health 2005;36:530.

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Erulkar et al. 2004.	Kenya	Nyeri Youth Health Project	Cross-sectional surveys in 1997 and 2001 in control and comparison communities. Unmarried young people aged 10-24 years.	10-24 years	Culturally consistent reproductive health program for young people in Kenya. Objectives: delay the onset of sexual activity among youth who were not yet sexually active; prevent sexually experienced youth from suffering negative consequences of sexual activity; create a reproductive health information and service environment that was responsive to the information and service needs of young people. The design drew heavily on the following six principles for youth programming: recognize the diversity of adolescents; begin with what young people want and what they are already doing to obtain sexual and reproductive health information and services; include skills building; engage adults to create a safe and supportive environment; use a variety of settings and providers; and make the most of existing infrastructure.	3 years	Quasi-experimental	Sexual initiation, "secondary abstinence" (prolonged abstinence after sexual debut), condom use, reduction in the number of sex partners, communication on sexual and reproductive health topics	The 36-month project was associated with considerable changes in young people's sexual and reproductive health-related behavior, but behavior change differed by gender. Females in the project site were significantly more likely than those in the control site to adopt secondary abstinence (odds ratio, 3.3) and less likely to have had three or more sex partners (0.1). Males in the project site were more likely to use condoms than those in the control site (3.7). Both males and females in the project site were more likely to discuss sexual and reproductive health issues with a nonparent adult than were young people in the control site (1.9 and 5.5, respectively).	Erulkar AS, Etyang LIA, Onoka C, Nyagah FK, Muyonga A. Behavior change evaluation of a culturally consistent reproductive health program for young Kenyans. <i>Int Fam Plann Perspect</i> 2004; 30: 58-67.
Muyinda et al. 2003.	Uganda	Senga	113 (83 intervention, 30 control) 13-19 year old girls in 2 intervention and 1 control village. (Boys also participated.)	13-19 years	Sengas (father's sisters) are traditional channels of communication for sexual and reproductive health needs for girls. The intervention modified the senga approach and trained women "sengas" to counsel adolescent girls on sexual reproductive health issues. Training was 7 days in duration. Used multiple methods (role playing, videos, lecture, workshops, discussions. Topics included HIV knowledge, condom use, talking ab sex, family planning, norms, counselling and communication skills. Trained sengas were then made available to members of villages over 12 month period. Sengas had monthly meetings and sex month workshops.	12 months	Quasi-experimental	HIV knowledge; sex communication skills; consistent condom use; family planning service use; symptomatic STDs	Knowledge of HIV, sexual communication skills, consistent condom use, and family planning services increased in the intervention group compared to control. Symptomatic STDs decreased in intervention group.	Muyinda, H., J. Nakuya, et al. (2003). "Harnessing the senga institution for the control of HIV and STDs in rural Uganda." <i>AIDS Care</i> 15(2): 159-167.
Shuey et al. 1999.	Uganda	none	Students in final year of primary school, Soroti district of Uganda	Final year primary, average age 14 years	School health education program designed to improve access to information, improve peer interaction and improve quality of performance of the existing school health education system.	2 years	Repeated cross-section	Sexual abstinence	The percentage of students who stated they had been sexually active fell from 42.9% (123 of 287) to 11.1% (31 of 280) in the intervention group, while no significant change was recorded in a control group. The changes remained significant when segregated by gender or rural and urban location. Students in the intervention group tended to speak to peers and teachers more often about sexual matters. Increases in reasons given by students for abstaining from sex over the study period occurred in those reasons associated with a rational decision-making model rather than a punishment model.	Shuey DA et al.: Increased sexual abstinence among in-school adolescents as a result of school health education in Soroti district, Uganda, <i>Health Educ Res</i> , 1999, 14: 411-419.
Mgalla et al. 1998.	Tanzania	none	1219 secondary schoolgirls aged 13-19 years in urban and rural schools.	13-19 years	Female teachers trained as girls guardians who can be consulted by schoolgirls in cases of sexual violence or sexual harrassment and for advice on sexual and reproductive health.	8 months	Post-test of schools with and without program	Sexual history and current sexual activity; experience of sexual violence and harrassment; types of problems reported to guardians; sexual abuse by male teachers; sexual abuse by male teachers; experience of transactional sex; sources of advice and support; guardians' and girls' assessment of program to-date	No marked differences in levels of sexual activity among girls following guardian program; 61% of girls had met with a guardian- sexual harrassment by boys was most common reason for meeting; girls said guardian acted as an advisor (68% said this) and protector (29%); girls in schools without guardian less likely to report consulting with female teacher on issues of sexual harrassment or for info on SRH	Mgalla Z, Schapink D, Boerma JT. Protecting school girls against sexual exploitation: a guardian programme in Mwanza, Tanzania. <i>Reproductive Health Matters</i> . 1998;6(12):19-29.

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
MENTAL HEALTH										
Ssewamala et al. 2009.	Uganda	SUUBI	AIDS-orphaned adolescents from 15 comparable primary schools. N=267. Randomization at school-level.	7th and 8th grade	Experimental group offered the opportunity to open a savings account for secondary education or for microenterprise development, and twelve 1–2 hour training sessions on career planning, and financial planning.	10 months	RCT	20 items of the Tennessee Self-Concept Scale (TSCS: 2) a standardized measure for self-esteem and measured overall health using a self-rated health measure.	Multilevel regression analysis indicates that participants in the treatment condition reported higher self-esteem at the 10-month follow-up than the control group. With regard to gender, girls were likely to have higher self-esteem than boys. Homeownership was significantly associated with positive changes in children's self-esteem.	Ssewamala, F. M., C.-K. Han, et al. (2009). "Asset ownership and health and mental health functioning among AIDS-orphaned adolescents: Findings from a randomized clinical trial in rural Uganda." <i>Social Science & Medicine</i> 69(2): 191-198.
Baird, de Hoop, Ozler. 2011.	Malawi	Zomba	3,796 never-married 13-22 year-old females in 176 randomly selected rural and urban EAs within 16Km radius of Zomba City.	13-22 years	Treatment status at EA level. Sample of 176 EAs randomly divided into two equally sized groups: treatment and control. In 88 treatment EAs, all baseline dropouts were offered conditional cash transfers. The 88 treatment EAs were then randomly assigned to one of three groups to determine the treatment status of baseline schoolgirls: in 46 EAs a randomly determined share of baseline schoolgirls received transfers conditional on regular school attendance (CCT arm), while in 27 EAs a randomly determined share of baseline schoolgirls received unconditional transfers (UCT arm). In remaining 15 EAs baseline schoolgirls received no transfers.	2 years	CRT	Mental Health: General Health Questionnaire 12 (GHQ-12)	Among baseline schoolgirls offered unconditional cash transfers, the likelihood of suffering from psychological distress was 38 percent lower than the control group, and 17 percent lower if the cash transfer were conditional on regular school attendance. No impact on mental health of girls who had already dropped out of school at baseline. The beneficial effects of cash transfers were limited to the intervention period and dissipated quickly after the program ended.	Baird, de Hoop, Ozler. 2011. World Bank Policy Research Working Paper 5644. April 2011.
Bolton et al. 2007.	Uganda	none	Study participants were Acholi adolescents aged 14 to 17 years living in 2 camps for internally displaced persons near Gulu town in northern Uganda.	14 to 17 years	Random allocation to three groups: 105 to psychotherapy-based intervention [group interpersonal psychotherapy]; 105 to activity-based intervention [creative play]; 104 to wait-control group [individuals wait listed to receive treatment at study end]. Intervention groups met weekly for 16 weeks.	16 weeks	RCT	Depression symptom scale; anxiety, conduct problem symptoms, and function scales. Depression, anxiety, and conduct problems were assessed using the Acholi Psychosocial Assessment Instrument with a minimum score of 32 as the lower limit for clinically significant symptoms (maximum scale score, 105).	Difference in change in adjusted mean score for depression symptoms between group interpersonal psychotherapy and control groups was 9.79 points (95% confidence interval [CI], 1.66-17.93). Girls receiving group interpersonal psychotherapy showed significant improvement in depression symptoms compared with controls (12.61 points; 95% CI, 2.09-23.14). Improvement among boys not statistically significant (5.72 points; 95% CI, -1.86 to 13.30). Creative play showed no effect on depression severity (-2.51 points; 95% CI, -1.42 to 6.39). No statistically different improvements in anxiety in either intervention group. Neither intervention improved conduct problem or function scores.	Bolton P, Bass J, Betancourt T, Speelman L, Onyango G, Clougherty KF, et al. Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: a randomized controlled trial. <i>JAMA</i> . 2007;298(5):519–27. doi: 10.1001/jama.298.5.519.
Tol et al. 2012.	Sri Lanka	none	Of 1,370 children screened in randomly selected schools, schools were randomly assigned to an intervention (199 children) or waitlist control condition (n=200 children).	Grades 4-7 (9 to 12 years)	15 manualized sessions over 5 weeks of cognitive behavioral techniques and creative expressive elements, including group activities such as cooperative games, music, drawings and psychodrama that focus on stabilization and safety, individual coping strategies, traumatic exposure narratives, and future-oriented resources.	3 months	CRT	Post-traumatic stress disorder (PTSD), depressive, and anxiety symptoms.	No main effects on primary outcomes were identified. A main effect in favor of intervention for conduct problems was observed. This effect was stronger for younger children. Furthermore, we found intervention benefits for specific subgroups. Stronger effects were found for boys with regard to PTSD and anxiety symptoms, and for younger children on pro-social behavior. Moreover, we found stronger intervention effects on PTSD, anxiety, and function impairment for children experiencing lower levels of current war-related stressors. Girls in the intervention condition showed smaller reductions on PTSD symptoms than waitlisted girls.	WIETSE A. TOL, IVAN H. KOMPROE, MARK J.D. JORDANS, ANAVARATHAN VALLIPURAM, HEATHER SIPSMA, SAMBASIVAMOORTHY SIVAYOKAN, ROBERT D. MACY and JOOP T. DE JONG. Outcomes and moderators of a preventive school-based mental health intervention for children affected by war in Sri Lanka: a cluster randomized trial. <i>World Psychiatry</i> . 2012 June; 11(2): 114–122.
Jordans et al. 2010.	Nepal		Children (n = 325) (mean age = 12.7, SD = 1.04, range 11-14 years) with elevated psychosocial distress were allocated to a treatment or waitlist group.	11 to 14 years	15 manualized sessions over 5 weeks of cognitive behavioral techniques and creative expressive elements, including group activities such as cooperative games, music, drawings and psychodrama that focus on stabilization and safety, individual coping strategies, traumatic exposure narratives, and future-oriented resources.	3 months	CRT	Depression, anxiety, posttraumatic stress disorder, psychological difficulties, resilience indicators (hope, prosocial behavior) and function impairment	Moderate short-term beneficial effects for improving social-behavioral and resilience indicators: reduction in psychological difficulties and aggression among boys, increased prosocial behavior among girls, and increased hope for older children. The intervention did not result in reduction of psychiatric symptoms.	Jordans MJ, Komproe IH, Tol WA. Evaluation of a classroom-based psychosocial intervention in conflict-affected Nepal: a cluster randomized controlled trial. <i>J Child Psychol Psychiatry</i> . 2010;51:818–826.

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Tol et al. 2010.	Indonesia	none	Children aged 8-13 in Central Sulawesi, Indonesia (treatment condition n = 182, waitlist control condition n = 221).	8 to 13 years	15 manualized sessions over 5 weeks of cognitive behavioral techniques and creative expressive elements, including group activities such as cooperative games, music, drawings and psychodrama that focus on stabilization and safety, individual coping strategies, traumatic exposure narratives, and future-oriented resources.	3 months	CRT	Posttraumatic stress symptoms and function impairment	Compared with the waitlist group, those receiving treatment showed maintained hope, increased positive coping, maintained peer social support, and increased play social support. Of these putative mediators, only play social support was found to mediate treatment effects, such that increases in play social support were associated with smaller reductions in posttraumatic stress disorder (PTSD) symptoms. Furthermore, the authors identified a number of moderators: Girls showed larger treatment benefits on PTSD symptoms; girls, children in smaller households, and children receiving social support from adults outside the household showed larger treatment benefits on function impairment.	Tol WA, Komproe IH, Jordans MJ. Mediators and moderators of a psychosocial intervention for children affected by political violence. J Consult Clin Psychol. 2010;78:818-828.

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NON-COMMUNICABLE DISEASE										
Smith et al. 2008.	South Africa	HealthWise	n=2383 grade 8 and 9th students (50% girls) in Western Cape. Four intervention and 5 control schools.	Grade 8 and 9	The program consists of 12 lessons in grade 8, followed by 6 booster lessons in grade 9. Each lesson requires two to three class periods to deliver (see Caldwell et al. 2004 for a further description). Lessons cover topics typical to most social-emotional skills programs (e.g., anxiety and anger management, decision making, self-awareness) but also target the positive use of free time (e.g., beating boredom, overcoming leisure constraints, leisure motivation). These lessons are complemented by specific lessons on attitudes, knowledge, and skills surrounding substance use and sexual risk (e.g., relationships and sexual behavior, condom use, realities and myths of drug use). The curriculum is provided in either English or Afrikaans.	1 year	Quasi-experimental	Onset of sexual activity; sex in prior month; condom use; initiation of alcohol use; alcohol use in past month; smoking initiation; smoking use in past month; marijuana use in past month	For first cohort at five waves of data collection: Results indicate that HealthWise was effective in increasing the perception of condom availability for both genders (OR = 1.6). As compared to HealthWise participants, control participants also had steeper increases in recent and heavy use of alcohol (OR = 1.4 [95% C.I. = 1.1-1.8], 1.6 [1.2-2.2], respectively) and recent and heavy cigarette use (OR = 1.4 [1.1-1.7], 1.4 [1.1-1.8], respectively). There were also several significant gender by treatment interactions, which are discussed.	Smith, E. A., L.-A. Palen, et al. (2008). "Substance use and sexual risk prevention in Cape Town, South Africa: an evaluation of the HealthWise program." <i>Prevention Science: The Official Journal Of The Society For Prevention Research</i> 9(4): 311-321.
Resnicow et al. 2008.	South Africa	none	Grade 8 and 9 students in 36 public schools in KwaZulu-Natal and Western Cape.	Grade 8 and 9	Schools randomized to one of three treatment groups: Group 1 (comparison) schools (n=12) received usual tobacco use education. Group 2 schools (n=12) received a harm minimization curriculum in grades 8 and 9. Group 3 schools (n=12) received a life skills training curriculum in grades 8 and 9.	2 years	CRT	Self-reported past month use of cigarettes.	The net change in 30-day smoking from baseline to 2-year follow-up in the control group was 6% compared to 3% in both harm minimization (HM) and life skills training (LST) schools. These differences were not statistically significant. Intervention response was significantly moderated by both gender and race. The HM intervention was more effective for males, whereas the life skills intervention was more effective for females. For black African students, the strongest effect was evident for the HM intervention, whereas the strongest intervention effect for "colored" students was evident for the LST group.	K Resnicow, P Reddy, S James, R Omardien, N Kambaran, H Langner, R Vaughan, D Cross, G Hamilton, T Nichols. Comparison of Two School-Based Smoking Prevention Programs among South African High School Students: Results of a Randomized Trial. <i>Ann. Behav. Med.</i> (2008) 36:231-243. DOI 10.1007/s12160-008-9072-5
FINANCIAL EDUCATION OR SAVINGS										
Bandiera et al. 2012.	Uganda	Empowerment and Livelihood for Adolescents (ELA)	Girls aged 14-20 years	14-20 years	Intervention consists of 'adolescent development clubs', located in a fixed meeting place within each community. Clubs are often housed in a single dedicated room which is either donated by the community or rented by BRAC. Typically, the club is open five afternoons per week and timed so that girls enrolled full-time in school can attend. Club activities are led by a female mentor.	2 years	CRT	Self-reported income generating activities; health and risk behaviors.	Intervention significantly raises the likelihood that girls engage in income generating activities by 32%, mainly driven by increased participation in self-employment. Self-reported routine condom use increases by 50% among the sexually active, and the probability of having a child decreases by 26%. Strikingly, the share of girls reporting sex against their will drops from 21% to almost zero.	O Bandiera, N Buehren, R Burgess, M Goldstein, S Gulesci, I Rasul and M Sulaimany. 2012. Empowering Adolescent Girls: Evidence from a Randomized Control Trial in Uganda. econ.jse.ac.uk/staff/rburgess/wp/ELA.pdf
Hallman et al. 2012.	KwaZulu-Natal, South Africa	Siyakha Nentsha	715 grade 10 and 11 learners (359 females; 356 males) in rural secondary schools adjacent to Umlazi Township, Durban	Grade 10 and 11	Arm 1: Control - national default lifeskills (100 girls; 69 boys). Experimental arms: (Eighty [80] hours possible exposure, June 2008-May 2009). Arm 2: Financial skills + Social support + HIV prevention skills (85 girls; 126 boys). Arm 3: Stress reduction skills + Social support + HIV prevention skills (145 girls; 136 boys).	18 months	Quasi-experimental (with nested CRT)	Self-reported sexual behaviors; financial activities and saving; social capital. Raven's tests of cognitive skills.	Compared with the control girls: Arm 2 and 3 girls significantly more likely to interact with financial institutions and be saving money; Arm 2 (Financial+) girls had significantly higher cognitive skills. Compared with the control boys: Arm 2 and 3 boys had significantly greater knowledge of social grants, were significantly less likely to have sexually debuted, and if sexually active, had fewer sexual partners. No significant impact for either Arm 2 or Arm 3 on condom use (at last sex or consistent use) for either females or males, girls' level of sexual activity or number of sexual partners, or boys' access to financial services or saving behavior.	Hallman et al. 2012. Siyakha Nentsha: A Randomized Experiment to Enhance the Health, Social and Financial Capabilities of Girls & Boys in KZN, South Africa. Population Association of America Annual Meeting. https://paa2012.princeton.edu/papers/122389 ; and http://www.youtheconomicopportunities.org/sites/default/files/uploads/resource/An%20Experiment%20op%20Council.pptx

AUTHORS	COUNTRY	PROGRAM NAME	STUDY POPULATION	AGE/GRADE AT BASELINE	INTERVENTION DESCRIPTION	FOLLOW-UP	STUDY DESIGN	OUTCOMES MEASURED	RESULTS	CITATION
Austrian. 2011.	Uganda	Safe and Smart Savings Program for Vulnerable Adolescent Girls	1076 girls aged 10-14 and 15-19 in poor urban communities	10-14 and 15-19 years	Build upon safe spaces model; groups of 20-25 girls open individual savings accounts, have weekly meetings with mentors, meetings include financial education; parents meetings also held; girls get an ID card	12 months	Quasi-experimental	Self-reported work activity, money sources, savings behavior, social capital, social networks, self-esteem, gender norms, future life goals, knowledge of sexual and reproductive health	INT participants reported a significant increase in savings from baseline to endline (4.2 (finca) and 4.7 (finance trust) times more likely to have saved compared to non-INT girls); INT girls significantly more likely to use formal savings methods; girls with a group were 1.6 times more likely than those with an account alone to disagree that they felt worthless (self-esteem measure); at endline girls without a group (account only) were 2 times more likely to have experienced sexual harrassment; girls in group had higher knowledge of HIV/AIDS and RH; girls in savings group 1.7 times moer likely at endline than girls with savings acct only to disagree that men rape girls because they can't control themselves.	Austrian K. 2011. <i>Safe and Smart Savings Products for Vulnerable Adolescent Girls: Uganda Pilot Evaluation Report</i> (unpublished work) and Austrian K. <i>Safe and Smart Savings Products for Vulnerable Adolescent Girls in Kenya and Uganda: Results from Uganda Pilot Evaluation</i> (conference presentation-Global Youth Economic Opportunities Conference, Septebmer 2011).
Bhattacharjee and Das. 2011.	Bangladesh	Social and Financial Empowerment of Adolescents (SoFEA) Programme	Girls aged 11-21 years in rural communities	11-21 years	Six basic components: safe space called 'Adolescent Club' for girls to socialize, life-skills training, livelihood training, financial literacy, savings and credit facilities and community participation.	not clear	Quasi-experimental	Socio-demographic profile, awareness regarding health, social and legal issues, financial literacy; perception of marriage, gender roles; overall status in personal and family settings; parents' perceptions of their girls on these issues	Not yet available	Bhattacharjee, A. and N. C. Das (2011). <i>Profile of the Adolescent Girls: Findings from the Baseline Survey for Social and Financial Empowerment of Adolescents (SoFEA) Programme</i> . Research Monograph Series Dhaka, Bangladesh, BRAC. 46.
LEADERSHIP										
Catino et al. 2011.	Guatemala	Abriendo Oportunidades	8-12 and 13-18 year-old Mayan girls residing in rural communities	8-12 & 13-18 years	Girls in the program are divided into age cohorts (8-12) (13-18) and participate in a life-cycle specific program of activities. In each annual girls' club cycle, new peer mentors/girl leaders are identified and trained; some older girls also apply for one-year paid professional internships with local institutions in the public and private sectors. Each mentor leads a club of approx 40 girls/cycle. Workshops are conducted on key topcs at regular intervals at a safe space identified with the help of the community.	12 months	Comparison to district means	Completion of 6th grade, in school status, parity, reported autonomy, reported 'role at home', having a bank account, having paid employment	Among Peer Educators: 100% have completed the 6th grade; 72% were in school at end of 2009-2010 cycle; 97% remained childless during program cycle; 94% reported experiencing greater autonomy; 84% reported role at home had improved; 88% reported having a bank account and 44% had obtained paid employment when program cycle finished.	Catino J, Colom A, Ruiz MJ. <i>Equipping Mayan girls to improve their lives. Transitions to Adulthood Brief no. 5</i> . Population Council. March 2011. (Evaluation of impact on 8-12 and 13-18 year-old participants is planned.)

ANNEX 2 FEATURED PROGRAMS

CONTROL-COMPARISON STUDIES WITH GIRL-SPECIFIC RESULTS REPORTED

HIV

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CONTROL-COMPARISON MIXED-SEX STUDIES, NO GIRL-SPECIFIC RESULTS REPORTED

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TABLE 1 PARTICIPANT CHARACTERISTICS

HIV PREVENTION		SINGLE SEX	AGE<14 YEARS INCLUDED	SCHOOL-ENROLLED ONLY	LITERATE/SOME EDUCATION	OUT OF SCHOOL	MARRIED Y, UNMARRIED	HAS CHILD OR NOT	PARENTAL SURVIVAL, CO-RESIDENCE	RURAL	URBAN	MIXED URBAN RURAL
Wright, Plummer, Ross. 2012.										y		
Doyle et al. 2011.										y		
Doyle et al. 2010.										y		
Larke et al. 2010.										y		
Ross et al. 2007.										y		
Baird, Garfein et al. 2012.	y	y	y	y	y		never married		orphaned	y		y
Hallfors et al. 2011.	y	y	y	y	y				orphaned	y		
Dunbar et al. 2010.	y					y					y	
Cowan et al. 2010.										y		
Pronyk et al. 2008.	y									y		
Jewkes et al. 2008.										y		
Poverty Action Lab. 2007.	y									y		
Dufo et al. 2006.			y	y	y					y		
Harvey et al. 2000.				y	y					not specified	not specified	
Erulkar et al. 2012.	y	y	y							y		
Underwood and Schwandt, 2011.	y	y	y									y
Coffman et al. 2011.				y	y							y
Matlack-Tyndale et al. 2007			y	y	y							y
HIV TOTAL	39%	33%	28%	28%	6%	6%	0%	11%	67%	17%	17%	
SEXUAL AND REPRODUCTIVE HEALTH												
Population Council. 2012.	y											y
Ashrof, McGinn, Low. 2012.	y			y	y							y
Austrian et al. 2012.	y		y									y
Baird, Chirwa, et al. 2009.	y	y	y				never married					y
Erulkar et al. 2009.	y	y	y							y		
Ssewamala et al. 2009.			y	y					orphaned	y		y
ICRMV. 2008.												y
Peña et al. 2008.	y		y									y
Santhya et al. 2008.	y						married	pregnant / infant		y		
UNICEF et al. 2008.	y		y							y		
Brady et al. 2007.	y		y			y				y		
Erulkar and Cheng. 2005.	y					y						y
Grant, et al. 2005.	y											y
van Rossem and Meekers. 2000.												y
Meekers et al. 2005.												y
Erulkar et al. 2004.			y				unmarried					y

TABLE 1 PARTICIPANT CHARACTERISTICS

	SINGLE SEX	AGE <14 YEARS INCLUDED	SCHOOL-ENROLLED ONLY	LITERATE/SOME EDUCATION	OUT OF SCHOOL	MARRIED V. UNMARRIED	HAS CHILD OR NOT	PARENTAL SURVIVAL/CO-RESIDENCE	RURAL	URBAN	MIXED URBAN RURAL
Muyinda et al. 2003.		y							y		
Shuey et al. 1999.		y	y	y					y		
Mgalla et al. 1998.	y	y	y	y							y
SRH TOTAL	67%	61%	22%	22%	11%	17%	6%	6%	33%	33%	28%
MENTAL HEALTH											
Ssewamala et al. 2009.		y	y	y				orphaned	y		
Baird, de Hoop, Ozler. 2011.	y	y				never married					y
Bolton et al. 2007.			y	y					IDP camp		
Tol et al. 2012.		y	y	y							y
Jordans et al. 2010.		y	y	y							y
Tol et al. 2010.		y	y	y							y
MENTAL HEALTH TOTAL	17%	83%	83%	83%	0%	17%	0%	17%	17%	17%	67%
NON-COMMUNICABLE DISEASE											
Smith et al. 2008.			y	y					not specified		
Resnicow et al. 2008.			y	y					not specified		
NCD TOTAL	0%	0%	100%	100%	0%	0%	0%	0%			
FINANCIAL EDUCATION OR SAVINGS											
Bandiera et al. 2012.	y										y
Hallman et al. 2012.			y	y					y		
Austrin. 2011.	y	y								y	
Bhattacharjee, Das. 2011	y								y		
FINANCIAL TOTAL	75%	25%	25%	25%	0%	0%	0%	0%	50%	25%	25%
LEADERSHIP											
Catino et al. 2011.	y	y							y		
LEADERSHIP TOTAL	100%	100%	0%	0%	0%	0%	0%	0%	100%	0%	
ALL FEATURED PROGRAMS	47%	49%	35%	35%	6%	10%	2%	8%	47%	20%	27%

TABLE 2 STUDY CHARACTERISTICS

	STUDY DESIGN	LONGEST FOLLOW-UP (MOS)	FOLLOW-UP > 12 MONTHS	FOLLOW-UP > 24 MONTHS	COST INFORMATION	ECOLOGICAL, MULTI-LEVEL	SCHOOL RETENTION / REENTRY	INCENTIVE (CREDIT, CASH, IN-KIND)	FINANCIAL EDUCATION /SAVING	VOCATIONAL / LH TRAINING	RIGHTS TRAINING	AGE/GRADE-SPECIFIC CONTENT (≤6 YRS; 3 GRADES)	SAFE SPACE, SOCIAL SUPPORT
HIV PREVENTION													
Wight, Plummer, Ross, 2012.	CRT	108	1	1		Y							
Doyle et al. 2011.	CRT	108	1	1		Y							
Doyle et al. 2010.	CRT	108	1	1		Y							
Larke et al. 2010.	CRT	36	1	1		Y							
Ross et al. 2007.	CRT	36	1	1		Y							
Baird, Garfein et al. 2012.	CRT	24	1	0		Y	Y	Y				Y	
Hallfors et al. 2011.	CRT	24	1	0		Y	Y	Y				Y	
Dunbar et al. 2010.	CRT	24	1	0				Y	Y	Y		Y	Y
Cowan et al. 2010.	CRT	48	1	1		Y		Y	Y	Y		Y	Y
Pronyk et al. 2008.	CRT	24	0	0		Y		Y	Y	Y		Y	Y
Jewkes et al. 2008.	CRT	12	0	0					Y	Y			Y
Poverty Action Lab. 2007.	CRT	36	1	1		Y	Y	Y	Y	Y		Y	Y
Dufo et al. 2006.	CRT					Y	Y	Y					
Harvey et al. 2000.	CRT	6	0	0									
Erukhar et al. 2012.	QE	24	1	0	Y				Y	Y		Y	Y
Underwood and Schwandt, 2011.	QE	12	0	0		Y	Y					Y	Y
Coffman et al. 2011.	QE	36	1	1								Y	
Meritaka-Tyndale et al. 2007.	QE	18	1	0		Y						Y	Y
HIV PREVENTION TOTAL		38	72%	44%	6%	72%	28%	33%	22%	22%	22%	33%	39%
SEXUAL AND REPRODUCTIVE HEALTH													
Population Council. 2012.	CRT	18	1	0		Y						Y	Y
Ashraf, McGinn, Low, 2012.	CRT	not clear	not clear	not clear								Y	Y
Austrin et al. 2012.	CRT	not clear	not clear	not clear	Y	Y	Y	Y	Y				Y
Baird, Chirwa, et al. 2009.	CRT	24	1	0		Y	Y	Y	Y	Y			Y
Erukhar et al. 2009.	QE	24	1	0	Y	Y	Y	Y	Y	Y			Y
Sewamala et al. 2009.	CRT	10	0	0		Y	Y	Y	Y	Y		Y	Y
ICRW. 2008.	QE	36	1	1		Y				Y			Y
Peña et al. 2008.	Prepost non-equivalent control group	not clear	not clear	not clear		Y						Y	Y
Santhya et al. 2008.	QE	24	1	0	Y	Y						Y	Y
UNICEF et al. 2008.	QE	84	1	1		Y						Y	Y
Brady et al. 2007.	QE	30	1	1	Y	Y	Y					Y	Y
Erukhar and Cheng. 2005.	QE	24	1	0	Y				Y			Y	Y
Grant, Mensch, et al. 2005.	QE	10	0	0					Y	Y		Y	Y

TABLE 2 STUDY CHARACTERISTICS

	STUDY DESIGN	LONGEST FOLLOW-UP (MOS)	FOLLOW-UP > 12 MONTHS	FOLLOW-UP > 24 MONTHS	COST INFORMATION	ECOLOGICAL, MULTI-LEVEL	SCHOOL RETENTION / REENTRY	INCENTIVE (CREDIT, CASH, IN-KIND)	FINANCIAL EDUCATION /SAVING	VOCATIONAL / LH TRAINING	RIGHTS TRAINING	AGE/GRADE-SPECIFIC CONTENT (≤6 YRS; 3 GRADES)	SAFE SPACE, SOCIAL SUPPORT
van Rossem, Meekers. 2000.	Repeated cross-section	13	1	0									
Meekers et al. 2005.	Repeated cross-section	24	1	1									
Erulkar et al. 2004.	QE	36	1	1	Y	Y			Y				Y
Muyinda et al. 2003.	QE	12	0	0		Y							Y
Shuey et al. 1999.	Repeated cross-section	24	1	0								Y	
Mgalla et al. 1998.	Post-test of schools with, without program	8	0	0		Y					Y		
SRH TOTAL		25	75%	31%	35%	76%	24%	24%	35%	18%	41%	39%	82%
MENTAL HEALTH													
Sewamala et al. 2009.	RCT	10	0	0			Y	Y	Y	Y		Y	Y
Baird, de Hoop, Ozler. 2011.	CRT	24	1	0		Y	Y	Y					
Bolton et al. 2007.	RCT	4	0	0								Y	Y
Tol et al. 2012.	CRT	3	0	0									
Jordans et al. 2010.	CRT	3	not clear	not clear								Y	
Tol et al. 2010.	CRT	3	not clear	not clear								Y	
MENTAL HEALTH TOTAL		8	25%	0%	0%	17%	33%	33%	17%	17%	0%	67%	33%
NON-COMMUNICABLE DISEASE													
Smith et al. 2008.	QE	12	1	1								Y	
Resnicow et al. 2008.	CRT	24	1	0								Y	
NCD TOTAL		18	100%	50%	0%	0%	0%	0%	0%	0%	0%	100%	0%
FINANCIAL EDUCATION OR SAVINGS													
Bandiera et al. 2012.	CRT	24	1	0					Y	Y			Y
Hollman et al. 2012.	QE	18	1	0	Y	Y			Y		Y	Y	Y
Austrin. 2011.	QE	12	0	0	Y	Y			Y		Y	Y	Y
Bhattacharjee and Dgs. 2011.	QE	not clear	not clear	not clear		Y		Y	Y	Y			Y
FINANCIAL ED. & SAVINGS TOTAL		18	67%	0%	50%	75%	0%	25%	75%	25%	50%	50%	75%
LEADERSHIP													
Carino et al. 2011.	Comparison with district means	18	1	0	Y	Y	Y		Y	Y	Y	Y	Y
LEADERSHIP TOTAL		18	100%	0%	100%	100%	100%	0%	100%	100%	100%	100%	100%
ALL FEATURED PROGRAMS		27	63%	29%	20%	61%	24%	27%	31%	20%	29%	45%	55%

TABLE 3 GIRL EFFECTS

HIV PREVENTION		HEALTH KNOWLEDGE	ATTITUDES	HEALTH INTENTIONS	HEALTH BEHAVIOR	HEALTH SERVICE USE	HEALTH MEDIATOR	HEALTH STATUS
Wright, Plummer, Ross. 2012.	1							
Doyle et al. 2011.	1	1						
Doyle et al. 2010.	1		1					
Larke et al. 2010.								
Ross et al. 2007.	1		1					HIV
Baird, Garfein et al. 2012.					2			
HSV-2, pregnancy								
Hallfors et al. 2011.			2					2
Dunbar et al. 2010.	1							1
Cowan et al. 2010.	1		1					pregnancy
Prenyk et al. 2008.					1		1	1
Jewkes et al. 2008.					1			HSV-2
Poverty Action Lab. 2007.		not yet available						
Dufo et al. 2006.	1				1			1
Harvey et al. 2000.	1		1					pregnancy
Erulkar et al. 2012.	2				1			1
Underwood, Schwandt. 2011.								3
Coffman et al. 2011.								1
Maiticka-Tyndale et al. 2007.					1			
Total number significant effects	10		6		7		1	10
Completed HIV studies with significant effects (n)	10		6		7		1	8
Completed HIV studies with significant effects (%)	59%		35%		41%		6%	47%
SEXUAL AND REPRODUCTIVE HEALTH								
Population Council. 2012.		not yet available						
Ashraf, McGinn, Low. 2012.		not yet available						
Austrian et al. 2012.		not yet available						
Baird, Chirwa, et al. 2009.					1			1
Erulkar et al. 2009.	1		1		2			5
Sswamida et al. 2009.			1					
ICRW. 2008.	1		1		1			2
Peña et al. 2008.								2
Sanhya et al. 2008.	1		2		3		2	3
UNICEF et al. 2008.			1					FGM
Brady et al. 2007.			2		1			3
Erulkar and Cheng. 2005.			1		2			
Grant, Mensch, Sebastian. 2005.	1							4
van Rossem and Meekers. 2000.	2							1

TABLE 3 GIRL EFFECTS

	HEALTH KNOWLEDGE	ATTITUDES	HEALTH INTENTIONS	HEALTH BEHAVIOR	HEALTH SERVICE USE	HEALTH MEDIATOR	HEALTH STATUS
Meekers et al. 2005.	1			1		1	
Erulkar et al. 2004.				2		1	
Muyinda et al. 2003.	1			1	1	1	STI symptoms
Shuey et al. 1999.				1		1	
Mgalla et al. 1998.						1	
Total number significant effects	8	9	1	14	3	26	3
Completed SRH studies with significant effects (n)	6	6	1	8	2	12	3
Completed SRH studies with significant effects (%)	40%	40%	7%	53%	13%	80%	20%
MENTAL HEALTH							
Ssewamala et al. 2009.						1	
Barid, de Hoop, Ozler. 2011.							GHQ-12
Bolton et al. 2007.							depression
Tol et al. 2012.							conduct problems
Jordans et al. 2010.							pro-social behavior
Tol et al. 2010.							PTSD
Total number significant effects						1	5
Completed mental health studies with significant effects (n)						1	5
Completed mental health studies with significant effects (%)						17%	83%
NON-COMMUNICABLE DISEASE							
Smith et al. 2008.	1			1			
Resnicow et al. 2008.				1			
Total number significant effects	1	0	0	2	0	0	0
Completed NCD studies with significant effects (n)	1	0	0	2	0	0	0
Completed NCD studies with significant effects (%)	50%	0%	0%	100%	0%	0%	0%
FINANCIAL EDUCATION OR SAVINGS							
Bandiera et al. 2012.				2			pregnancy
Hollman et al. 2012.	1	1				3	
Austrian. 2011.	1	1				3	
Bhatracharjee and Das. 2011.	not yet available						
Total number significant effects	2	2	0	2	0	6	1
Completed financial studies with significant effects (n)	2	2	0	1	0	2	1
Completed financial studies with significant effects (%)	67%	67%	0%	33%	0%	67%	33%
LEADERSHIP							
Carino et al. 2011.						4	pregnancy
Total number significant effects	0	0	0	0	0	4	1
Completed leadership studies with significant effects (n)	0	0	0	0	0	1	1
Completed leadership studies with significant effects (%)	0%	0%	0%	0%	0%	100%	100%