Evidenced-Based Interventions Focused on Youth Risk Factors -

A Global Systematic Review to Identify Effective Programs Addressing Pregnancy, Violence, Youth Idleness and Substance Use Among Teens

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Acronym list

CBO	Community-Based Organization
CCT	Conditional Cash Transfer
DALY	Disability-Adjusted Life Year
DHS	Demographic and Health Surveys
GED	General Education Development
IDB	Inter-American Development Bank
IPPF	International Planned Parenthood Federation
LAC	Latin America and the Caribbean
MeSH	Medical Subject Headings
NGO	Non-Governmental Organization
PAHO	Pan American Health Organization
PYD	Positive Youth Development
RCT	Randomized Control Trial
SBCC	Social and behavior change communication
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
TBR	Teen Birth Rate
UNFPA	United Nations Fund for Population
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter 1. Introduction

In order to help decision makers, programs planners, and evaluators identify evidence-based youth programs, this report presents the findings from a systematic literature review that had two main objectives:

a) To identify theory-based interventions that have been implemented and have proven effective in Uruguay, Paraguay, Brazil and other countries in Latin America – Caribbean (LAC) for reducing four youth risks: teen pregnancy and sexual and reproductive health (SRH), violence, youth idleness (as a result of dropping out of school and being unemployed), and substance use

b) To identify successful theory-based interventions that may be appropriate for replication to reduce the previously described four youth risks in Uruguay, Paraguay and Brazil.

This report also includes a chapter describing key theories, frameworks, and strategies that have been used in youth programs, and a chapter that presents an overview of the policies and laws in the LAC region that promote healthy youth behavior. We end the report with a discussion of the main implications of the literature review and offer recommendations to advance the implementation and evaluation of theory-based interventions to improve youth health in the LAC region.

Youth in Latin America and the Caribbean

Worldwide and in proportion to the global population, there are more adolescents and young adults than at any other time in human history (UNFPA 2014). In the LAC region, 165 million youth, aged 10 to 24 years, represent 27% of the total population(UNFPA 2014). Many of the countries in the region are experiencing a phenomenon known as the demographic dividend, an opportunity for potential economic growth that results when the working-age population is larger than the non-working-age dependent population (Lee and Mason 2006). Countries have the opportunity for rapid economic growth, if the right social and economic policies and investments in adolescent and youth are in place (Gribble and Bremner 2012). Nevertheless, many of the LAC countries are not capitalizing on this demographic dividend due to lack of educational and job opportunities for youth, poor access to comprehensive health care including sexual and reproductive health services, as well as high rates of morbidity and mortality due to violence and substance use (UNFPA 2014).

High rates of youth morbidity and mortality in the region are related to risky behaviors that prevent youth and adolescents from reaching their full potential as adults (PAHO 2010). Youth in the LAC region are exposed to unintended pregnancies, violence, unemployment, school drop-out, and substance use (PAHO 2010, WHO 2002). Many of these risks are interrelated and share common structural, social, familial, and individual determinants, and, therefore, integrated actions are important to address them. In the following section we provide a brief overview of the epidemiology of teen pregnancy and SRH, violence, youth idleness, and substance use in the LAC region.

Teen pregnancy and sexual and reproductive health (SRH)

Teen birth rates (TBR) in the LAC region are the third highest in the world (72 per 1,000 women 15–19 years of age), after sub-Saharan Africa and South Asia (PAHO 2013). Although the TBR in LAC has

declined in the last two decades, the decline has occurred at a slower pace compared with the birth rate for adult females— from 86 births per 1,000 in 1995–2000, to 72 in 2005–2010 (PAHO 2013). There are significant variations in TBR in the LAC region by country. According to the World Bank, for example, Nicaragua, the Dominican Republic, and Guatemala had the highest TBRs in 2010, with more than 100 births per 1,000 women aged 15 to 19 years. On the other hand, Peru, Haiti, and Trinidad and Tobago had the lowest rate of TBR, with <50 births per 1,000 women in the same age range (World Bank 2012).

Data from multiple Demographic and Health Surveys (DHS) in the region show a trend toward earlier sexual activity along with an increase in the average age at first marriage in LAC (World Bank 2012). Young women in LAC countries may be more likely to be unmarried and sexually active, and therefore in more need of contraception than their counterparts in other nations around the world. Data show that use of modern contraceptives is almost the same between married (50%) and unmarried sexually active adolescents (54%) in the LAC region (Woog et al. 2015, Guttmacher Institute and IPPF 2010). However, a significant variation exists in the use of modern contraceptives by country, ranging from 26% in Haiti to 83% in Cuba among unmarried, sexually active adolescents (Woog et al. 2015). Overall, 43% of unmarried, sexually active female adolescents in LAC are not using any form of contraception (Guttmacher Institute and IPPF 2010).

Although not as high as in other regions of the world, sexually transmitted infections (STIs) and HIV are still a concern among adolescents in the LAC region. The percentage of female adolescents who reported having an STI or experiencing an STI symptom in the last year ranged from 7%–38% and the percentage of those who sought treatment in the last year ranged from 52% in Bolivia to 84% in Peru (Woog et al. 2015). HIV prevalence among 15- to 24-year-old women in the LAC region is <1% and more than 70% report knowing where to obtain an HIV test (Woog et al. 2015). However, only about 11%–15% of females in this age group have ever been tested for HIV (Woog et al. 2015).

Violence

The World Health Organization (WHO) defines violence as "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (WHO 2002). Different types of violence coexist in the region including: economic violence (street crime, robbery, drug trafficking, kidnapping); gang-related violence; political violence exerted by governments, paramilitary, and guerrilla groups; school violence; and domestic, dating, and gender-based violence (Moser and McIlwaine 2006a).

The Pan-American Health Organization (PAHO) has identified violence as a regional pandemic (Weaver and Maddaleno 1999). Homicide rates, which have declined in other parts of the world, have increased in the LAC region since the 1970s, despite the fact that many civil wars in the region have reached peace agreements (Moser and McIlwaine 2006a). In 2012, the homicide rate in Latin America was 28.5 per 100,000 inhabitants—the highest of any region in the world—four times higher than the global average rate of 6.7 per 100,000 (WHO 2014). The homicide rate for youth and young adults in the LAC region is the highest for any age group, affecting more males than females (PAHO 2010). The homicide rate among youth aged 15–29 years in 2000 was estimated to be 68.6 per 100,000 for males, and 6.4 per

100,000 for females (PAHO 2010). Homicide and street violence often occur in the context of youth gangs. It is estimated that in Central America, there are between 30,000 and 285,000 gang members, mostly in El Salvador, Guatemala, and Honduras (PAHO 2010). The surge and expansion of youth gangs in this region has been associated with economic and social crises as well as political instability and drug trafficking (Moser and McIlwaine 2006a).

Violent behavior in schools is also of growing concern. A recent school-based survey, which measured violent behaviors among 13–15 year olds in LAC, found that the prevalence of being physically attacked during the 12 months prior to the survey was 20% for males and 17% for females in Central America, and 44% for males and 33% for females in the English-speaking Caribbean (PAHO 2015).

Youth idleness/inactivity

In spite of positive signs of educational attainment, youth idleness or inactivity is of growing concern in the LAC region (United Nations 2011). Idle youth usually refers to youth who are neither in employment nor in education. While LAC has made significant strides in enrolling youth in secondary school education with the net enrollment for secondary education rising from 59% to 73% (Oviedo, Fiszbein, and Sucre 2015), these numbers mask important issues such as grade repetition and school dropout rates. For instance, in 2010, only half of youth aged 20–24 years had completed secondary education (Oviedo, Fiszbein, and Sucre 2015).

Among young people aged 15–24 in the region, one in five fits the category of idle youth, while 35% are studying, 33% are working, and 12% are working and studying simultaneously (OIT 2013). While young people represent 40% of the working-age population in LAC (González-Velosa, Ripani, and Rosas Shady 2012), 22% or 10 million are currently jobless. Among those who are employed, nearly 30 million are working in the informal labor market (González-Velosa, Ripani, and Rosas Shady 2012). The unemployment rate differs by sex, with 11% of young men and 18% of young women unemployed (OIT 2013)and youth from lower socioeconomic classes are more likely to be unemployed or hold a job within the informal sector (OIT 2013).

Substance use

Substance use refers to the use of alcohol, tobacco, cannabis, and other illicit drugs. Substance use disorder is defined as the recurrent use of alcohol and/ or illegal drugs that leads to clinical and functional impairment or distress such as health problems, disability, and failure to meet responsibilities (APA 2013).

At least 4.4 million men and 1.2 million women in the LAC region are afflicted by substance use disorders at some point in their lives (PAHO 2009). Within the LAC region, substance use and alcohol use are the leading risk factors for morbidity and mortality among youth aged 15 to 19 years, resulting in 1,673 disability adjusted life years (DALYs)[*]per 100,000 people compared with the global rate of 994.8 DALYs per 100,000 people (IHME 2015). Moreover, over the last two decades, DALYs attributed to

[*] DALY is a metric for quantifying the burden of disease that allows for global comparisons of morbidity and mortality due to specific causes and risk factors across time. Each DALY is equivalent to one year of healthy life. DALYs are calculated by the sum of years of life lost and years lived with disability (IHME 2013).

substance and alcohol use among youth in Latin America have increased by 0.1%, counter to global trends that marked a decrease of 13% in the same period (IHME 2015). For example, several South American countries are experiencing an increase in cannabis use among secondary school students, with a regional lifetime prevalence rate of 10% (CICAD 2015). Among secondary students in Latin America, binge drinking rates range from approximately 50% in Costa Rica to just under 70% Uruguay (CICAD 2015). Research shows that use of harmful substances, which include alcohol and illicit drugs, during adolescence can lead to long-term dependency and higher frequency of substance use later in life (Newcomb and Locke 2005).

Relationship among multiple risk factors

Research has demonstrated that youth health is influenced by experiences in early developmental stages (i.e., prenatal and early childhood development) and an array of social determinants of health at the community and structural levels (Sawyer et al. 2012). A growing consensus supports the fact that many health and social issues affecting youth are interrelated, suggesting that youth health should be approached from a more holistic and integral prevention strategy. Such a strategy would encourage positive youth development (PYD) to prevent interrelated risks such as teen birth, violence, idleness, and substance use, among others (Catalano et al. 2012, PAHO 2010).

Multiple studies have established a significant association between teen pregnancy, lower educational achievement, and poorer labor market outcomes for women (World Bank 2012). Lower levels of education also have an impact on reproductive health. An analysis of results from Demographic and Health Surveys in the LAC region shows that women with lower levels of education initiate sexual activity three to four years earlier than women with higher levels of education (Gayet, Juarez, and Bozon 2013).

Similarly, substance use during adolescence is associated with numerous negative health and development outcomes, including physical and mental health complications, aggressive and risky behavior, and adjustment problems within professional settings and in family life (Newcomb and Locke 2005). Violence and substance use share many of the same risk factors at the individual, family, and community level, making it difficult to determine conclusively whether the relationship between the two is causal or an association. However, the interrelationship between the two is very strong and they remain important public health concerns, particularly among young people (Atkinson et al. 2009).

Chapter 2. Brief review of theories, frameworks, and strategies for youth programming

This chapter provides definitions of theories and frameworks as well as the importance of their role in program implementation. Then, we present the criteria used to select five behavioral health theories, frameworks and strategies for the systematic literature review of youth programs in LAC and globally.

Relevance of application of behavioral theories into youth programs

Given that youth behavior is integral to preventing multiple risks, programs that aim to prevent teen pregnancy, violence, idleness, and substance use, or a combination of these outcomes, should be based on appropriate behavioral change theories, models, and frameworks (Brindis, Sattely, and Mamo 2005). According to Glanz (1997), a theory is a set of interrelated concepts, definitions and propositions that presents a systematic view of events by specifying relations among variables in order to explain and predict events or situations (Glanz, Lewis, and Rimer 1997). Frameworks are a visual model of the main concepts of a theory as well as the nature of the connections seen between these concepts (Glanz, Lewis, and Rimer 1997).

Theories and frameworks are useful tools that help to: identify the gaps in knowledge before developing and organizing a program; design goals, activities and strategies of new programs; and adjust existing programs. In addition, theories help to identify the variables and outcomes that should be monitored and evaluated, and contribute to the creation of new theoretical frameworks (Glanz, Rimer, and Viswanath 2008). Yet, in practice, relatively few youth programs have explicitly incorporated one or a combination of theories or frameworks into their design (Brownson, Fielding, and Maylahn 2009).

Planners, evaluators and decision makers working on youth programs should focus greater attention on evidence-based approaches that purposively select frameworks and theories according to the target population, setting, and desired outcomes (Brownson, Fielding, and Maylahn 2009).

Selection of behavioral theories, frameworks and strategies used in the systematic literature review

We selected five theories, frameworks, and strategies based on any of the following two criteria:

a) Behavioral theories or frameworks that use a multi-level approach, targeting the individual, family, community and/or social/structural context in which youth live and interact. Many researchers and program developers agreed on the need of using multi-level approaches to reduce youth risks related to harmful behaviors (Catalano et al. 2012, Brindis, Sattely, and Mamo 2005).
b) Theories that are most frequently used by a range of multi-disciplinary experts to develop programs that target youth risk behaviors including idleness, violence, drug use, and teen pregnancy.

The five approaches selected based on one or both of the criteria are:

a) Social learning theory
b) Positive youth development framework
c) Socio-ecological theory
d) Conditional cash transfer strategies and behavioral economic theory
e) Communication strategies for behavioral change

Social Learning Theory

Social learning theory was first outline by Albert Bandura and Richard H. Walters in 1963, but formally detailed later (Bandura 1977). Social learning theory posits that learning occurs through a combination of both cognitive and behavioral processes. Bandura argues that individuals learn by observing and imitating the behaviors of other individuals in their environment. However, not all behaviors are learned effectively nor does learning always lead to behavior change. Four steps are needed for effective social learning to take place. Individuals must: 1) pay *attention* to be able to model a behavior; 2) *retain* and remember the learned behavior; 3) practice by *replicating* the behavior; and 4) feel *motivated* to continue repeating the behavior. In essence, the social learning theory argues that behavior arises out of "reciprocal determinism"—the ongoing interaction between a person, their behavior, and the environment within which the behavior is carried out.

Positive Youth Development (PYD) Framework

According to William Damon, the social scientist renowned for the PYD framework, this construct is a behavioral approach for youth development that is a shift in perspective from viewing youth as a problem to be managed to viewing youth as capable of reaching their full developmental potential if given the opportunity. While the PYD framework recognizes the complexities present during adolescence, it does not view the developmental process as an effort to overcome predetermined risks. Instead, Damon believes, what makes this approach unique is that youth are viewed as a resource, with characteristics that can be cultivated for healthy development. The PYD framework recognizes youth as full participants in the community, and encourages opportunities where youth can contribute to society (Damon 2004).

During adolescence, a variety of developmental pathways provide youth with considerable plasticity for choices. These choices are influenced by multilevel factors in the family, school environment and community (Lerner 2005, Lerner and Lerner 2009). The negative or positive role these factors play in an adolescent's life determines the strength of the five C's of the PYD framework: competence, confidence, connection, character and caring (Lerner 2005). Together these five C's contribute to the development of the sixth C, contributions to self, family, community and civil society (Lerner 2005, Lerner and Lerner 2009). Lower levels of the first five Cs can lead to higher susceptibility for personal, social, and behavioral risks (Lerner 2004).

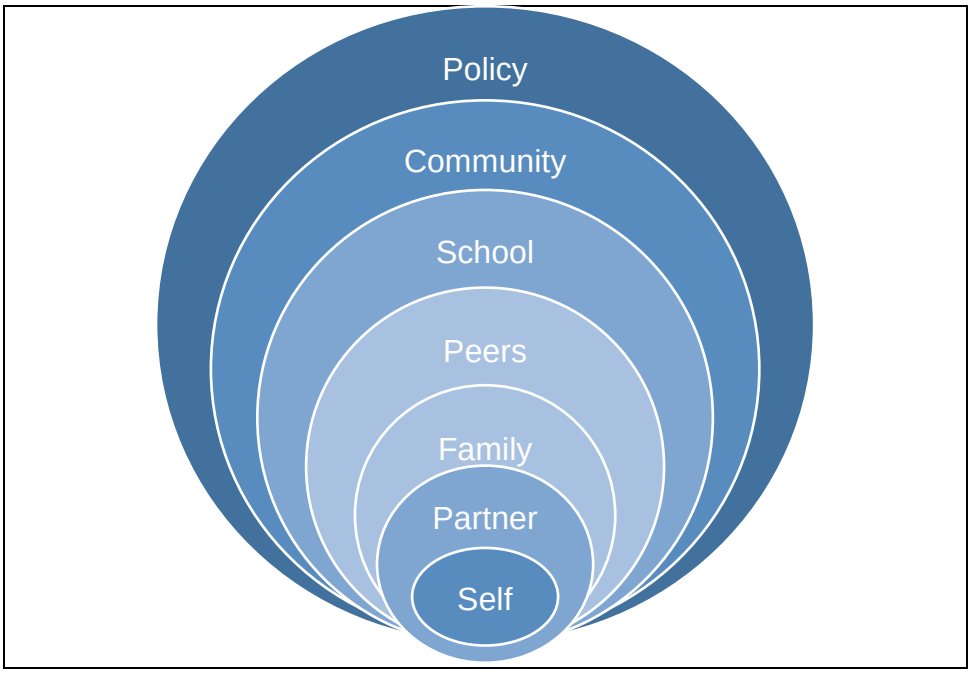
The goal of PYD is to strengthen the five Cs; this approach is empirically supported as being effective in preventing and reducing youth susceptibility to engage in risk behaviors (Lerner and Lerner 2009, Gavin et al. 2010, Catalano et al. 2004). Approaches to PYD can typically be identified by the types of opportunities and experiences that help support youth at home, in school, and in their community.

Examples of such approaches include building relationships with teachers and parents, creating a prosocial school environment with after-school activities, promoting skill building opportunities for obtaining jobs, and providing platforms to engage with civil society (Roth and Brooks-Gunn 2003).

Socio-ecological Theory

The socio-ecological theory was originally developed by Bronfenbrenner (1979) to explain human development. The theory recognizes that individuals' development and health outcomes are shaped by the multiple nested environmental systems in which they live and with which they interact (Bronfenbrenner 1979). Figure 2.1 is an adaptation of the original model and describes seven concentric spheres that influence youth/adolescent development. The innermost sphere represents the individual with his/her psychological characteristics. The partner, family, peers, and schools are environments that have a strong influence on the individual. The community and policy level provide the broader context that shapes socio-economic status, access to health care, education, employment, exposure to media, gender and racial stigma, and discrimination. The interaction of these multiple spheres in which the individual is embedded have a strong effect on adolescents' behaviors (DiClemente et al. 2005). The socio-ecological model has been used in the prevention of violence (Uthman, Lawoko, and Moradi 2010, Moser and McIlwaine 2006b), teen pregnancy, sexual transmitted infections, and substance use as well as in a variety of other public health issues (DiClemente et al. 2005, Elkington, Bauermeister, and Zimmerman 2011)

Figure 2.1. Socio-ecological model. (Modified from Bronfenbrenner, 1979)



Conditional Cash Transfer Strategies

Conditional cash transfer (CCT) programs provide monetary incentives to low-income families who can receive the funds if they meet certain requirements, such as getting children vaccinated or enrolling them in schools. Typical cash transfer programs are based on behavioral economic theory, whereby individuals are assumed to be rational beings who can perform a cost-benefit analysis to determine which behaviors will allow them to maximize their well-being (Ranganathan and Lagarde 2012). However, with CCTs, the conditionality is added to ensure that individuals engage in the desired behavior (Ranganathan and Lagarde 2012). Popular worldwide and widely used in Latin America, CCT programs such as *Progresa/Oportunidades* in Mexico and *Bolsa Escola/Familia* in Brazil have been successful in increasing enrollment and lowering dropout rates among school-age children (Glewwe and Kassouf 2012). In recent years, some programs have experimented with unconditional cash transfers, therefore freeing families from having to engage in the desired behavior change prior to receiving the monetary transfer (Baird et al. 2013). Although both conditional and unconditional cash transfer programs have proven successful, the overall effect sizes tend to be larger for CCTs (Baird et al. 2013).

Communication Strategies for Behavioral Change

Communication strategies for behavioral change use mass media, community-level activities, peer education, interpersonal communication, and new media channels to promote behavior change in communities (Piotrow et al. 1997). Rooted in behavior change theories, communication strategies for behavior change employ a process used to positively influence knowledge, attitudes, and social norms in support of long-term behavior change (Piotrow et al. 1997). Strategic communication approaches employ one or more of these methods to act as a catalyst to facilitate dialogue and eventually long-term change in the community (Figueroa et al. 2002). Social and behavior change communications (SBCC), one of the more recent iterations of communication strategies for change, expands on previous approaches to behavior change communication by including a socio-ecological perspective on health and development to influence social, cultural, and economic determinants (McKee, Becker-Benton, and Bockh 2014). Three main strategies define the SBCC approach: advocacy, social mobilization, and behavior change communication. The SBCC approach argues that previous communication strategies focused too heavily on individual outcomes and a more sophisticated approach was needed to reach multiple levels at the personal, societal, and environmental levels (McKee, Becker-Benton, and Bockh 2014). Maternal and newborn health, family planning, and HIV/AIDS strategies have used SBCC to improve health behaviors (Snyder and Huedo-Medina 2011, Snyder, Diop-Sidibé, and Badiane 2003). For example, a meta-analysis of 40 family planning campaign studies found SBCC interventions can result in positive behavior changes such as increased knowledge of family planning methods and improved partner communication (Leslie et al. 2013).

Table 2.2. Summary of theories, frameworks, and strategies selected

Name of theory, framework	Year	Description	Major concepts
Social learning theory	1977	Learning occurs through a combination of both cognitive and behavioral processes.	• Expectations • Observational learning • Behavioral capability • Self-efficacy • Reciprocal determinism • Reinforcement (intrinsic and extrinsic)
Positive youth development framework	2004	All youth have potential and can be expected to achieve their developmental milestones. Youth need support and opportunities in their communities in order to achieve their potential.	• Family, school and environment negatively or positively play a role in an adolescent's life. • These interactions will determine the strength of the five developmental C's of the PYD framework: competence, confidence, connection, character and caring.
Socio-ecological Theory	1979	Individual is embedded in and influenced by numerous systems or groups.	• Multiple domain health intervention integration (home, school, community, and political settings) • Cultural change (transformation of norms, values, and policies) • Individual's perception of support or neglect • Opportunities for safer behaviors
Conditional cash transfer strategies based on behavioral economic theory	1990s	A welfare program based on financial incentives conditional upon the receiver's action.	• Monetary incentives to encourage behavior change • Added conditionality, typically in the areas of health and/or education • Traditional economic theory and rational choice
Communication strategies for behavioral change	1980s	Uses mass media, peer and interpersonal communication, and new media approaches to influence knowledge, attitudes and, social norms in support of long-term behavioral change	• Grounded in the socio-ecological theory • Focuses on the tipping point for permanent social change • Strategic, theory-driven and evidence based

Chapter 3. Methodology

Inclusion and exclusion criteria

We conducted a literature review of peer-reviewed articles and grey literature to identify interventions or programs that have been implemented and proven effective in reducing four youth health risks: teen pregnancy and SRH, violence, youth idleness, and substance use in LAC and worldwide.

Inclusion criteria

Only interventions and programs that had been implemented, evaluated, and showed evidence of effectiveness in at least one of the topics of interest were eligible for the review. We included evaluations of interventions and programs focused on reducing or preventing risks among those aged 10–24 years, the WHO definition of young people. We also included studies that did not measure youth health risk outcomes directly, but measured protective factors such as resiliency, self-efficacy, and interpersonal skills. In addition, studies investigating the acceptability and feasibility of innovative interventions, even if they were not based on one of the selected behavioral health theories, were included if implemented in LAC.

We included intervention or program evaluations that addressed risk factors at one or more levels or domains: individual, family, school, community, or peer group. As explained in Chapter 2, interventions were required to be grounded in a behavior change theory or framework that: a) addresses multiple levels or domains or b) have been used extensively in the design of programs to prevent any of the four risk outcomes of interest. The theories and frameworks selected were: socio-ecological theory, positive youth development (PYD) framework, and social learning theory. In addition, we included strategies that promote behavior change, such as social and behavior change communication (SBCC), and conditional cash transfer programs (CCTs). Cash transfer programs only met eligibility if combined with other behavioral change strategies. Note that some of the programs were informed by multi-level theories and frameworks as well as individual level-theories.

Exclusion criteria

We excluded studies if they were: 1) evaluations of interventions that targeted youth but did not relate directly to a behavior change of interest, e.g., a school-based program targeting academic performance; 2) pilot studies; 3) studies with poor methodological quality; and 4) studies with small populations, with the exception of studies recognized as innovative approaches to behavior change among youth.

Search strategy

We divided our search efforts by two geographic regions: 1) the LAC region, and 2) global region. For the LAC region, we focused on randomized control trials (RCTs), quasi-experimental evaluations, longitudinal evaluations, and non-experimental evaluations published between January 2000 and December 2015 in English or Spanish. We conducted searches through Pubmed, PsycINFO, LILACS, and SciELO.

We used a combination of search terms and Medical Subject Headings (MeSH) including: adolescent; youth; young adult; teen; teenagers; evaluation studies; program evaluation; prevention and control; intervention; demand-side financing; public-private sector partnership; health services research; voucher; cash transfer; behavior change communication; health communication; edutainment; entertainment-education; socio-ecological model; ecological model; youth positive development; health behavior theories; and health behavior framework. The LAC search used Latin America; Central America; and South America. These terms were used in combination with one of the primary youth health risk outcomes as shown in Table 3.1.

Table 3.1: Keywords and MeSH terms for youth risk outcomes

Teen Pregnancy and SRH	Youth Violence	Youth Idleness*	Youth Substance Use**
Pregnancy, reproductive health services, contraception behavior, sexual behavior, health access, childbearing, contraceptive use	Violence, crime, criminal justice system, violence reduction, dating violence, intimate partner or domestic violence	Youth idleness, unemployment, job training, technical training, school enrollment, unemployment, student dropout, boredom	Substance use, drug use, substance-related disorders, alcohol, marijuana, inhalants, cocaine, snuff, methamphetamine, opioids, crack, illicit drugs, dependence, narcotics, abuse

* Excluded youth physical inactivity
** Excluded studies that only focused on tobacco use

MeSH, medical subject headings

Once the search for LAC was completed, we expanded our search to incorporate evaluations published between January 2000 and December 2015 in any other region of the world. We used the same repositories as the LAC search and used the terms related to violence, youth idleness, and substance use. Due to the vast amount of literature available on teen pregnancy and SRH, we retrieved sources included in existing systematic reviews on teen pregnancy and SRH interventions (Goesling et al. 2014, Alford, Cheetham, and Hauser 2005), but excluded interventions that targeted STI/HIV outcomes. Only RCTs, quasi-experimental evaluations, and longitudinal evaluations were included in the global search.

Following the search of these databases, we searched the grey literature, including reports, policy documents, and bulletins, for both LAC and global program evaluations. Pertinent grey literature was identified by screening resources and publications of key international agencies and governments such as WHO, PAHO, World Bank, United Nations Fund for Population (UNFPA), United States Agency for International Development (USAID), and the Inter-American Development Bank. Other sources were identified through a snowball method of scanning relevant references of identified sources.

Study selection and synthesis

In all, more than 7,500 articles were identified through the database searches: 1,455 from the LAC region and 6,374 from global areas. Titles and abstracts were screened independently by three

researchers and relevant studies were selected based on the inclusion and exclusion criteria; this process yielded 1,366 LAC-focused articles and 6,377 globally focused articles. After an initial screening of abstracts, full text articles of eligible studies (108 from LAC; 151 from global sources) were reviewed and abstracted using a standardized data collection form based on author, title, year, journal, country, population, sample size, design, risk behavior, behavioral health theory, description of intervention, evidence of success, outcomes, and limitations. If there was a discrepancy in the process, three researchers reviewed the study and came to a consensus noting reasons for inclusion or exclusion of the study. During the review process, if evaluations were unable to be obtained or had missing data of interest, we contacted corresponding authors or organizations by email. Gaps in literature and problems with study design were noted for each study. Through these steps, we identified a total of 68 programs, 26 articles from LAC and 42 articles from global sources that met our criteria for complete text review. (Figure 3.1)

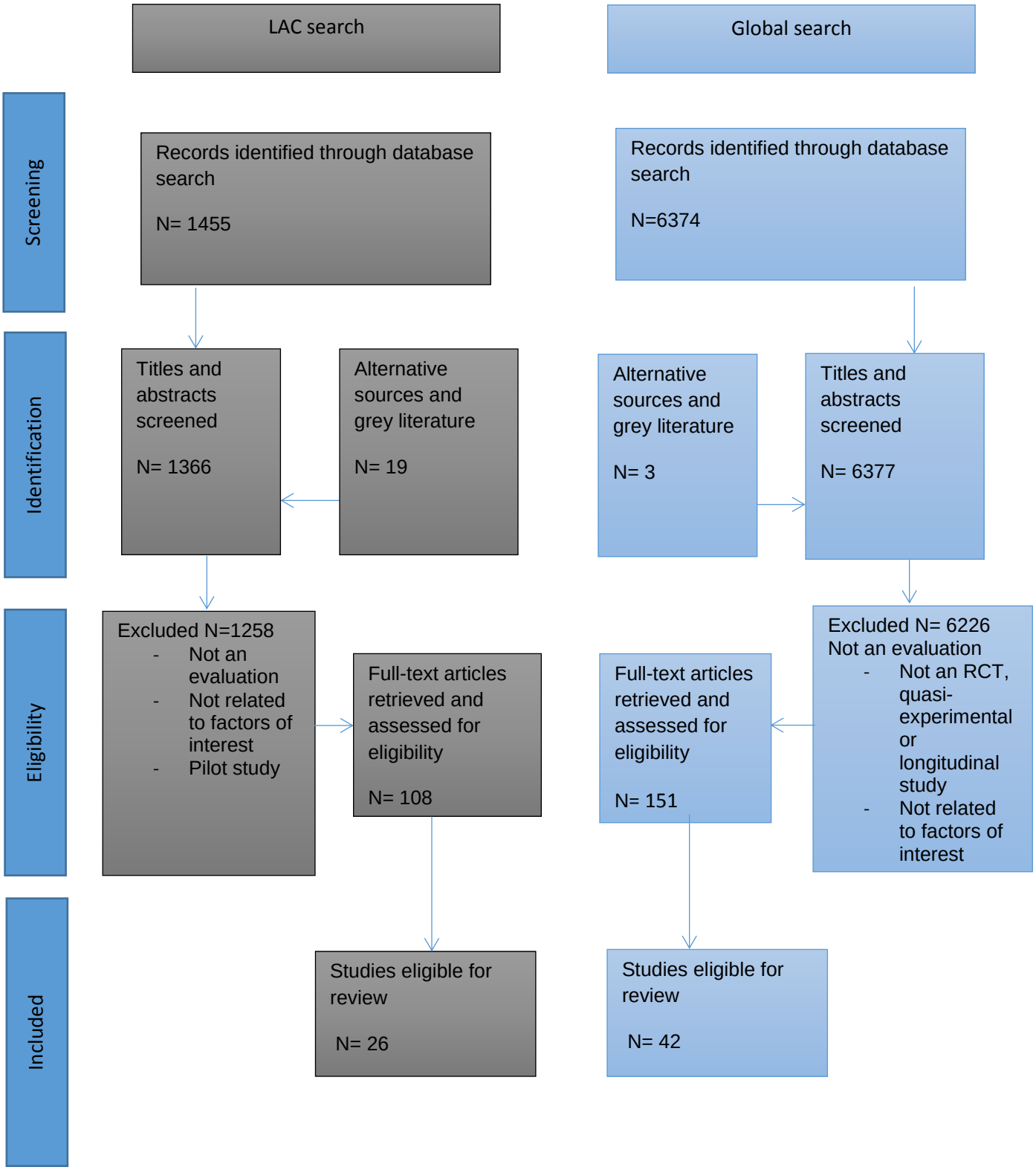
Findings were then grouped according to youth risk outcomes and are summarized in Table 3.2. Exemplar studies showing evidence of scalability and adaptability (e.g., programs with a long record of implementation and evaluation, programs evaluated in many settings or populations, programs that had an integrated approach or targeted multiple outcomes, or programs that use innovative approaches) were set aside for case study review, and are included as case studies at the end of each topic area section in this report.

Table 3.2. Summary of programs included in the literature review by topic and region

Topic	LAC			Global		
	Retrieved	Full text review	Included	Retrieved	Full text review	Included
Teen pregnancy	150	53	11	97*	53	14
Violence	58	16	4	764	17	8
Youth idleness	755	29	5	3020	39	11
Substance use	492	10	6	2493	42	9
Total	1455	108	26	6374	151	42

* Evaluations were identified from a review of four systematic literature reviews and meta-analyses

Figure 3.1. Summary of article review process for LAC and global search



Chapter 4. Interventions for At-Risk Youth in LAC and Global Communities

This chapter describes interventions identified through the literature review of programs conducted in LAC and other regions of the world corresponding to each youth risk: teen pregnancy and SRH, violence, youth idleness, and substance use. The chapter first describes interventions in the LAC region and then covers those from other parts of the world.

In each section, we describe programs or interventions that are based on behavioral theories or frameworks discussed in Chapter 2 and that have been rigorously evaluated. The included studies measure proximate outcomes such as: teen birth rates; use of health services; contraceptive use; homicide rates; intimate partner violence occurrence; school attendance; employment rates; and substance use. Moreover, we describe interventions that evaluate outcomes that are intermediate variables such as: changes in attitudes toward violence, youth self-esteem, and others. As relevant, we include a limited number of innovative studies that, although they have small sample sizes, provide initial data on the acceptability or feasibility of a promising intervention. At the end of each section, we include selected case studies of programs that were evaluated in multiple settings, showed evidence of scalability and adaptability, were particularly innovative, or targeted multiple outcomes. In addition, we include a total of eight tables, two tables for each youth risk, that describe all the interventions identified through the literature review. The two tables in each section describe a) the programs identified in LAC and b) the programs in other regions of the world. Each of the tables also highlights those programs that address multiple youth risks.

Teen pregnancy and SRH

While we present information on a total of 25 teen pregnancy and SRH programs from LAC and other regions, we provide further details on three of these programs in the Case Study section. The case studies were selected based on our assessments of these programs as being amongst the most innovative, had the best evidence or showed the most promise for integration and replicability.

Interventions in LAC

A total of 11 programs to reduce teen pregnancy and improve other sexual and reproductive health behaviors were selected based on the eligibility criteria (Table 4.1). Four of these programs used social and behavioral change communication (SBCC) strategies, three used the PYD framework, three used a combination of theories including the social learning theory and the socio-ecological theory, and one used vouchers to incentivize youth to seek clinical services. Five programs were evaluated through quasi-experimental studies, a multi-country program was evaluated using a RCT in Nicaragua and a quasi-experimental design in Bolivia and Ecuador, one program in Honduras was evaluated using a longitudinal study, and one in Haiti used a retrospective cohort study. In addition, a mass media national campaign in Brazil was evaluated through cross-sectional surveys; and a youth peer provider program in Nicaragua and Ecuador was evaluated through surveys with youth program beneficiaries, with results compared with national data from DHS. (Table 4.1).

Table 4.1 Teen Pregnancy and SRH literature findings from Latin America and the Caribbean						
Author and Year	**Program**	**Behavioral Theory/ Framework/ Strategy**	**Country**	**Sample Population****	**Study Design**	**Study Findings**
Decat et al. 2013	**CERCA** A community intervention developed through action research to reach adolescents (in schools or communities), parents, health providers, local authorities, and community members. The project aimed to provide comprehensive sexual health promotion and encourage sexual wellness, through communication about sexuality, sexual and reproductive health information-seeking, and access to sexual and reproductive health care.	Socio-ecological theory Social learning theory*	Ecuador Bolivia Nicaragua	13-18 year olds (Nicaragua N=170 average cluster of 18 clusters, 6 intervention clusters, 12 control clusters; Ecuador three high schools for intervention, three high schools for control; Bolivia seven high schools for intervention, seven for control)	Randomized-control trial (Nicaragua) Quasi-experimental study (Ecuador and Bolivia)	• In Nicaragua and Bolivia, more adolescents from the intervention group had an improved communication outcome compared to the control • In Ecuador and Bolivia, knowledge and use of SRH services improved more among the intervention group compared to the control group. In Nicaragua there were no significant changes • In Ecuador, condom use significantly improved among the intervention group compared to those from the control group. In Bolivia, no improvement was observed. In Nicaragua, the change in condom use within the intervention group was significantly correlated with the frequency of participation in workshops
Eggleston et al. 2000	**Grade 7 Project** A school-based sexual education program that promoted abstinence and safe sex. The curriculum provided information about sexuality, reproductive health, and contraception. The program lasted nine months with one session per week.	PYD framework	Jamaica	Low-income youth aged 11-14 years in alternative high schools that failed to enter traditional or technical schools (N=945)	Quasi-experimental study	• Positive short term impact on use of contraception at first intercourse, knowledge of and attitudes about sexuality and pregnancy • Intervention group was twice as likely to use contraception • No effect on initiation of sexual activity
Garcia et al. 2003	**Emergency contraception in Honduras** Emergency contraception campaign directed to urban populations that included distribution of an emergency contraception-Yuzpe method through clinics; workshops for youth, health providers, journalists, pharmacy and factory workers; dissemination of emergency contraception information through printed materials, radio spots and a video.	SBCC	Honduras	Clients of urban family planning clinics 15-24 year olds were 30% of the sample (N=1406)	Longitudinal study	• Proportion of 15-19 year olds with knowledge about emergency contraception increased from 5% to 30% • Proportion of 15-19 year olds saying they would use emergency contraception increased • Use of emergency contraception did not significantly change
Halpern et al. 2008	**TeenWEB** A web-based intervention consisting of five modules that included reproductive health topics such as condom use, HIV testing, emergency contraception, and abortion laws. As an incentive, students who	SBCC	Brazil (Kenya)	Secondary school students (Brazil N=714 Kenya N=1178)	Quasi-experimental	• Participants in intervention were more knowledgeable about condom use and price, and had improved attitudes towards condom use • In Brazil, no differences noted in knowledge of emergency contraceptives for females

	completed a module every 6–8 weeks received access to the Internet for at least 30 min after completing each module.					• In Kenya, females in intervention school had better knowledge of abortion laws
Kaplan et al. 2015	**GenNext Program** An integrated SRH and soccer intervention that targeted rural and urban youth. The program used SRH courses, girl's health days, all female soccer league, and community mobilization events for World AIDS Day. The SRH class consisted of 5 sessions of 2 hours delivered by nurse educators over one week. The all-female soccer league was led by soccer coaches selected from within the community and involved weekly games.	PYD framework *	Haiti	17 villages with an average of 30 girls per village	Retrospective cohort study	• Young women who participated in the GenNext program had lower birth rates than those who did not participate in the program • Participants in the combination SRH-soccer program were less likely to become pregnant or give birth than those who only participated in the SRH component
Martiniuk et al. 2003	A school-based sexuality education program delivered in a three-hour scripted session on responsible sexual behavior. The curriculum provided lessons on decision making in relationships and information about sex and sexuality.	Social learning theory	Belize	High school aged students (N=339)	Quasi-experimental study	• Increase knowledge about sex and sexuality • No observed changes in behavior attitudes
Meuwissen et al. 2006	A competitive voucher program to attract youth to public and private health services, to receive free SRH services, through the distribution of vouchers in low socio-economic neighborhoods.	CCT	Nicaragua	Females aged 12-20 years (intervention N=904, controls N=2,105)	Quasi-experimental study	• Voucher recipients were more likely to use SRH services than non-recipients • Specific populations of voucher recipients were more likely to use modern contraception and condoms in their last sexual intercourse
Porto 2007	**Carnival Campaign** A public communication strategy to inform and motivate behavior change. The campaign's message was circulated in the national media to promote condom use among people, with a focus on female adolescents. The strategy used public service announcements via TV and radio, posters and billboards presented by a Brazilian pop star.	SBCC	Brazil	Females aged 13-17 years (N=1006)	Cross-sectional study	• The campaign message reached 81% of the target population, however the message was not well understood • Half of the survey population discussed the ad • Women who saw the campaign message on television and on billboards were more in support of the role of women in purchasing and using condoms
PSI 2011	**Hoy Toka** A weekly radio program provided information to promote positive social norms on SRH and the use of condoms and other contraceptives. In addition, peer educators facilitated face-to-face discussions on SRH with youth using communication materials from the radio campaign.	SBCC	Mexico	15-24 year olds (N=1295)	Quasi-experimental	• Increased knowledge of modern contraceptives among participants • Participants reported increased likelihood to abstain, negotiate condom use, and other contraceptive use • Observed increase in amount of young people carrying condoms, however, condom use did not show a significant increase

Toledo et al. 2000	**Time of Choices** A comprehensive school-based program that provided information about abstinence and contraception over 18 sessions led by a physician and other health care providers. Students could contact facilitators by email or phone.	PYD framework	Chile	Urban youth aged 12-17 years (N=4,448)	Quasi-experimental study	• Reduced the incidence of pregnancy • Delayed initiation of sexual intercourse • Female participants reported an increased use of contraception
Programs targeting multiple outcomes						
Tebbets and Redwine 2013	**Youth Peer Provider Model from Planned Parenthood Global** A peer education program integrated with contraceptive provision. Peer providers did not seek out peers, but instead made themselves available as resources where contraceptive and SRH information can be obtained.	Social learning theory Socio-ecological theory*	Ecuador and Nicaragua	Youth (Ecuador N=297, Nicaragua N=299) Youth, parents, and adults in the communities and schools with program (N=107)	Mixed method evaluation	• 95% of participants reported using contraceptives in comparison with 63% of youth aged 15-19 years in Nicaragua • 72% in Ecuador and 75% in Nicaragua said that they ever used a condom to prevent STIs • Perception of decreased teen pregnancy for communities with program • Respondents reported an increase in knowledge of pregnancy prevention, contraceptive methods, STIs, HIV, and sexuality *Related findings* • Reported improved personal growth, better decision making related to sexual and reproductive health, alcohol and drug use, and participation in gangs. Other outcomes mentioned were increased self-esteem, self-confidence, and leadership skills

* This program was also informed by other individual theories or frameworks that were not part of the inclusion criteria for this systematic literature review.

** Sample at baseline unless otherwise stated.

One of the 11 programs reviewed, the Youth Peer Provider Model, was designed and implemented for 20 years by Planned Parenthood Global and local organizations in Ecuador and Nicaragua. The program used a combination of theories that acted at the individual and community levels, including social learning and socio-ecological theories. The program trained peer promoters aged under 20 years to provide contraceptives and SRH information to peers in their communities. Youth peer providers reached out to youth, school staff, and parents by conducting activities at schools and in the community. The training curriculum included information on contraception, STIs, responsible parenthood, teen pregnancy, sexuality, gender, intimate partner violence, self-esteem, alcohol and drugs, and communication skills. Contraceptive methods were offered at a subsidized price and referrals to clinics were also provided. An innovative activity of the program in Ecuador was the use of text messages, emails, online chat rooms and social networking to answer youth questions and disseminate information (Tebbets and Redwine 2013). Surveys of youth who participated in the program in Nicaragua found that 95% of the sexually active youth were using contraception, a significantly higher rate than the national rate of contraceptive use (63% among 15–24 years old). In addition, the majority of surveyed youth in Ecuador and Nicaragua reported "ever use" of a condom to prevent STIs (72%, 75%, respectively); this rate was also higher compared with DHS data (Tebbets and Redwine 2013). This program addressed and measured not only SRH outcomes but also related outcomes such as substance use and participation in gangs (Table 4.1).

Another program, CERCA (*Cuidado de la Salud Reproductiva para los y las Adolescentes Enmarcado en la Comunidad),* was a community-based program that sought to empower low-income youth by creating a network of adolescent mentors ("friends of youth"), and other community engagement activities (Decat et al. 2014, Decat et al. 2013). The program goals were to decrease teen pregnancy, prevent STIs, and increase access to SRH services. The program took place in low-income neighborhoods in the capital city of Nicaragua and in public high schools in Bolivia and Ecuador. The program results were positive in some of the settings. For example, in Ecuador and Bolivia, knowledge and use of SRH services were higher in the intervention group compared with the control. However, in Nicaragua, there were no significant changes between the intervention and control group. In addition, only in Ecuador was there a significant improvement in condom use between the intervention and control group (Decat 2015). (See Case Study 1, page 32.)

Four programs (*Grade 7 Project, Time of Choices, GenNext, and the Responsible Sexuality Education Program*) were based on PYD or social learning theory and used mainly school-based sexuality curricula to delay sexual initiation, increase contraceptive use, or reduce pregnancy (Toledo, Luego, and Molina 2000, Kaplan et al. 2015, Eggleston et al. 2000, Martiniuk, O'Connor, and King 2003). For example, the *GenNext* program used an innovative program that incorporated soccer activities into a SRH curriculum in rural areas of Haiti (Kaplan et al. 2015). The SRH classes consisted of five sessions of two hours each delivered by nurse educators over one week. Topics covered include: changes in puberty, the fertility cycle, STIs, HIV, and sexual negotiation role plays. The soccer component included soccer training led by female coaches from the local communities, and participation in soccer games once per week with community attendance. The evaluation compared females aged 15–19 years old from villages that participated in the soccer and SRH classes, females from villages that only received the SRH classes, and

females from control villages. Females who participated in the GenNext program had lower birth rates than those who did not participate in the program. Additionally, females in the combination SRH-soccer program were less likely to become pregnant or give birth than those who participated only in the SRH component of the program (Kaplan et al. 2015). *The Grade 7 Project* provided information about sexuality and contraception, with the goal of influencing attitudes toward sex, contraception, and teen pregnancy. The curriculum was offered in high schools in Jamaica through weekly 45-minutes sessions during the academic year. One of the unique characteristics of this program was that participants were recruited from schools for youth who have performed poorly academically and failed to enter into a traditional school or technical training. Students who received the curriculum were twice as likely to use contraception at first intercourse compared with students from the control group (Eggleston et al. 2000).

The four remaining programs we identified (García et al. 2006, PSI 2011, Halpern et al. 2008, Porto 2007) used social and behavior change communication approaches to increase condom and contraceptive use or to improve emergency contraceptive (EC) knowledge, attitudes and use; these were implemented in Brazil, Honduras, and Mexico. For example, the program in Honduras, launched by the local affiliate of the International Planned Parenthood Federation (IPPF), included youth-specific printed materials and videos to inform youth about the availability of an EC (Yuzpe) method in IPPF clinics. Among participating youth aged 15-19 years, the campaign increased the knowledge of EC from 5% pre-intervention to 30% post-intervention. The proportion of youth who reported that they would use EC if they needed it also increased, but use of EC did not change (García et al. 2006)

Three of these SBCC-based programs employed mass media and web-based platforms (Halpern et al. 2008, PSI 2011, Porto 2007). *The Carnival Campaign* in Brazil and *Hoy Toka* in Mexico both used a radio campaign, and the *Carnival Campaign* also used TV, billboards, and posters to promote positive social norms and improve condom use among youth (Porto 2007, PSI 2011). *Hoy Toka* expanded its radio program by deploying peer educators to facilitate face-to-face SRH discussions using communication materials from the radio campaign. Both programs were successful in promoting positive attitudes and norms surrounding the purchasing and carrying of condoms. A companion program, *TeenWEB*, consisted of a web-based strategy to teach secondary school students about topics such as condom use, HIV testing, emergency contraception, and abortion laws. The main result was improved knowledge of condom use and improved attitudes toward the use of condoms among program participants (Halpern et al. 2008).

Finally, in Nicaragua, the Competitive Voucher Program sought to increase youth access to public and private health services and successfully distributed vouchers for free SRH services in low socio-economic level neighborhoods in Managua (Meuwissen, Gorter, and Knottnerus 2006, Meuwissen et al. 2006). The evaluation of the intervention showed that voucher recipients were more likely to use SRH services than non-recipients, and specific populations of voucher recipients were more likely to use modern contraception and condoms in their last sexual intercourse (see Case Study 2, page 32).

Overall, for the LAC region, we found a good number of successful teen pregnancy and SRH programs based on behavioral theories and proven effective through comprehensive evaluation. Nevertheless, all

but two were implemented in urban areas. Therefore, more implementation and evaluation of programs are needed in rural areas that are often isolated and poor, and that are documented to have higher levels of unplanned pregnancy and more limited access to health services including contraception. We also found that most of the programs have been implemented by non-profit organizations and/or academic institutions, without government partnerships. Even though some programs implemented their activities in public schools or clinics that are operated by the government, their replication and scalability would be more likely if they government would have been involved in the designing, implementation and evaluation of the program. While there may be a number of factors that contributed to this misalignment, governments need to be considered as important partners, particularly in assuring mainstreaming of innovative programs, scalability, and sustainability. Of note: While some governments may be supporting relevant programs, it is possible that their evaluations and findings have not been published and, therefore, would not have been found through our extensive literature review and the criteria that were established for selection.

Interventions in other regions of the world

Fourteen articles (Table 4.2) from the global literature review were selected based on the eligibility criteria reported in the methodology section. Of these, seven were implemented in the United States (Coyle et al. 2006, Philliber et al. 2002, Rotheram-Borus et al. 2004, Lonczak et al. 2002, DiClemente et al. 2004, Black et al. 2006, East, Kiernan, and Chávez 2003), five in Africa (Van Rossem and Meekers 2000, Erulkar et al. 2004, Kim et al. 2001, Speizer, Tambashe, and Tegang 2001, Erulkar and Muthengi 2009), and two in Asia (Lou et al. 2004, Daniel, Masilamani, and Rahman 2008). Five programs, all in North America, were evaluated using a RCT design and nine used a quasi-experimental evaluation design.

Table 4.2 Teen Pregnancy and SRH literature findings from other regions of the world						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample population*	Study Design	Study Findings
Black et al. 2006	**Home-Based Mentoring Program** A 19-lesson home-based intervention curriculum focused on interpersonal negotiation skills, adolescent development, and parenting. The curriculum was delivered biweekly until the infant's first birthday by college-educated, black, single mothers who served as mentors, presenting themselves as "big sisters." Components included personal values and decision-making regarding subsequent pregnancies, access to birth control, and goal setting.	Social learning theory	United States	First time African American adolescent mothers (n=181)	Randomized-control trial	• Participants mothers were less likely to have a second child within two years compared to controls • Having two or more intervention visits increased the likelihood of not having a second infant by more than threefold
Coyle et al. 2006	**All4You!** Featured two primary components that were integrated and delivered as a 14–session program: (a) a skills–based HIV, other STDs, and pregnancy prevention curriculum delivered in alternative school classrooms and (b) service–learning activities. The curriculum included different lessons addressing key risk and protective factors related to sexual behaviors.	Social learning theory	United States	Youth ages 14-18 years in alternative school settings (N=988)	Randomized-control trial	• At 6-months post-intervention, there was a reduction in frequency of intercourse without a condom during the previous 3 months, frequency of intercourse without a condom with steady partners, and number of times having intercourse in the previous 3 months. Findings were no longer significant at 12 and 18-months post-intervention • No statistically significant effects for pregnancy since baseline, though there was a non-significant trend toward fewer pregnancies among youth in the intervention group at the 6–month follow–up
DiClemente et al. 2004	**Sisters Informing, Healing, Living, and Empowering (SiHLE)** A pregnancy prevention intervention that was culturally and gender-specific for African American adolescent women. The intervention consisted of four sessions, each lasting four hours and implemented on consecutive Saturdays at a community health clinic, by a trained, female, African American health educator and two female African American peer educators.	Social learning theory	United States	At-risk sexually-experienced African American females aged 14-18 years (N=522)	Randomized control-trial	• Reduced number of new sex partners and incidence of unprotected sex • Increased condom use • Long-term: reduced incidence of pregnancy
Daniel et al. 2008	**PRACHAR Project** Sought to increase contraceptive use to delay and space births through communication interventions. Activities	SBCC	India	Unmarried adolescents aged 15-19 years and married	Quasi-experimental study	• Demand for contraception increased from 25% to 40% • Statistically significant increase in use of contraceptives

	included training of health educators on SRH topics (particularly in rural communities), murals and theater troupes depicting sexual health issues, workshops and home visits for unmarried youth and couples.			couples aged 15-24 (N=1,995)		
East et al. 2006	**California's Adolescent Sibling Pregnancy Prevention Program** Aimed to prevent pregnancies among both male and female siblings of pregnant or parenting adolescent mothers by providing individualized case management, sexual education, social skills building activities, and academic guidance. Services were provided face-to-face at least once a month by providers working out of nonprofit social service agencies, community-based organizations, school districts, and county health departments.	PYD framework	United States	Predominantly Hispanic youth aged 11-17 years with at least one adolescent sibling who was a parent or had been pregnant (N=1,176)	Quasi-experimental study	• Female participants had lower pregnancy rate compared to controls (4% vs. 7%), lower rate of sexual initiation (7% vs 16%), and were more likely to report intention of remaining abstinent compared to controls • Among males, consistency of contraceptive use increased over time among participants and decreased among controls. Additionally, delivery of group services was correlated with delayed onset of intercourse • All sexually experienced youth who received psychosocial skills services showed greater contraceptive use at last sex
Erulkar et al. 2004	**Nyeri Youth Health Project** A culturally sensitive program that trained respected and well-known young parents to be "friends of youth" (FOYs) and to provide young people with guidance on sexuality-related issues. Trained FOYs encouraged youth to delay sexual initiation and encouraged sexually experienced youth to reduce risk taking behaviors. Local doctors, clinicians, and chemists received training to provide youth-friendly SRH services.	SBCC Socio-ecological theory	Kenya	Urban and rural youth aged 10-24 years (N=1,544)	Quasi-experimental	• Males had delayed initiation of sexual intercourse and increased use of condoms • Females increased communication with parents and other adults about sexual health, increased abstinence among sexually experienced youth, and reduced number of sex partners
Kim et al. 2001	**Promoting Sexual Responsibility Among Youth** A multimedia campaign that used a nationwide informational radio show aimed at youth, a combination of information and advice with music and mini-dramas (performed by theater troupes), and phone-in opportunities to speak with a peer educator and/or a doctor. Providers were trained to overcome biases against offering sexual health information and services.	SBCC Socio-ecological theory	Zimbabwe	Urban and rural youth aged 10-24 years (N=1,426)	Quasi-experimental study	• Among females, increased abstinence among sexually experienced youth • Participants increased communication with parents and others about sexual health • Increased use of contraception, condoms, and health care services • Delayed initiation of sexual intercourse • Reduced number of sex partners
Lonczak et al. 2002	**Raising Healthy Children (RHC)** A multifaceted program with components targeting classroom teachers, parents, and students to promote opportunities, skills	PYD framework Socio-ecological theory	United States	21 year olds followed up as participants of program in fifth	Longitudinal quasi-experimental study	• Significantly fewer sexual partners and a marginally reduced risk for initiating intercourse by age 21

	and recognition in developmentally appropriate ways from grades 1-12. The intervention was focused on enhancing the socialization processes specified by social development model during grades 1 through 6. However, no content specific to sexual behavior was provided.	Social learning theory		grade from high crime areas (N=376)		• Female participants had a significantly reduced likelihood of both becoming pregnant and experiencing a birth by age 21 years • Among single individuals, especially among African-American participants, there was a higher likelihood of condom use during last intercourse
Lou et al. 2004	**Sexual Health Information and Services for Youth** Designed to increase the sexual health information and services available to unmarried youth. Trained family planning staff in youth-friendly services, distributed SRH educational material and videos (including where and how to access contraception), and community presentations, and provided free contraception and pregnancy test kits.	SBCC Socio-ecological theory	China	Urban, unmarried youth aged 15-24 years (N=1,220)	Quasi-experimental study	• Males had increased partner communication about use of contraception • Increased use of contraception and condoms
Philliber et al. 2002	**The Children's Aid/Carrera program** An after-school program that worked to develop a participant's capacity and desire to avoid pregnancy. The pregnancy prevention program model provided opportunities for young people to discover interests and develop talents, plus emphasized education and employment.	PYD framework Socio-ecological theory	United States	At-risk youth aged 13-15 years (intervention N=242, control N=242)	Randomized-control trial	• Female participants were less likely to be sexually active and have experienced a pregnancy. They were also more likely to have used a condom or hormonal method at last sex • No significant effect on SRH for male youth
Rotheram-Borus et al. 2004	**Project TALC** Designed to improve behavioral and mental health outcomes among adolescents and their HIV positive parents. Sessions included preventing pregnancy and encouraging safer sex, as well as other topic areas such as reducing problem behavior and creating a positive home environment.	Social learning theory	United States	Adolescent children of parents with HIV (Treatment n=128, control N=207)	Randomized-control trial	• Over four years, treatment group had a reduced incidence of pregnancy or fathering a child compared to control group
Speizer et al. 2001	**Entre Nous Jeunes Peer Education** A peer-based intervention in community-based youth service clubs and youth associations that used peer educators to refer youth to SRH care, arrange discussion groups, and distribute SRH informational material.	SBCC Socio-ecological theory	Cameroon	Urban youth aged 10-25 years (N=802)	Quasi-experimental study	• Increased use of contraception and condoms
Van Rossem et al. 2000	**Horizon Jeuenes** An adolescent SRH program implemented within a larger nationwide social marketing program. The program used peer educators to promote behavior change,	SBCC Socio-ecological theory	Cameroon	Urban youth aged 12-22 years (N=1,606)	Quasi-experimental	• Delayed imitation of sexual intercourse • Increased abstinence among sexually experienced youth • Among males, reduced number of sexual partners and increased use of contraception

	increase providers' willingness to distribute contraceptives to unmarried young women, and radio spots and talk shows to address SRH topics of interest to youth.	Social learning theory				• Among females, increased use of condoms
Programs targeting multiple outcomes						
Erulkar et al. 2009	**Berhane Hewan** Aimed to increase the age of marriage as well as SRH knowledge and outcomes for girls. It took a multi-systemic approach of engaging girls, their families, and communities—to build girls' social, health, and economic assets and reduce their vulnerability.	PYD framework Socio-ecological theory	Ethiopia	Females aged 10-18 years (intervention N=188, control N=272)	Quasi-experimental study	• Sexually experienced girls exposed to the intervention were more likely to have ever used contraceptives *Related findings* • Among girls aged 10-14 years, there was a higher likelihood of staying in school

* Sample at baseline unless otherwise stated.

Social learning theory was the most popular theory used (5), followed by PYD (2), and socio-ecological theory was integrated in two of the programs along with other theories. Behavioral outcomes varied by program, but five programs showed positive impacts on sexual activity and/or contraception use, and five showed significant reductions in pregnancy or births (Philliber et al. 2002, Rotheram-Borus et al. 2004, Lonczak et al. 2002, DiClemente et al. 2004, Black et al. 2006, East, Kiernan, and Chávez 2003). *All4You!* (Coyle et al. 2006), and *SiHLE* (DiClemente et al. 2004) were two sexual health education programs that implemented evidence-based curricula in schools, alternative school settings, or clinics with the aim of reducing sexual risk behaviors, increasing condom and contraceptive use, and preventing teen pregnancy. In contrast, *Raising Healthy Children* (Lonczak et al. 2002), whose goal was to reduce risky sexual behavior during adolescence, did not address pregnancy prevention directly, but rather sought to positively impact youth social development by promoting academic success, social competence, and bonding to school. Similarly, *Project TALC* (Rotheram-Borus et al. 2004) was not designed solely as a pregnancy prevention program, but included modules to build life skills to prevent high-risk behavior, reduce emotional distress, and improve coping skills for youth whose parents were diagnosed with HIV. Both of these programs demonstrated a significant effect in reducing pregnancy and sexual risk behaviors among intervention participants. Another program sought to prevent second births among teen mothers through a home-based mentoring program (Black et al. 2006), while California's *Adolescent Sibling Pregnancy Prevention Program* targeted siblings of teen mothers by providing individualized case management, sexual education, social skills building activities, and academic guidance (East, Kiernan, and Chávez 2003). Finally, the *Children's Aid Society-Carrera Program* was a holistic after-school program that empowered youth by helping them develop personal goals and providing comprehensive sexual health education (Philliber et al. 2002). Results showed that the program was effective in reducing sexual activity, increasing contraceptive use, and preventing teen pregnancies among female participants.

Seven studies conducted in developing countries found significant positive impacts on a number of behavioral outcomes including delayed initiation of sex, increased abstinence, lower number of sexual partners, increased condom use, and increased contraceptive use. *Horizon Jeunes* in Cameroon (Van Rossem and Meekers 2000)was a comprehensive youth reproductive health program embedded within a national social-marketing program, and *Promoting Sexual Responsibility among Youth* in Zimbabwe (Kim et al. 2001) was a multimedia campaign that included a radio program and theater troupes performing interactive dramas on sexual health issues. Both found significant effects for all five of the behavioral outcomes identified above. Most of the programs that incorporated social and behavioral change communication strategies into their programmatic design; they also engaged youth and the community, including parents, religious leaders, and health providers, in the design and implementation of programs.

These seven programs included comprehensive sex education and the majority provided sexual health services, contraceptives, and/or referrals to family planning services. For instance, *Entre Nous Jeunes Peer Education* (Speizer, Tambashe, and Tegang 2001) in Cameroon recruited youth from within the community to become sexual health peer educators. By facilitating discussion groups, distributing informational materials, and referring youth to reproductive and sexual health clinics, these peer

educators increased contraception and condom use in the target group. A similar program in Kenya, the *Nyeri Youth Health Project* (Erulkar et al. 2004), employed respected and well-known parents to provide sexual health guidance, implement a sexual education curriculum, and engage in outreach and advocacy activities (see Case Study 3, page 33).

The main finding from the international literature search is that there are many rigorously evaluated teen pregnancy prevention and reproductive health programs in existence. Of importance, these programs have taken place in a variety of settings, targeted multiple SRH outcomes at once, and been implemented in high, medium, and low-income countries. Additionally, many of these programs use more than one multi-level behavioral theory or framework to inform their design. Therefore, these programs represent a wealth of evidence from which to draw from and can help inform similar programs in other regions.

Case Study 1: Community Embedded Reproductive Health Care for Adolescents (CERCA) (Ecuador, Bolivia, Nicaragua)

Description

CERCA was an intervention developed through action research and community-based participatory research to reach adolescents aged 13–18 years (in schools or communities), parents, health providers, local authorities, and community members. The aim of the project was to provide comprehensive sexual health promotion including all aspects of sexual wellness, such as communication about sexuality, sexual and reproductive health information-seeking, access to sexual and reproductive health care, and safe sexual relationships. The program was based on socio-ecological theory and social learning theory and was evaluated using an RCT design in Nicaragua and quasi-experimental evaluation studies in Bolivia and Ecuador. In Nicaragua 2,804 youth answered pre- and post- intervention surveys.

Results

- A higher proportion of adolescents from the intervention group had improved communication on sexuality compared with the control group in Nicaragua (35% vs. 26%), and in Bolivia (34% vs. 27%).
- Knowledge and use of SRH services improved more among the intervention group compared with the control group in Ecuador (47% v. 18%), and in Bolivia (25% vs. 12%). In Nicaragua, there were no significant changes.
- In Ecuador, condom use significantly improved among the intervention group (41%) compared with those from the control group (33%). In Bolivia, no improvement was observed. In Nicaragua, the change in condom use within the intervention group was significantly correlated with the frequency of participation in workshops.

Key Learning Points

Case Study 2: Competitive Voucher Program (Nicaragua)

Description

In the last decade, a successful CCT strategy to attract youth to health services was conducted in Managua, through the distribution of vouchers in low socio-economic level neighborhoods that give free access to SRH services in 20 private and public clinics. Through the intervention, a total of 28,711 vouchers were distributed to female and male adolescents in markets, neighborhoods and outside schools in poor areas of Managua. The vouchers were valid for 3 months and could be used for one consultation and one follow-up visit for contraception, pregnancy testing, prenatal care, and STI testing and treatment. The evaluation included a random sample of 3,009 female adolescents aged 12 to 20 years, 904 voucher receivers, and 2,105 non-receivers. The outcomes measured through pre- and post-intervention surveys were: use of SRH services, and knowledge and use of contraceptives.

Results

- Voucher receivers (34%) were more likely to use SRH services than non-receivers (19%) and specific populations of voucher recipients were more likely to use modern contraception and condoms in their last sexual intercourse.
- In schools, voucher receivers had higher use (48%) of modern contraceptives than non-receivers (33%).
- In neighborhoods, condom use during last sexual intercourse was higher among voucher receivers (23%) than non-receivers (20%).

Key Learning Points

- Economic limitations are still a barrier for youth access to SRH services. Therefore, it is feasible to improve youth access to services through voucher programs.
- The voucher program also encourages clinics and providers to deliver good quality and friendly youth services.
- This intervention could be replicated or expanded with the support of the government and a consortium of non-profit organizations.

Case Study 3: Nyeri Youth Health Project (Kenya)

Description

Nyeri Youth Health Project was a culturally sensitive program, based on social and behavior change communication and social learning theory, that was implemented in urban and rural Kenyan communities. The project trained respected and well-known young parents to be "friends of youth" (FOYs) and to provide youth aged 10–24 years with guidance on sexuality-related issues. Trained FOYs encouraged youth to delay sexual initiation and encouraged sexually experienced youth to reduce sexual risk-taking behaviors. In addition, local doctors, clinicians, and chemists received training in providing youth-friendly sexual and reproductive health services. FOYs referred youth in need of sexual health services to these providers. The quasi-experimental evaluation had a sample of 1,544 youth and measured multiple SRH outcomes.

Results

Between baseline and follow-up:

- Male participants had delayed initiation of sexual intercourse (34% vs. 24%) and increased use of condoms (39% vs 45%).
- Among females, there was increased communication with parents (26% vs. 37%) and other adults (49% vs. 57%) about sexual health, increased abstinence among sexually experienced youth (40% vs. 53%), and reduced number of sex partners (14% vs. 5%).

Key Learning Points

- Culturally sensitive programs that engage local leaders as implementers are an effective way to provide critical information and sexual health services to youth while also obtaining the necessary buy-in of local stakeholders and community members.
- Engaging parents in the provision of sexual education is an important tool to increase parent-youth communication and socio-emotional support.

Violence

We present information on 12 programs addressing violence from LAC and other global regions. We also provide further details on four of these programs in the Case Study section. These case studies were selected based on our assessments of these programs as being among the most innovative, had the best evidence or showed the most promise for integration and replicability.

Interventions from LAC

Four studies were selected because they met the eligibility criteria of being either quasi-experimental evaluations or longitudinal studies: 1) a quasi-experimental evaluation study in Colombia; 2) a quasi-experimental evaluation study in Jamaica; 3) a longitudinal qualitative study in Brazil; and 4) a longitudinal qualitative study in Venezuela. (Table 4.3)

The program *Mejor Hablemos* (It is Better if We Talk), based on social learning theory, involved a communication strategy for preventing violence and promoting conflict resolution by using mass media, community activities, and personal interactions in two low-income areas in Cali, Colombia. The evaluation of the program used a quasi-experimental methodology, with a non-randomized control group. The study was not focused exclusively on youth; it included respondents from outside this age group (N= 1,200 females and males aged 15 to 70 years at baseline, and N=2,610 of the same age group at follow-up). It was evaluated through pre- and post-intervention surveys in 1996 and 2000 respectively. The two compound measures compared were skills to solve conflicts and attitudes toward violence. The evaluation demonstrated that the program was partially successful. Skills to solve conflict did not change in the intervention areas, but there were favorable changes in attitudes against violence in the intervention groups with no change in attitudes in the comparison group (Rodriguez et al. 2006). It is worthwhile to mention that the baseline data were from a multicenter study in seven Latin American cities (San Salvador, San Jose, Cali, Caracas, Salvador Bahia, Rio de Janeiro, and Santiago) that aimed to obtain baseline data to help guide violence-prevention policies and programs. Nevertheless, we did not find any other interventions through the literature search in other countries that used this baseline data source (Fournier et al. 1999).

The other quasi-experimental study targeted a program for youth who are out of school in urban areas in Jamaica (Guerra et al. 2010) and is further described in the Case Study section (Case Study 4, page 44). The other two articles (Brandão Neto et al. 2014, Denman 2014) presented information on interventions that were evaluated using small sample sizes and a qualitative approach that aimed to evaluate the feasibility and acceptability of the interventions, rather than to measure its effectiveness. Nevertheless, both interventions were innovative since they used art to change youth attitudes toward violence.

Table 4.3 Violence literature findings from Latin America and the Caribbean						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample Population*	Study Design	Study Findings
Brandão Neto et al. 2014	A violence prevention school-based expressive art educational intervention delivered by graduate nursing students that used movement to encourage relaxation. Participants would then write about a violent experience and discuss similarities and differences of experiences. Finally, the stories were analyzed to create a puppet play.	Action research based on culture of circles^	Brazil	16-19 year olds living in a community with a high rate of violence (N=12)	Longitudinal study	• Participants were able to identify multiple manifestations of violence among school members, teachers, and property • Program promotes possibility of collaboration between nurses and schools in violence prevention
Denman 2014	**Photovoice** Participants used photography as a way to express attitudes and perceptions, as well as critically analyze sensitive issues related to domestic violence. This methodology allowed participants to raise awareness and challenge attitudes that replicate domestic violence.	Photovoice strategy^	Venezuela	Females aged 11 to 17 in upper income (N=15) and low income (N=12) neighborhoods	Longitudinal study	• Photovoice is feasible and acceptable in both high-income and low-income settings • Participants were more confident talking to others and sharing images of domestic violence • High-income youth were able to broadly define domestic violence before the intervention. In contrast, the lower-income youth did not recognize the term and took longer to define domestic violence • Youth living in low SES that are exposed to a more violent context may have less playfulness and creativity with the methodology
Guerra et al. 2010	**Kingston YMCA Youth Development Programme** Aimed to prevent violence by offering comprehensive services of remedial education, vocational training, life skills training, recreation and positive behavior management. The intervention included daily supervision, instruction, and socialization for participants and relied heavily on counseling, guidance, authoritative discipline, and positive role models. The average length of participation was four years.	Socio-ecological theory PYD framework	Jamaica	Low income, inner-city, out of school males aged 14-16 years (program graduates N=56, current participants N=125, controls N=115)	Quasi-experimental study	• Significant decrease in propensity for aggressive behavior • Current participants exhibited significant reductions in aggressive behavior after controlling for aggressive propensity • Graduates had significant reductions in aggressive propensity and behavior several years after program completion

Rodríguez et al. 2006	**Mejor hablemos** Used a communication strategy to prevent violence and promote conflict resolution through mass media, community activities, and personal interactions. The intervention promoted peaceful coexistence and encouraged the development of specific skills to solve interpersonal conflicts by having community members observe and model appropriate behaviors.	Social learning theory	Colombia	15-70 year olds from 1996 (N=1,200) to 2000 (N=2,610)	Quasi-experimental study	• Improved attitudes against violence for the intervention group in comparison to the control group • Skills to solve conflicts remained unchanged

^ Note: studies investigating the acceptability and feasibility of innovative interventions even if they were not based on one of the selected behavioral health theories were included if implemented in LAC

*Sample at baseline unless otherwise stated

Brandão Neto and colleagues (2014) evaluated an expressive art intervention delivered by graduate nursing students in schools in Brazil. The researchers reported that the art-health intervention allowed adolescents to identify multiple manifestations of violence among school members, and against teachers and property, and opened the possibility of a collaboration between nurses and schools in violence prevention (Brandão Neto et al. 2014). Another study examined results from a program that used the Photovoice methodology, in which participants use photography to express perceptions that create awareness and change attitudes toward domestic violence among female youth (Denman 2014). The methodology was tested in two settings: one in an upper-class neighborhood and the other in a low-income area. The researchers reported that the use of Photovoice was feasible and acceptable in both settings. After participating in the intervention, youth from both settings were more confident talking to others and sharing images about domestic violence.

Our main finding of the LAC literature review was the scarcity of rigorously evaluated interventions based on behavioral health theories and frameworks. Nevertheless, there are positive prospects in the region in that multi-country measures of violence are being developed and will help to compare data between the countries and over time. Moreover, we found a need to conduct further evaluations with larger samples of those innovative interventions that used art and that have been shown to be acceptable and feasible in the smaller scale studies. Finally, we see a need to replicate and evaluate programs proven to be effective in other regions of the world that we describe in the following section.

Interventions from other regions of the world

Of the eight programs that were identified for inclusion (Table 4.4), five have been implemented only in the United States (Foshee et al. 2014, Hawkins et al. 2014, Murray and Belenko 2005, Skogan et al. 2009, Taylor et al. 2013, Thompkins et al. 2014, Olds 2006), one in Kenya (Sarnquist et al. 2014), one in Portugal (Mendes 2011), and another in multiple countries (Cure Violence 2015).

Four programs were evaluated through RCTs, three through quasi-experimental designs, and only one was a longitudinal evaluation with pre- and post-surveys (Mendes 2011). The majority of the programs delivered their interventions in school settings or in after-school programs. Three programs targeted multiple outcomes such as substance use and violence (*CASASTART, Communities that Care,* and *The Nurse-Family Partnership Home Visitation Program*). Two programs (Thompkins et al. 2014, Mendes 2011) focused on school violence and bullying. One of these programs, *The Violence Prevention Project,* was conducted in 13 public high schools in New York City (Thompkins et al. 2014), and the other program was conducted in a public elementary school in Lisbon, Portugal. Two programs (Taylor et al. 2013, Sarnquist et al. 2014, Foshee et al. 2005, Foshee et al. 2014) delivered interventions to prevent dating violence and sexual and physical violence among youth. One program, *Safe Dates* (Foshee et al. 2014), targeted dating violence as well as peer violence in schools. Only one program, *Cure Violence*, targeted street violence by delivering an intervention designed to prevent shootings and killings in neighborhoods (Cure Violence 2015).

The majority of the programs used elements of the socio-ecological model, social learning theory, or PYD. Some programs combined elements of different theories such as the socio-ecological theory and social learning theory (Olds 2006).

Four of the programs included in the review (*CASASTART, Communities that Care, the Nurse-Family Partnership Home Visitation Program, and Safe Dates*) have a long record of implementation in the US and have been found to be effective through multiple evaluations at different periods. For example, the *Safe Dates* program, an evidence-based dating violence prevention program (Foshee et al. 2005), was designated in 2006 as a model program by the US Department of Health and Human Service's Substance Abuse and Mental Health Service Administration. *Safe Dates* was tested in 14 public schools in rural areas of North Carolina (Foshee et al. 2005). The 10-session curriculum was found to be effective in both preventing perpetration and in reducing perpetration among adolescents who had already used violence against their dates. Four years after *Safe Dates* implementation, researchers studied the students who had participated in the intervention and found that these students reported 56% to 92% less physical, serious physical, and sexual dating violence victimization and perpetration than youth who had not participated in *Safe Dates*. The program was determined to be equally effective for males and females and for whites and non-whites (Foshee et al. 2005). A later evaluation found that *Safe Dates* also reduced other types of youth violence in schools. That is, students exposed to the program reported 12% fewer incidents of victimization and 31% fewer students reported weapon carrying compared with those not exposed to the program (Foshee et al. 2014).

Table 4.4: Violence literature findings in other regions of the world						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample population**	Study Design	Study Findings
Foshee et al. 2005 Foshee et al. 2014	**Safe Dates** A school-based dating violence prevention program with ten sessions that aimed to prevent dating violence victimization and perpetration through changing norms and conflict management. The intervention used discussions, role-playing, and small group exercises.	Social learning theory*	United States	Eighth and ninth grade rural students (N=1885, 7 intervention schools, 7 control schools)	Randomized-control trial	• Participants reported 56% to 92% less physical, serious physical, and sexual dating violence victimization compared to non-participants • The program was found to be equally effective for males and females • Resulted in 23% less violence perpetration among minority adolescents compared to the controls • Participants were 31% less likely to carry weapons compared to the control group
Mendes 2010	This curriculum-based program aimed to reduce violence and bullying by building awareness among school boards, teachers, parents, and students. School-based nurses lead four theatrical sessions for teachers and three informational meetings for parents. Students received an 18-week, 90 min per session course that used a violence prevention curriculum designed by the Ministry of Education.	Socio-ecological theory	Portugal	Secondary level students (n=307)	Longitudinal study	• Fewer students reported being attacked by abuser after the intervention (42% pre-test, 24% post-test) • Students more likely to express negative attitudes towards abuse post intervention (6% pre-test, 14% post-test) • Students were more likely to report about abuse post-test (16% pre-test vs 55% post-test)
Sanquist et al. 2014	**Empowerment program** Participants underwent six two-hour sessions of an empowerment, deescalation, and self-defense skills course to prevent sexual assaults. Educational sessions included role-plays, facilitated discussions, and extensive verbal and physical technique practice. The control group only received a life skills class. The intervention was administered by locally trained women with at least two years of advocacy work around reducing gender-based violence.	Socio-ecological theory	Kenya	Females aged 13-20 years from informal settlements in Nairobi (intervention N=1,978, control N=428)	Quasi-experimental study	• Annual sexual assault rates decreased for intervention group (17.9/100 persons per year to 11.1/100) • Increased disclosure of sexual assaults in intervention group (56% to 75%) • Over half of adolescents in the intervention group reported they used skills learned in program to stop an assault
Slutkin 2013 Skogan 2009	**Cure Violence Method** Using the same principles that are used to reverse infectious epidemics, this program aimed to curb endemic violence such as street and gang	Social learning theory*	United States, Kenya, South Africa	Youth population varies by location	Study design varied by location	• Reduction in shootings and killings by 16-28% directly related to the program • 41-73% overall reduction in shootings and killings

	violence. The program focused on changing the behavior of a small number of selected members at high risk for violence to help mediate conflicts between gang members. In addition, community workers provided counseling to youth and connected them to a range of services. A second intervention included a building based intervention that used awareness posters, introduction of restraining orders, and working with students to map areas with high rates of violence.					
Thompkins et al. 2014	**The Violence Prevention Project** Based on a 12-session curriculum for students that promoted conflict resolution skills for violence prevention. The program used skill-building exercises to improve students' conflict-related attitudes and behaviors and goal setting. Each unit ended with a group arts-based project.	PYD framework*	United States	Urban youth in 9th and 10th grade (N=1112)	School-based Quasi-experimental	• Participants had a high responsiveness to the program model • Participation was protective in improving academic self-concept • Improved conflict resolution skills
Programs targeting multiple outcomes						
Hawkins et al. 2014 Oesterle et al. 2014	**Communities that care** Targeted multiple outcomes including alcohol use, delinquency, and violence by activating a coalition of stakeholders to develop and implement prevention programs at the school, family, and community level. The intervention mobilized and trained community stakeholders to collectively develop and implement evidenced -based interventions to address youth risks and promote protective factors among youth.	PYD framework*	United States	10-14 years (intervention N=2410, control N=2010)	Randomized-control trial	• Among participants in the program, stronger effects on reducing delinquency were observed in males versus females • Intervention group was less likely to have ever committed a violent act *Related findings* • Intervention group was more likely to abstain from any substance use, alcohol, smoking cigarettes, and engage or commit violent acts • Initiation and prevalence rates of delinquent behavior and drug use were significantly lower in the intervention than controls
Murray and Belenko 2005	**CASASTART** Targeted multiple risks such as substance use, delinquency, and school failure by providing support and services to youth and their families through a network of case managers. Core components included social support, family services, educational services, after-school and summer recreational activities, mentoring, incentives, community policing, and	Social learning theory	United States	High risk youth aged 8- 13 years (Baseline sample not available)	Quasi-experimental study	• Participants were less likely to engage in violent crimes and drug trafficking, and less susceptible to peer pressure or to be associated with delinquent peers *Related findings* • Participants were less likely to use marijuana and alcohol • Participants were more likely to be promoted to the next grade

	criminal/ juvenile justice interventions. The program worked in partnership with schools, law enforcement, and community based health and social service organizations.					
Miller et al. 2015 Olds et al. 2006	**The Nurse-Family Partnership (NFP)** For 27 years the NFP has worked with low income, first time mothers to improve maternal and child health outcomes. Through home visitation services, nurses work with clients to teach parenting skills, and develop educational and professional goals.	Socio-ecological theory Social learning theory *	United States Netherlands	Low-income first time mothers including mothers under 19 years old (Elmira N=400, Memphis N=1,139, Denver N=490, Louisiana N=357, Netherlands N=460, Orange Country N=225)	Randomized Control Trial	• In the first two years after giving birth, unmarried teen mothers had 80% fewer verified cases of child abuse and neglect than the control group *Related findings* • Children of mothers participating in the program had fewer criminal offenses between the ages of 11-19 years • Children of mothers participating in the program aged 12 to 15 had reduced alcohol, tobacco and marijuana use

* This program was also informed by other individual theories or frameworks that were not part of the inclusion criteria for this systematic literature review.

** Sample at baseline unless otherwise stated.

The Nurse-Family Partnership Home Visitation Program (Case Study 5, page 44) has been implemented for nearly 30 years in the US; its goal is to improve maternal and child health and future life options with prenatal and infancy home visiting by nurses. The program was designed for low-income mothers with no previous live births. A follow-up study assessed children of the original participants and measured long-term effects. Long-term results showed a decrease in the number of arrests, convictions, emergent substance use, and promiscuous sexual activity among adolescent children of mothers who participated in the program (Olds 2006).

CASASTART (Striving Together to Achieve Rewarding Tomorrows), a school-based program targeting multiple risk factors, has been extensively evaluated in the United States (Case Study 6, page 45). The program was created by the National Center on Addiction and Substance Abuse at Columbia University in the early 1990s. *CASASTART* targets high-risk youth, aged 8–13 years, to reduce risk factors for substance use, delinquency, and school failure (Murray and Belenko 2005). The program provides intensive support and services for high-risk youth and their families through a network of case managers who work in partnership with schools, and community-based health and social services. The results of a quasi-experimental evaluation in five study sites found that, compared with youth who did not participate in the program, youth in the program were less likely to use marijuana and alcohol and engage in violent crimes and drug trafficking, and less susceptible to peer pressure and association with delinquent peers.

In contrast with *CASASTART*, *Communities that Care* is a prevention system that does not focus on specific populations. The prevention system activates a coalition of stakeholders to develop and implement one to five prevention programs at the school, family, and community levels. The program aims to reduce substance use, delinquency (stealing, damaging property, shoplifting, or attacking someone), and violence (attacking someone with the intent to harm them)(Hawkins et al. 2014, Oesterle et al. 2014). *Communities that Care* has been extensively implemented and evaluated in the US and other countries in Africa and Latin America (Case Study 7, page 45).

The *Nurse-Family Partnership Home Visitation Program*, *CASASTART*, and *Communities that Care* have an integrative prevention risk approach. Beside targeting and measuring violence outcomes, these programs also incorporate other youth risk behaviors such as substance use and school attainment (see Table 4.4).

Two programs, one in Kenya (*Empowerment program*) and another in the US (*Safe Dates*), focused on preventing dating violence, sexual harassment, and sexual assault through classrooms lessons (Sarnquist et al. 2014). The program implemented in Kenya targeted 1,978 females aged 13 to 20 years, attending high schools in four neighborhoods in Nairobi. Participants were exposed to an empowerment and self-defense skills course in six two-hour sessions. The control group only received a life skills class. The program was evaluated through surveys at baseline and 10 months after the intervention. The evaluations found that the program was effective in decreasing sexual assault rates and increasing the disclosure of assaults. More than half of the adolescents in the intervention group reported using skills learned to stop an assault (Sarnquist et al. 2014).

*Cure Violence (*previously called *Cease Fire)* was the only program found through the literature review that addressed gang and street violence. Using an innovative approach, this Chicago-based program began in 1999 and has been replicated in cities throughout the US and other countries including Kenya, South Africa, Honduras, Jamaica, Mexico, and Trinidad and Tobago. Using the same principles that are used to reverse infectious epidemics, this program aimed to reverse widespread violence. The program focused on changing the behavior of a small number of selected members of the community with a high chance of being shot or being a shooter in the near future. The program trained "violence interrupters" to work in the streets to mediate conflicts between gang members or other conflicts that can lead to shootings. In addition, community workers provided counseling to youth and connected them to a range of services. *Cure Violence* is based on social learning theory and principles of the prevention of infectious disease transmission and principles applicable to neurobiological function. The program has undergone four evaluations, using multiple methods including surveys, crime hotspot maps, and gang network analysis. The evaluations found a 16%–28% reduction for shootings and killings, which was directly attributable to the program, and a reduction of shootings from 41% to 73% overall (Slutkin 2013, Skogan et al. 2009, Cure Violence 2015).

Our main finding from the global literature search is that some effective programs exist to prevent violence in the United States, with some of them replicated in low-income countries (including LAC countries). Of those that have been replicated in low-income countries, only a few have been evaluated in those settings. Another finding is that the majority of the programs identified are school-based interventions. More programs are needed that are designed for and evaluated among special populations of youth, such as out-of-school youth, youth who are homeless, or youth in justice facilities or jails.

Case Study 4: The Kingston YMCA Youth Development Programme (Jamaica)

Description
The Kingston YMCA Youth Development Programme was a violence prevention program for low-income, inner-city male youth aged 14–16 years living in Kingston, Jamaica. The program targeted at-risk boys who were not attending school due to academic or social problems, such as aggressive and defiant behavior. It offered comprehensive services including remedial education, vocational training, social/life skills instruction, recreation, and positive behavior management. The program conceptualized the occurrence of violence through a socio-ecology lens and employed a PYD framework. The quasi-experimental evaluation design included 56 youth who had graduated from the program, 125 current participants, and 115 control youth. The primary outcomes measured were aggressive behavior and aggressive propensity.

Results

- ❖ Significant decreases in propensity for aggressive behavior.
- ❖ Among current participants, significant reductions in aggressive behavior were found after controlling for aggressive propensity.
- ❖ Among program graduates, significant reductions in aggressive propensity and aggressive behavior were found several years after program completion.

Key Learning Points

- This is one of very few evidence-based programs aimed at preventing aggression among at-risk, older male youth.
- While youth violence is an issue of growing concern in the LAC region, this program offers promising evidence for a violence prevention strategy that is based on a PYD framework.

Case Study 5: Nurse-Family Partnership **(United States)**

Description
The *Nurse-Family Partnership* (NFP) is an intensive prenatal and postnatal home visitation program that targets low-income mothers and their first child. Nurses visit expecting and new mothers to improve maternal and child health outcomes, teach parenting skills, and help build supportive relationships. Furthermore, the NFP influences the parental life-course by working with new mothers to develop and fulfill a vision for their future by formulating educational and professional goals. The program is based on social learning theory and socio-ecological theory and has been evaluated for over 30 years in the United States and the Netherlands with demonstrated success with teen mothers.

Results

- ❖ In the first two years after giving birth, unmarried teen mothers had 80% fewer verified cases of child abuse and neglect than the control group
- ❖ Children of mothers participating in the program had fewer criminal offenses with a 45% reduction in arrests of youth ages 11-19 years
- ❖ Reduced alcohol, tobacco, and marijuana use at the age of 12 to 15 years for children of mothers participating in NFP

Key Learning Points and Recommendations

- Interventions occurring during the early stages of motherhood can have significant and long-term effects on parent and youth behavior over the life-course
- Programs aimed at changing behaviors can affect multiple outcomes by strengthening protective factors and providing social and health services to low income women.

Case Study 6: CASASTART (USA)

Description

CASASTART targets youth ages eight to 13 years and aims to build resiliency in youth, strengthen families and make neighborhoods safe. This program is based on an intensive case management model with 15 children and their families per case manager. Based on social learning theory, the program works in partnership with schools, law enforcement, and community-based health and social service organizations to support the needs of youth. Risk factors are mitigated by improving youth attachment to prosocial individuals and institutions, and increasing opportunities to build life skills and achieve goals. This program aims to reduce violence, delinquent behavior, drug and alcohol use; and improve school performance among high-risk youth.

Results

Quasi-experimental and comprehensive experimental evaluations in five sites found high–risk youth statistically:

- Less likely to use marijuana and alcohol and engage in violent crimes and drug trafficking
- Less susceptible to peer pressure and to be associated with delinquent peers
- More likely to be promoted to the next grade

Key Learning Points and Recommendations

- CASASTART exemplifies how a multi-level intervention can target high-risk youth, their families, and communities to successfully reduce use of drugs and alcohol, as well as reduce violent crimes

Case Study 7: Communities that Care (USA)

Description

Communities that Care is a program that focuses on reducing shared risk factors for multiple behavior problems including alcohol use, delinquency, and violence. This prevention system activated a coalition of stakeholders to develop and implement school, family, and community-based programs targeting youth aged 10–14 years. The program was based on a PYD framework and has been evaluated through rigorous RCTs multiple times, at 2, 6 and 8 years after its initial implementation. A total of 4,407 youth from grades 5–12 (50% female and 50% male) were surveyed annually. Schools from 24 communities in Colorado, Illinois, Kansas, Maine, Oregon, Utah, and Washington were selected as intervention sites and were matched in pairs with control communities with a similar set of socio-demographic variables.

Results

- Results from the first RCT showed that initiation and prevalence rates of adolescent delinquent behavior and drug use were significantly lower in the intervention than in control communities. For example, program participants were 60% less likely to initiate the use of alcohol between grades 7 and 8 than the control communities.
- Students in program communities were 32% more likely to have abstained from any drug use; 31% more likely to avoid using alcohol, cigarettes, or marijuana; 18% less likely to engage in delinquent behavior; and 14% less likely to ever have committed a violent act than students in control communities.
- The program had stronger effects on preventing delinquency in males than in females.

Key Learning Points

- *Communities that Care* is a successful program that targets shared risk factors for multiple behavior problems in the US.
- The program has a community engagement approach that guarantees the implementation of the interventions.
- Other countries can replicate and expand the *Communities that Care* program model.

Youth Idleness

We present information on 16 programs addressing youth idleness from LAC and other global regions; we also provide further details on two of these programs in the Case Study section. These case studies were selected based on our assessments of these programs as being among the most innovative, having the best evidence or showing the most promise for integration and replicability.

Interventions from LAC

Our review identified five evaluations of interventions for youth idleness in the LAC region (Table 4.5). One took place in the Dominican Republic (Ibarraran et al. 2014), one in Haiti (USAID/Haiti 2012), one in Brazil (Calero et al. 2015), and two were multi-country programs (MIF 2012, IYF 2011). Most programs were evaluated using RCTs, although a few employed mixed-methods performance evaluations that included pre- and post-tests to measure effectiveness.

Of these five programs, the *Entra21* program has one of the largest reaches, being implemented in 22 LAC countries. Started in 2001, *Entra21* targeted disadvantaged youth aged 16–29 years and taught them information and communications technology skills, comprehensive life skills, and technical skills. Additionally, youth received internship and job placement services. Different implementation phases of *Entra21* have been evaluated. In Phase 1, pre- and post-tests were used along with focus groups and qualitative interviews with youth and employers, and in Phase 2, a RCT design was used (or a quasi-experimental design when randomization was not feasible) (YEN 2009). Findings from Phase 1 showed that the average job placement rate was 54% six months after intervention. Phase 2, which targeted youth with higher levels of risk compared to Phase 1, showed that the average placement rate was 42% for program participants. Overall, the program has trained more than 135,000 youth through 59 implementation sites (MIF 2012).

Another youth employment program is *Juventud y Empleo,* based in the Dominican Republic. This program aimed to increase non-cognitive skills and socio-emotional skills in addition to labor market outcomes (Ibarraran et al. 2014). Evaluation results showed mixed labor market impacts, with no significant outcomes for employment but a 17% impact on job quality for men and a 7% increase in monthly earnings for those employed. Additionally, the program had a positive impact on perceptions and expectations for the future, particularly among young women and also had a positive impact on leadership skills, conflict resolution, self-organization, and persistency of effort.

The *Haitian Out-of-School Youth Livelihood Initiative* (*IDEJEN*) was designed to reintegrate marginalized, minimally educated youth aged 15–24 years into society and improve the capacity of community-based organizations (CBOs) and government institutions in working with out-of-school youth. Through a network of nearly 200 CBO training partners and career development centers, *IDEJEN* offered an integrated package of basic education and life skills, market-relevant technical training and coaching, placement in micro-entrepreneurship and other work experiences, and support for return to formal or technical school. The performance evaluation found that 53% of participants gained employment or better employment (including short-, medium-, and long-term employment) and 49% of participants transitioned to further education and training (USAID/Haiti 2012).

Table 4.5: Youth idleness literature findings from Latin America and the Caribbean						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample Population*	Study Design	Study Findings
Calero et al. 2015	**Galpão Aplauso** A program based on social inclusion through the arts, targeting youth living in *favelas*. Through performing arts such as dance and theater, youth learned marketable skills such as communication and respect, and received teamwork and vocational training, academic skills reinforcement, and job placement services.	PYD framework	Brazil	Disadvantaged and at-risk youth aged 15–29 years (intervention N=163 control N=195 Non-randomly assigned N=23)	RCT	• 15% point increase in employment rates, as well as significant gains in earnings • Among certain cohorts, employment impacts are as high as 38% and earning impacts are around 40% • A work placement rate of 85% for program graduates
IYF 2011	**Entra 21: Phase II** Youth-serving agencies partnered with a variety of training providers to teach information and communications technology skills, comprehensive life skills, and technical skills to low-income youth. Additionally, youth received internship and job placement services. While the program model was flexible and varied from country to country, the core elements remained the same.	PYD framework	22 countries in LAC	Harder to hire, low-income youth aged 16–29 years (Baseline sample varied by country)	Randomized-control trial	• Certification rate ranged from 54%-94% depending on program • Employment rates post-program ranged from 40%-70% (average 42%) • 49% of youth had an income higher than the minimum wage in their country • Between 7%-93% received employment benefits • Between 10% and 53% of participants re-enrolled in formal education
Janke et al. 2012	**Haitian Out-of-School Youth Livelihood Initiative (IDEJEN)** Youth received an integrated package of basic education and life skills, market-relevant technical training and coaching, placement in micro-entrepreneurship and other work, and support for the return to formal or technical school. The program also aimed to improve the capacity of CBOs and government institutions in working with out-of-school-youth.	PYD framework	Haiti	Marginalized minimally educated youth aged 15–24 years (N=13,050)	Mixed methods performance evaluations with pre and post test	• 53% of participants had gained employment or better employment (including short-, medium- and long-term employment) • 49% of participants had transitioned to further education and training
MIF 2012	**A Ganar** A sports-based program that taught at-risk youth life skills such as teamwork, discipline, and communication, that	PYD framework	Brazil Uruguay Paraguay	Disadvantaged youth ages 16–24 years (Baseline sample data unavailable)	Study design not available for the pilot	• Pilot evaluation in Brazil Uruguay, and Paraguay showed that 70% of youth had gained employment, returned to school, or started a business within a year of completing the program

	were transferrable to the workplace. Youth also received guidance and support in obtaining internships within the formal job sector.					
Programs targeting multiple outcomes						
Ibarraran et al. 2014	**Juventud y Empleo** Offered basic or life skills training, as well as technical or vocational training. Basic skills training was meant to strengthen trainees' self-esteem and work habits, while vocational training was meant to address the technical training needs of local employers followed by an internship in a private sector firm.	PYD framework	Dominican Republic	Out of school youth aged 16–29 years (intervention N=5,914 controls N=4,395)	Randomized-control trial	• Positive impact on job formality of about 17% for men • Increase in monthly earnings of 7% among those already employed • No overall impacts on employment rates *Related findings* • Teenage pregnancy decreased by five percentage points in the treatment group

* Sample at baseline unless otherwise stated.

A Ganar (To Win) was a three-country pilot program started in Brazil, Uruguay, and Ecuador in 2005. The program followed a PYD framework and used sports to teach youth life skills that can be transferred to the workplace and included teamwork, discipline, and communication. Youth also received guidance and support in obtaining internships within the formal job sector. Results from the pilot evaluation showed that 70% of youth had gained employment, returned to school, or started a business within a year of completing the program. These positive results led the program to be scaled up in 2009 to 10 countries in LAC , where it has already engaged 5,500 disadvantaged youth aged 16–24 years (MIF 2012).

Arts-based programs that follow a PYD framework are growing in popularity in LAC. Calero et al. (2015) found that *Galpão Aplauso* (Applause Warehouse), a program of social inclusion through the arts targeting at-risk youth in Brazil, is effective in increasing both employment and earning outcomes among youth as described in Case Study 8, page 57. The program is currently in the process of scaling up the successful approach in other regions of Brazil (MIF 2015).

The literature of fully evaluated programs for idle youth was fairly limited. However, we present a few programs that did not meet the inclusion criteria since they have not yet been evaluated or were not based on behavioral theories but merit brief mention since they show promise: *Social Circus; Jovenes con Parvenir*; and CCTs, specifically *Subsidios Condicionados a la Asistencia Escolar*.

Social Circus is an innovative youth program that teaches circus arts to vulnerable youth aged 16–29 years. The program instills important life lessons such as discipline and goal setting in addition to helping youth find occupations, strengthen job skills, and gain experience in the labor market. *Social Circus* is currently being implemented in Argentina, Chile, and Peru, with the hope of scaling it up, if shown to be effective (Cortellese and Sabra 2015).

Jóvenes con Porvenir (Youth with Hope) is a vocational training program in Zapopan, Mexico that was specifically designed for idle youth and actively tried to recruit marginalized, at-risk youth. An evaluation with a quasi-experimental design showed that the program had a positive and statistically significant effect on the probability of getting a job, monthly income, hours of labor per week, access to professional networks, and beneficiaries' general optimism about their future, although it had no significant effect on school reinsertion (Magaloni Kerpel, Díaz Cayeros, and Jarillo Rabling 2015).

Finally, CCT programs have become increasing popular in LAC as a way to improve educational outcomes among youth. Saavedra and Garcia (2012) conducted a meta-analysis of 42 published articles of rigorously evaluated CCTs implemented in 15 developing countries, including 12 LAC countries, and concluded that CCTs are effective in improving enrollment, attendance, and dropout rates. Barrera-Osorio, Linden, and Saavedra (2015) conducted an RCT of the *Subsidios Condicionados a la Asistencia Escolar* (Conditional Subsidies for School Attendance) in Colombia and found that mandating families to save a portion of their subsidy encouraged students to enroll in college at higher rates compared with those in the control groups.

Our main finding of the literature review of interventions addressing youth idleness in LAC is the scarcity of rigorously evaluated interventions based on behavioral theories and frameworks. Most of the existing

programs in the region either fall into the category of CCTs or employment training programs. However, there appears to be a growing recognition and sense of urgency in addressing youth idleness within LAC as demonstrated by some of the newer, innovative programs (e.g. Galpão Aplauso). Going forward, more comprehensive, multi-systemic interventions that incorporate behavioral theories and PYD strategies while targeting both education and employment outcomes are necessary to address the unique needs of idle youth. Additionally, these interventions need to incorporate rigorous evaluation protocols within their programmatic design to ensure that these programs can be replicated elsewhere.

Interventions from other regions of the world

Eleven papers (Table 4.6) from the global literature review were selected based on the eligibility criteria reported in the methodology section. Three were implemented in the United States (Lever et al. 2004, Schwartz et al. 2013, Schochet, Burghardt, and Glazerman 2001), two in Kenya (Erulkar et al. 2006, Hicks et al. 2011), two in Bangladesh (Shahnaz and Karim 2008, Amin 2011), one in India (CEDPA 2001), one in Liberia (Blattman and Annan 2011), one in Egypt (Brady et al. 2007), and one in Scotland (Haughey 2009). Five programs were evaluated thorough RCTs and six were evaluated using a quasi-experimental evaluation design.

Table 4.6: Youth idleness literature findings in other regions of the world						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample population*	Study Design	Study Findings
Amin 2011	**Kishori Abhijan** Designed to lower school dropout rates, increase girls' independent economic activity, and raise the age at which girls marry. It included life-skills training, such as enhancing self-esteem and leadership skills, and provided livelihoods training in vocational skills, such as poultry care, handicrafts, sewing, photography, and teacher training .	PYD framework	Bangladesh	Rural females living aged 13–22 years (N=6,000)	Randomized-control trial	• Increased both the number of girls working for cash and the amount of income they earned, particularly in programs that included microcredit. Importantly, cash work did not lead to school dropout • No significant effect on school dropout rates
Erulkar et al. 2006	**Tap and Reposition Youth (TRY)** Aimed to reduce slum-dwelling adolescents' vulnerabilities to adverse social and reproductive health outcomes by improving their livelihoods options. Groups of five students each attended six-day trainings together and received ongoing mentorship from older adults. The program included microfinancing opportunities, savings and credit guidance, and social support.	PYD framework	Kenya	Urban out-of-school females aged 16–22 years (N=326)	Quasi-experimental study	• Significantly higher levels of income, assets, and savings among participants than nonparticipants
Haughey 2009	**Programme for Alternative Vocational Education (PAVE)** Designed to support secondary-school youth who had become disengaged from school by offering them a positive link from school into employment, training, or college. The program offered supported work experiences and small group education, and encouraged youth to form positive, mentoring relationships with PAVE staff.	PYD framework	Scotland	Youth aged 14 –16 years who had become disengaged from secondary school through non-attendance and/or exclusion (N=191)	Quasi-experimental study	• Successful in re-engaging youth in school and particularly effective in diverting boys into further education and training • The program also supported personal change among youth by helping them develop a more positive perception of themselves and their abilities

Hicks 2011	**The Technical and Vocational Vouchers Program** Offered vouchers to out-of-school youth to incentivize them to enroll in vocational training programs. Additionally, half of the youth were randomly assigned to an information treatment group where they learned which vocational tracks receive higher wages. Female participants also learned about traditionally male-dominated trades and were given wage information for those fields.	SBCC	Kenya	Out of school youth aged 18–30 years (N=2,163)	Randomized-control trial	• 74% of those who received the vouchers enrolled in some type of vocational program. Voucher recipients obtained an additional 0.6 years of education • Women were more likely to express a preference for and enroll in a male-dominated field • Program did not increase the probability of employment, although wages did increase significantly among those who were already wage earners
Lever et al. 2004	**The FUTURES Program (Maryland Tomorrow Program)** A multi-systemic program designed to reduce drop-out rates and improve educational and employment outcomes among high-risk students. Ninth grade students at risk of dropping-out of school were recruited and received special services through graduation. Mentoring, attendance monitoring, smaller classes, tutoring, life skills training, leadership development, career preparation and work experience, incentives for positive achievement, family involvement, and counseling were included.	PYD framework Socio-ecological theory	United States	High-risk inner city youth aged 13–17 years	Quasi-Experimental	• Lower drop-out rates among program participants compared to controls • Higher rates of employment and post–secondary education enrollment after graduation
Shahnaz et al. 2008	**BRAC Employment and Livelihoods Adolescent Centers (ELA)** The goal of the program was to help girls build up their lives and livelihoods by providing training in life-skill, social awareness, income earning activities and microfinance services. Girls received these services at centers that doubled as training facilities and safe spaces for girls to meet and share resources.	PYD framework	Bangladesh	Females ages 10–24 years (Treatment N=322, controls N=237)	Quasi-experimental study	• Participants were more engaged in earning activity. Training and borrowing were positively correlated with engagement in the earning sector • Financial market participation was much higher among the participants than the control group
Programs targeting multiple outcomes						
Blattman et al. 2011	**Landmine Action (LMA) Agricultural Training Program** Offered skills training and psychosocial counseling, as well as a start-up package to give youth a peaceful,	PYD framework	Liberia	High-risk, ex-combatant youth living in rural areas (N=1,330)	Randomized-control trial	• Participants were more likely to be engaged in agriculture and more likely to have sold crops • Participants demonstrated an increase in average wealth from the program, particularly in

	sustainable, and legal alternative to illicit resource extraction, ease their reintegration into society, reduce the risk re-recruitment into crime and insurrection in the future, and improve security in hot-spot communities.					household durable assets, but there was no change in current income, savings, or spending *Related findings* • Small improvements in social engagement, citizenship, and stability for participants • Small but not significant decrease in participation in illicit activities among treatment group
Brady et al. 2007	**Ishraq** This program sought to establish girl-friendly spaces in Egyptian communities and aimed to develop skills, increase self-confidence, build citizenship and leadership abilities, and raise girls' expectations for the future through literacy classes, a life skills program, and sports. Ishraq also designed interventions aimed at educating and influencing boys, parents, community leaders, and promoters to change attitudes and behaviors towards girls.	PYD framework Socio-ecological theory	Egypt	Out-of-school rural females aged 13–15 years (intervention=227, control N=134, comparison N=176)	Quasi-experimental	• Significant net impact on improving academic skills, although girls who participated for longer showing the best outcomes • Of those who remained in the program for 30 months, 69% were enrolled in formal schooling by the end • No significant difference in levels of employment, all three groups showed high employment rates. *Related findings* • Reproductive health knowledge increase through participation in the program
CEDPA 2001	**Better Life Options Program (BLP)** An empowerment model that offered a combination of life skills: literacy and vocational training, support to enter and stay in formal school, family life education, and leadership training. The model was flexible enough that different NGOs were able to implement it in different contexts, but girls usually attended a six-month training at a local NGO and then joined a sub-group run by program alumni to receive ongoing support.	PYD framework	India	Low-income females aged 12–20 years (intervention N=835, control N=858)	Randomized-control trial	• Participants were more likely to be currently studying or have completed secondary schooling • 99% of the participants learned a vocational skill compared to 22% in the controls • Participant earnings were 39% higher than that of the controls *Related findings* • More likely to discuss family planning with husbands and to use contraceptives
Schochet et al. 2001	**Job Corps** Federal employment assistance program established in 1964 that provides academic education, vocational training, residential living, health care, health education, counseling, and job placement assistance to low-income youth. All services are delivered at Job Corps centers and the goal is to help youth learn a career, earn a high school diploma or GED, and find and keep a good job.	PYD framework Socio-ecological theory	United States	Disadvantaged youth between the ages of 16–24 years (at follow-up intervention N=6,828 controls N =4,485)	Randomized-control trial	• At the 48-month follow-up period, the gain in average earnings per participant was about $1,150, or 12% • Substantial increases in the receipt of GED and vocational certificates among participants • Significant impacts on the employment rate and time spent employed beginning in year 3 *Related findings* • Reduced arrest rates by 11% and rates of incarceration by 19% among 16 and 17 year olds

Schwartz et al. 2013	**Youth Initiated Mentoring (YIM)** A residential intervention program for out of school youth that enabled youth to nominate mentors from their existing social networks such as family, friends, or teachers. The program was based on the premise that caring relationship with trusted adults can lead to healthier behavioral outcomes for youth.	PYD framework	United States	Youth aged 16–18 years who had dropped out or been expelled from high school (intervention N=772, control N=451)	Quasi-experimental study	• Youth who maintained mentoring relationships for three or more years were more likely to get their GED/high school degree, gain college credit, have higher earnings, be employed for more months, and spend fewer months idle compared to the control group • Qualitative findings found that the social-emotional support, instrumental support, and guidance from mentors helped improve participants' relationships and their self-concept *Relevant findings* • Lower rates of convictions in treatment group • No significant difference was found for substance use, including binge drinking and frequent marijuana use between participants and controls

* Sample at baseline unless otherwise stated

Of the 11 programs, five were female-only interventions that aimed to improve educational and employment outcomes, although some of these program also focused on delaying marriage and increasing social mobility (Erulkar et al. 2006, CEDPA 2001, Brady et al. 2007, Shahnaz and Karim 2008, Amin 2011). All of these programs followed a PYD framework and took a holistic approach to address different areas of the girls' lives. For instance, the *Better Life Options* program in India targeted low-income girls aged 12–20 years by providing literacy training, formal school support, family life education, and leadership training. An RCT evaluation found higher retention and completion of secondary school, higher earnings, and higher vocational training rates among girls in the intervention versus controls (CEDPA 2001). Similarly, the *Ishraq* program in rural Upper Egypt targeted out-of-school adolescents by offering academic reinforcement, socio-emotional training, and life skills support. A quasi-experimental program evaluation showed that 69% of girls who completed the program were enrolled in formal schooling by the end of the program compared with only 5% of nonparticipants and 24% of girls who attended less than three years; the participants also showed significant improvements in writing, reading comprehension, and math (Brady et al. 2007).

A few programs offered microfinance, youth-friendly loans, or vouchers to incentivize youth to stay in or return to school or to improve their economic prospects (Erulkar et al. 2006, Shahnaz and Karim 2008, Amin 2011, Hicks et al. 2011). These programs were also based in a PYD framework, and aimed to give at-risk youth the opportunity to create positive changes in their lives. The Kenya-based *Tap and Reposition Youth* program, which supplied youth with loans as well as mentors who offered social support and counseling to youth, was successful in helping youth increase their incomes and savings (Erulkar et al. 2006). Another program in Kenya, the *Technical and Vocational Vouchers Program*, successfully incentivized out-of-school youth to enroll in vocational training programs and significantly increased wages among those who were already wage earners. Additionally, it utilized SBCC to increase female participation in traditionally male dominated trades (Hicks et al. 2011).

The programs that took place in developed countries were designed to foster academic achievement and improve skills and attitudes among youth at risk of dropping out or who had already dropped out of high school (Lever et al. 2004, Schwartz et al. 2013, Haughey 2009, Schochet, Burghardt, and Glazerman 2001). These programs typically followed a multi-systemic ecological model and PYD framework. The National Job Corps Program targeted at-risk youth aged 16–24 years in the United States by offering a comprehensive program that included academic education, vocational training, residential living, health care and health education, counseling, and job placement assistance. An RCT evaluation, conducted four years post-program participation, found that Job Corps had a significant impact on the employment rate and earnings for participants and increased the receipt of General Education Development (GED) and vocational certificates (Schochet, Burghardt, and Glazerman 2001). Mentorship was also an important aspect of all of these programs. For instance, Schwartz et al. (2013) evaluated the youth-initiated mentoring component of the National Guard Youth ChalleNGe Program in the United States. Schwartz found that the program was an effective model for improving educational, vocational, and behavioral outcomes among youth who had dropped out of high school as described in Case Study 9, page 57.

Similar to the findings from LAC, our review of other regions of the world had limited results. However, important distinctions arose between developed and developing regions. Interventions in developed

countries were primarily school-based and designed to prevent youth from falling into the idle youth group. In contrast, programs in developing countries represented a diversity of strategies that aimed to reintegrate youth back into the school system, help them enter vocational training, or bring youth into the formal job sector. Evidently, there is an urgent need for comprehensive interventions that teach and strengthen both life skills and technical skills, enable youth to thrive and feel supported within an academic setting, and help youth build connections to transition into formal employment. Additionally, these programs must be framed within the context of evidence-based theories and frameworks that support PYD and empowerment. Although youth idleness is a reflection of structural and economic policies that have failed to respond to the unique needs of youth, evidence suggests that comprehensive, evidence-based interventions can lead to positive outcomes for idle youth.

Case Study 8: Galpão Aplauso (Brazil)

Description

*Galpão Aplauso (*Applause Warehouse) was a program of social inclusion through the arts, based on a PYD framework, which targeted disadvantaged and at-risk youth aged 15–29 years from Brazilian *favelas*. Through performing arts such as dance and theater, youth learned skills including communication, respect, and teamwork, which made them more marketable to employers. In addition, youth received vocational training, academic skills reinforcement, and job placement services. While rigorous RCT evaluations have been conducted with different cohorts of youth who have participated in the program, monitoring and evaluations are ongoing. The main outcomes measured were: employment, earnings, risky behavior, and life skills.

Results

- ❖ 15% increase in employment rates for youth who participated in the program, as well as significant gains in earnings.
- ❖ Among certain cohorts, employment impacts were as high as 38% and earning impacts were around 40%.
- ❖ A work placement rate of 85% for program graduates.

Key Learning Points

- *Galpão Aplauso* was an innovative program targeting multiple interconnected outcomes that impact youth employment.
- Teaching both life skills and technical skills through an art-centered program can be an effective way of engaging and empowering at-risk youth.
- Other countries can replicate and expand the *Galpão Aplauso* program model.

Case Study 9: Youth Initiated Mentoring (USA)

Description

The youth-initiated mentoring (YIM) program in the United States was part of the National Guard Youth ChalleNGe Program, a residential intervention program for out of school youth aged 16–18 years. YIM enabled youth to nominate mentors from their existing social networks such as family, friends, or teachers. The program was based on a PYD framework that shows that caring relationships with trusted adults can lead to healthier behavioral outcomes for youth. A mixed-methods quasi-experimental design was used to evaluate the program. The main outcomes measured were: GED/high school diploma, college credit, months employed, earnings, and months idle.

Results

- ❖ Youth who maintained mentoring relationships for three or more years were more likely to get their GED/high school degree (OR 2.66, 95% CI 1.88-3.75), gain college credit (OR 2.92, 95% CI 2.10-4.08), be employed for more months (OR 1.63, 95% CI 0.98-2.28), and spend less months idle (OR -2.89, 95% CI -2.07- -3.71) compared to the control group.
- ❖ Qualitative findings indicated that the social-emotional support, instrumental support, and guidance provided by mentors helped improve participants' quality of relationships with others as well as their self-concept.

Key Learning Points

- Mentoring based on a PYD framework is an effective method to improve educational and employment outcomes and reduce idleness among high-risk youth.
- The YIM program model can be replicated in other settings and locations and piloted with other types of populations.

Substance use

We present information on a total of 15 programs addressing substance use from LAC and other global regions; we also provide further details on two of these programs in the Case Study section. These case studies were selected based on our assessments of these programs as being amongst the most innovative, had the best evidence or showed the most promise for integration and replicability.

Interventions from LAC

Our review identified six studies evaluating five substance use prevention and/or treatment interventions (Table 4.7). Studies included two longitudinal evaluations (Kulis et al. 2008, Orpinas et al. 2014), two quasi-experimental case-control studies (Almanza and Pillon 2004, Corea et al. 2012), and one RCT (De Micheli, Fisberg, and Formigoni 2004). One qualitative study was included to incorporate an innovative theater-based approach (Hermeto et al. 2013).

Within LAC, the majority of evaluated interventions were targeted at adolescents aged 10 to 16 years. Program evaluations were conducted in Mexico (Kulis et al. 2008, Almanza and Pillon 2004), Brazil (De Micheli, Fisberg, and Formigoni 2004, Hermeto et al. 2013), Chile (Corea et al. 2012), and in a multi-country study in Bolivia, Colombia, and Ecuador (Orpinas et al. 2014). Substance use programs occurred in school settings (Almanza and Pillon 2004, Kulis et al. 2008), at the family level (Corea et al. 2012, Orpinas et al. 2014), in the theater (Hermeto et al. 2013) and in a clinical setting (De Micheli, Fisberg, and Formigoni 2004).

We reviewed two studies of the family-based program, *Familias Fuertes* conducted in Chile (Corea et al. 2012) and in a multi-country setting of Bolivia, Colombia, and Ecuador (Orpinas et al. 2014). This program is grounded in the socio-ecological theory and includes students aged 10 to 14 years, as well as their parents. *Familias Fuertes* develops interpersonal relationships between parents and youth, establishes standards of conduct, and provides training in positive management of emotions to curb substance use behaviors (Corea et al. 2012, Orpinas et al. 2014). The primary outcome of interest for these evaluations was to measure protective factors contributing to positive behavior change. Programs resulted in reduced negative behaviors such as yelling, insulting, and lack of discipline (Corea et al. 2012). In addition, evaluations analyzed how stronger family relationships affected the use of drugs, tobacco, and alcohol as well as sexual risk behaviors. Corea and colleagues found no correlations, which may have been due to loss of participants at follow up (Corea et al. 2012) as discussed in Case Study 10, page 66.

Two articles provided results of evaluations of two school-based substance use prevention programs in Mexico. These programs, designed for youth aged 12–16 years, were grounded in SBCC and PYD (Kulis et al. 2008), as well as social learning theory (Almanza and Pillon 2004). These interventions aimed to increase protective factors such as resistance behaviors, self-esteem, and assertiveness. One program used education, printed materials, and a curriculum to develop interpersonal communication skills to successfully increase the level of assertiveness and self-esteem among students (Almanza and Pillon 2004). Another study evaluating the *Keepin' it R.E.A.L.* program (Case Study 11, page 66) found a pattern of association with program resistance strategies and lower levels of use of alcohol, cigarettes, and marijuana (Kulis et al. 2008).

Table 4.7 Substance use literature findings from Latin America and the Caribbean						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample Population**	Study Design	Study Findings
Almaza and Pilon 2004	School-based education program lasting six weeks aimed at strengthening self-esteem and assertiveness to curb substance use. The weekly, hour-long sessions included dynamic, motivational, and interactive group activities to encourage the development of positive self-esteem and increase knowledge around the consequences of tobacco and alcohol use.	Social learning theory*	Mexico	12–13 year olds (intervention N=40, control N=40)	Quasi-experimental study	• Intervention group had higher self-esteem and assertiveness compared to the control group
Correa et al. 2012	**Familias Fuertes** Based on the Iowa Strengthening Families Program, this family -based intervention comprised of seven weekly, three-hour workshops and educational sessions aimed to strengthen parenting skills and bonding of families to curb substance use. Parent trainings included strengthening positive parenting styles such as communication, relationship with children, development of standards of conduct and appropriate ways to handle discipline. Adolescents receive skills training to resist peer pressure, develop positive relationships with peers, and manage emotions.	Socio-ecological theory	Chile	Urban youth aged 10–14 years (intervention N=129, control N=223) and their parents (intervention N=124, control N=165)	Quasi-experimental study	• Parents in the intervention group showed significant parenting changes with less yelling, insults and more control at six-month follow-up • No observed differences in substance use behavior of adolescents
De Micheli. 2004	**Brief Intervention** Clinically-based short intensive treatments that include evaluation of the problem, feedback, setting goals, problem management, and development of self-efficacy.	Psychosocial FRAME model^	Brazil	10–19 year olds seeking care (intervention N=48, control users N= 51)	Quasi-experimental study	• Intervention group had a significant reduction in the number of substance users during the last month, except for alcohol use • 79% of substance users in the intervention group compared to 45% of substance users in the control group reduced consumption
Hermeto et al. 2013	**Group of Socio-Theatrical Expression in Occupational Therapy**	PYD framework	Brazil	12–18 year olds (N=10)	Qualitative study	• Program provided a safe space to improve self-esteem

	Theater-based program that provided a therapeutic space for expression of feelings and role-playing as a way to prevent substance use. Youth groups met regularly at a community center to engage in social and cultural activities, including theater, as a way to practice awareness, take part in group work, and discuss problems and solutions.					
Kulis et al. 2008	**Keepin' It R.E.A.L** Ten lessons led by a trained teacher with a booster session held the following year. The program aimed to assess risks and to improve decision making and resistance strategies in association with substance use.	SBCC PYD framework	Mexico	Secondary school students (N=327)	Longitudinal study	• Pattern of association between use of R.E.A.L drug resistance strategies and lower levels of alcohol, cigarette, and marijuana use
Orpinas et al. 2014	**Familias Fuertes** Based on the Iowa Strengthening Families Program, this family -based intervention comprised of seven weekly, three-hour workshops and educational sessions aimed to strengthen parenting skills and bonding of families. Parent trainings included strengthening positive parenting styles such as communication, relationship with children, development of standards of conduct and appropriate ways to handle discipline. Adolescents receive skills training to resist peer pressure, develop positive relationships with peers, and manage emotions.	Socio-ecological theory	Bolivia Colombia Ecuador	Families with children aged 10-14 years (Bolivia n=119, Colombia n=182, Ecaudor n=82)	Longitudinal study	• All three countries reported significantly higher mean score for positive parenting and significantly lower mean scores for parental hostility

^ Studies investigating the acceptability and feasibility of innovative interventions even if they were not based on one of the selected behavioral health theories were included if implemented in LAC.

***** This program was also informed by other individual theories or frameworks that were not part of the inclusion criteria for this systematic literature review.

****** Sample at baseline unless otherwise stated.

An innovative approach identified was a theater-based program in Brazil known as the *Group of Socio-Theatrical Expression in Occupation Therapy* (Hermeto et al. 2013). The program allows youth aged 12–18 years to express their feelings and address substance use issues through theater. The program creates a supportive sharing space to practice awareness, group dynamics, and discussion of problems and solutions. Preliminary results show the potential to decrease substance use through increased self-esteem, social identity, and peer bonding learned through the program.

We also reviewed a brief intervention strategy targeting the individual. In Brazil, a 20-minute intervention using the FRAME model (feedback, responsibility, advice, menu of options, empathy, self-efficacy) to curb drug use was evaluated (De Micheli, Fisberg, and Formigoni 2004). This evaluation focused on adolescents seeking health services. The intervention group showed a reduction in the use of most substances in the previous month (De Micheli, Fisberg, and Formigoni 2004). In combination with school-based and family-based interventions, individual-level interventions for current drug users are a promising approach.

Our main finding of the literature review from LAC is the lack of rigorous evaluations of interventions based on behavioral health theories and frameworks. Furthermore, many of the programs evaluated, while having promising results for some outcomes, showed no significant change in substance use. However, several interventions show evidence of scalability and adaptability to other regions (Case Study 10 and 11). Future research should focus on evaluating existing interventions, using multi-level approaches that focus beyond the individual, as well as rigorous evaluations to allow for cross-country comparisons. Interventions that have been shown to be effective should be replicated where appropriate.

Interventions from other regions of the world

Nine unique interventions were represented in this review (Table 4.8) and included studies in the United States (Becan et al. 2015, Cervantes, Goldbach, and Santos 2011, Kulis et al. 2007, Marsiglia et al. 2012, Spoth et al. 2009, Spoth et al. 2012, Tebes et al. 2007); Spain (Ariza et al. 2013, Faggiano et al. 2010), Hong Kong (Faggiano et al. 2010); and one multi-country study in Italy, Germany, Sweden, Belgium, Greece, and Austria (Faggiano et al. 2010). The review included four RCTs (Faggiano et al. 2010, Shek and Ma 2012, Spoth et al. 2009, Spoth et al. 2012, Kulis et al. 2007), four quasi-experimental case-control studies (Ariza et al. 2013, Becan et al. 2015, Marsiglia et al. 2012, Tebes et al. 2007), and one longitudinal evaluation (Cervantes, Goldbach, and Santos 2011).

Similar to our findings in LAC, programs are primarily intervening at a younger age (10 to 15 years of age) suggesting youth may be better served by these types of prevention programs earlier than later. Of the nine studies included in the review, two focused primarily on cultural adaptions of programs for Latino youth (Marsiglia et al. 2012, Cervantes, Goldbach, and Santos 2011).Three studies focused on reaching youth perceived to be at high risk for substance use (Ariza et al. 2013, Cervantes, Goldbach, and Santos 2011, Marsiglia et al. 2012, Kulis et al. 2007). One study focused on a group-based therapy of adolescents in treatment for substance use (Becan et al. 2015). Lastly, one study focused on the long-term effects of a family-based intervention that was implemented when youth were aged 11–14 years, and evaluated ten years later (Spoth et al. 2012).

Table 4.8: Substance use literature findings in other regions of the world						
Author and Year	Program	Behavioral Theory/ Framework/ Strategy	Country	Sample population*	Study Design	Study Findings
Ariza et al. 2013	**Xkpts.com** School-based program that promoted cannabis prevention through discussions on decision-making, videos on situations on cannabis use and social influence. The intervention consisted of four sessions and sixteen activities, implemented over 6–10 hours. A guide on cannabis use was also distributed for the family.	Social learning theory	Spain	14–16 year olds previously enrolled in a drug dependency program (intervention N=2803, control N=2043)	Quasi-experimental study	• Intervention group was statistically less likely to report last month cannabis use compared to control group • Intervention group had a 36% reduction in last month cannabis use
Becan et al. 2015	**Treatment Readiness and Induction Program (TRIP)** Eight module clinical treatment program used in the first 30 days of a substance abuse treatment program to increase motivation for treatment through problem mapping, counselling, and peer facilitation.	PYD framework	United States	Adolescents enrolled in community-based treatment programs (N=519)	Quasi-experimental study	• TRIP participants demonstrated greater improvements in problem recognition which could indirectly affect later stages of treatment change compared to the control group • No difference was observed between the intervention and control group for desire for help and treatment readiness
Faggiano et al. 2010	**Unplugged** Aimed to improve students' goal setting, decision making and drug refusal skills. Consisted of 12 sessions for students and included role playing and peer group activities. The parent arm included three meetings on how to bond with their families.	Social learning theory	Italy Spain Germany Sweden Belgium Greece Austria	In school youth aged 12–14 years (intervention N=3547, control N=3532)	Randomized control trial	• At 18-month follow-up, intervention group was significantly less likely to have a period of drunkenness in the last 30 days than the control group • At 18-month follow-up, percent of non-users of cannabis was significantly higher in the intervention group than the control group
Kulis et al. 2007	**Keepin' It R.E.A.L** Ten lessons led by a trained teacher with a booster session in the following year. The program aimed to assess risks, improve decision making and resistance strategies in association with substance use.	SBCC PYD framework	United States	Middle school students aged 11–16 years who have used substances (Intervention N=1,050, control N=314)	Randomized control-trial	• Intervention group who reported previously using alcohol decreased alcohol use by 72% more than the control group • Participants in the intervention group who previously used alcohol reported discontinuation of alcohol use 66% higher than the control group
Marsiglia et al. 2012	**R.E.A.L groups** A secondary prevention program that built off the Keepin' It R.E.A.L program	SBCC PYD framework	United States	At-risk 7th grade students of Mexican heritage	Quasi-experimental study	• Intervention group decreased alcohol use compared to control group

	for higher risk groups. The program consisted of eight weeks of group sessions where students discuss and rehearse resistance strategies by addressing peer relationships and prosocial behaviors.			(Intervention N=109, control N=252)		
Spoth et al. 2009	**Iowa Strengthening Families Program (SFP)** Addressed family risk and protective factors through improved family bonding and management, as well as adolescent social skills using 14 weekly sessions. **Preparing for the Drug Free Years** Family competency training program that used five weekly sessions to improve family bonding and reduce youth risk.	Socio-ecological theory	United States	Rural families with at least one eligible child in 6th grade (Iowa Strengthening Family Program N=238, Preparing for the Drug Free Years N=221, control N=208	Randomized Control Trial	• Adults participating in SFP exhibited less drunkenness and less frequency of polysubstance use • SFP had more direct effects on outcomes than Preparing for the Drug Free Years
Spoth et al. 2012	**Iowa Strengthening Families Program** Addressed family risk and protective factors for substance use through improved family bonding and management, as well as adolescent social skills using 14 weekly sessions.	Socio-ecological theory	United States	Young adults 10 years after receiving ISFP in middle school (N=446)	Longitudinal study	• Protective shield effects of IFSP have long-term effects on the reduction of illicit substance use
Tebes et al. 2007	**Positive Youth Development Collaborative** Promoted the well-being of adolescents through substance use prevention skills, education, and cultural heritage activities. Community leaders delivered program activities in 18 sessions.	PYD framework	United States	Middle and high school aged youth (Intervention N=149, control N=155)	Quasi-experimental study	• Adolescents in the intervention group were significantly more likely to view drugs as harmful than the control group • The intervention group had a lower increase in alcohol, cannabis, and other drug use 1 year after beginning the program compared to the control group
Programs targeting multiple outcomes						
Cervantes et al. 2011	**Familia Adelante** Used 12 sessions targeted at-risk youth and their parents. Sessions covered topics of substance use knowledge, emotions, stress, peer influence, parenting and family education.	PYD framework	United States	At-risk Latino youth aged 11–14 years (N=153) Parents of youth participants (N=149)	Longitudinal study	• Harm perception of substance use increased • Marijuana use dropped to zero • Family bonding and communication increased • Communication with peers increased *Related findings* • Attitudes towards and use of condoms increased • Conduct and learning disorders decreased • Hyperactivity, anxiety, and impulsivity decreased

* Sample at baseline unless otherwise stated

Four articles focused on family-based programs (Ariza et al. 2013, Cervantes, Goldbach, and Santos 2011, Spoth et al. 2009, Spoth et al. 2012) with three focusing on high-risk youth. These programs aimed to improve knowledge of prevention strategies, family communication, and general substance use education (Cervantes, Goldbach, and Santos 2011, Spoth et al. 2009, Spoth et al. 2012). Direct outcomes included drug use in the last month (Cervantes, Goldbach, and Santos 2011, Spoth et al. 2012), lifetime drug use (Spoth et al. 2012, Spoth et al. 2009), drug use risk perception, school behavior, peer and family bonding, sexual health outcomes(Cervantes, Goldbach, and Santos 2011), and substance use initiation (Spoth et al. 2009). Studies on the *Strengthening Families Program* and *Familias Adelante* programs evaluated the curricula's effect on parents concerning alcohol-related risk behaviors, cigarette use frequency, and polysubstance use (Spoth et al. 2009, Cervantes, Goldbach, and Santos 2011). In general, family-based interventions improved communication skills with peers and parents, knowledge of drug use consequences, and other behaviors such as condom use (Cervantes, Goldbach, and Santos 2011). Significant reductions in use of marijuana and other drugs (Ariza et al. 2013, Cervantes, Goldbach, and Santos 2011, Spoth et al. 2012) and negative social behaviors (Cervantes, Goldbach, and Santos 2011) were also found. Two of these studies were based on the *Iowa Strengthening Families Program,* which has been replicated and adapted for Latin American countries (Spoth et al. 2009, Spoth et al. 2012).

School-based programs focused on the social learning theory, PYD, and SBCC (Faggiano et al. 2010, Kulis et al. 2007, Shek and Ma 2012, Tebes et al. 2007, Marsiglia et al. 2012). These interventions worked to improve protective factors in knowledge and attitudes (Faggiano et al. 2010) and intrapersonal skills, such as refusal, assertiveness, and decision making (Faggiano et al. 2010, Kulis et al. 2007, Marsiglia et al. 2012). Programs used strategies including role-playing, teaching modules, and social discussions to change social group norms (Marsiglia et al. 2012, Faggiano et al. 2010). Direct outcomes measured frequency of substance use (Faggiano et al. 2010, Kulis et al. 2007, Tebes et al. 2007, Marsiglia et al. 2012) and substance use severity (Kulis et al. 2007). All five interventions were successful in curbing substance use behaviors (Faggiano et al. 2010, Kulis et al. 2007, Shek and Ma 2012, Marsiglia et al. 2012, Tebes et al. 2007). Two of these studies represent a program that has been replicated and used in Mexico and with Latinos living in the United States as described in Case Study 9, the *Keepin' it R.E.A.L* program (Kulis et al. 2007)and the extension of the program for high risk youth, *R.E.A.L* groups (Marsiglia et al. 2012).

The *Treatment Readiness and Induction Program* targeted youth already using substances through group-based therapy in a clinical setting. This strategy aims to motivate treatment uptake by encouraging youth to think about substance use and personal problems through exercises such as mapping, counselling, experiential games, and peer facilitation (Becan et al. 2015). This program assessed motivation for treatment based on a model of sequential stages of change, such as drug use severity, juvenile justice involvement, and urgency. The program demonstrated greater gains in problem recognition compared to standard operating procedure (Becan et al. 2015).

One study highlighted an integrated approach at the family and individual level (Ariza et al. 2013). The program aimed to change behavior using social influences and self-efficacy approaches and included life skills training, role playing, discussions, communications media at the individual level, and a parenting

guide for families (Ariza et al. 2013). There was a 36% reduction in last month cannabis use among the intervention group compared to the control group (Ariza et al. 2013).

The main findings from our review of the global literature were that successfully evaluated programs exist for the general youth population, high-risk youth, and youth already using drugs and alcohol. However, with the exception of *Familias Fuertes and Keepin' It R.E.A.L,* which have been evaluated in LAC countries, the rest of the interventions have only been evaluated in high-income countries and need to be adapted and tested in low-and-middle-income countries. Lastly, while interventions did target general and high-risk youth in school and youth in treatment, other target populations, such as out of school youth, youth who are homeless, and other hard-to-reach youth are absent from intervention evaluations.

Case Study 10: Familias Fuertes (Multiple Countries)

Description

Familias Fuertes (FF) was a family skill-building program evaluated in LAC countries and adapted from the evidence-based Strengthening Families Program (SFP) developed by Iowa State University. Through almost 20 years of evaluation, SFP amassed evidence supporting the program's aims to prevent drug use, aggression, sexual risk behavior, and improve school success. Based on socio-ecological theory, FF targeted both parents/caregivers and their children (aged 10–14 years) and consisted of seven weekly two-hour sessions. Sessions included videos, interactive exercises, educational games, and family activities. The FF program was implemented in at least 13 countries in LAC.

Results

- ❖ Immediate evaluation results showed increased family bonding, participation in household activities, compliance with rules, willingness to converse with parents on the topics of drugs and sex, and decreased susceptibility to peer pressure.
- ❖ Evaluations in Bolivia, Colombia and Ecuador found that 75% of parents increased their positive parenting and 65% of parents decreased their parental hostility after completing the program compared to pretest results.
- ❖ In Chile, parents participating in the FF program improved parenting skills including less yelling fewer insults, and increased perception of being in control. Parents and adolescents reported 98% satisfaction.
- ❖ Mixed evidence on program impact of substance use.

Key Learning Points

- The family plays a pivotal role in adolescent development and FF is a promising strategy to strengthen family relationships while targeting multiple risk behaviors.

Case Study 11: Keepin' It R.E.A.L: strengthening youth resiliency (Mexico and USA)

Description

The Keepin' it R.E.A.L program was a school-based substance use prevention program, based on social and behavioral change communication and a PYD framework. The program consisted of 10 multicultural classroom lessons, which used direct instruction, in-class participatory exercises, videos, and homework assignments. Booster sessions were taught in the following years. The program focused on five key elements of adolescent life: interpersonal communication, narrative knowledge, motivating norms, social learning, and resistance skills.

Results

- ❖ An evaluation in the United States of Mexican American youth found those exposed to the program had a 72% higher rate in reduction of alcohol use and 66% higher rate of discontinuation of alcohol use compared with to students in the control groups.
- ❖ A study in Mexico found an association between the Keepin' it R.E.A.L resistance strategies and lower levels of use of alcohol, cigarettes, and marijuana.
- ❖ High-risk youth receiving an extension of the program (R.E.A.L groups) decreased alcohol use in the past 30 days in comparison to non-participants.

Key Learning Points

- Keepin' It R.E.A.L demonstrates an association in learning resistance behaviors and decreased substance use.
- Strategies aimed at teaching resistance behaviors can be effective for the general population, high-risk youth, and substance using youth.
- Culturally appropriate messaging can be further adapted for other Latin American countries.

NOTE: per email, focused on the sections that follow

Chapter 4 Summary

Multi-level theories, frameworks, and strategies more frequently used in youth risk prevention

Through the systematic literature review and full text review of studies in LAC, we found that only one quarter (24%, or 26 out of 108) had been evaluated and were based on one or more of the five selected behavioral health theories, frameworks and strategies. Similarly, we found that only 28% (42 out of 151) of the global studies retrieved for full text review had been rigorously evaluated and were based on one of the five selected theories.

Other researchers have reported that some studies on health behavior interventions do not always report the theories that support them. For example, a systematic literature review of health behavior interventions published in 10 leading journals from 2000 to 2005 found that only 61% of the total number of interventions reviewed identified at least one theoretical framework (Painter et al. 2008).

Our literature reviewed also showed that a quarter (18 out of 68) of programs in the LAC region and globally used a combination of multi-level theories or frameworks (e.g. social-learning theory plus socio-ecological theory, or socio-ecological theory plus PYD, or a combination of the three previously mentioned approaches) or a combination of a multi-level theory and social behavioral and communication strategies. From our findings, it is evident that youth risk prevention programs employ a combination of theories and frameworks on varying levels to support unique approaches.

Based on solely on our literature review, we cannot determine which theory or framework is more successful or appropriate to address youth risks and risk behaviors. Researchers in the behavioral health theory field have pointed out that there are several health behavior theories with individual and multi-level approaches, and a large body of empirical research based on them (Noar and Zimmerman 2005). Nevertheless, there is still no consensus that certain behavioral health theories are more accurate than others; and there is a need to conduct more empirical comparisons of theories to advance the behavioral health field (Noar and Zimmerman 2005).

Table 4.9: Summary of findings of systematic literature review of youth risk prevention programs by types of theory, framework or strategy and youth risk

Theory	Region	Teen Pregnancy and SRH	Violence	Youth Idleness	Substance Use	Total
Socio-ecological theory only	LAC	0	0	0	2	**2**
	Global	0	2	0	2	**4**
Social learning theory only	LAC	1	1	0	1	**3**
	Global	4	3	0	2	**9**
Positive youth development only	LAC	3	0	5	1	**9**
	Global	1	2	7	3	**13**

Combination of theories and frameworks *	LAC	2	1	0	0	**3**
	Global	3	1	3	0	**7**
Social and behavioral change communication strategies only	LAC	4	0	0	0	**4**
	Global	1	0	0	0	**1**
Conditional cash transfer strategies	LAC	1	0	0	0	**1**
	Global	0	0	1	0	**1**
Combination of theories and strategies**	LAC	0	0	0	1	**1**
	Global	5	0	0	2	**7**
Innovative programs not based in selected theories in LAC countries		0	2	0	1	**3**
Total:		**25**	**12**	**16**	**15**	**68**

* For example, programs that use a combination of social learning theory and socio-ecological theory, or socio-ecological theory and PYD, or socio-ecological theory, social learning theory and PYD framework

** For example a combination of SBCC strategy and socio-ecological theory, social learning theory or PYD

However, what we can conclude from this systematic literature review is that certain theories and frameworks have often informed programs to prevent four youth risks: teen pregnancy and SRH, violence, idleness and substance use (see Table 4.9).

For example, programs to prevent youth idleness in the LAC region and globally have been extensively based on the PYD framework. In contrast, violence programs identified were based more frequently on social-learning theory and/or socio-ecological theory. We also found that programs directed to prevent substance use were often based on a combination of multi-level theories and PYD, as well as SBCC. Finally, the teen pregnancy and SRH prevention field includes programs based on a wide combination of theories and strategies, consistent with our finding that teen pregnancy and SRH programs seem to be the more advanced and evaluated in the youth prevention field in both the LAC region and other regions of the world.

Scarcity of integrated interventions targeting multiple risks

Of special interest to this literature review was the identification of programs that targeted a combination of youth risks. We only found 12 programs from a total of 68, two in the LAC region and 10 in other regions of the world, which addressed and measured outcomes related to multiple risks. These programs are highlighted in each of the tables presented in chapter 4. Interestingly, most integrated interventions measured a combination of violence and substance use outcomes, such as decreases in violent acts and abstaining from or reducing substance use (*Communities that Care, CASASTART,* and *The Nurse-Family Partnership Program*). Another common combination was school enrollment and increased discussions about family planning with partners or decreases in teen pregnancy (*Juventud y Empleo* and *Better Life Options*). Other integrative programs evaluated employment/vocational training outcomes and reductions in rates of convictions or incarceration such as *Job Corps* and *Youth Initiated*

Mentoring. We only found a few integrated programs that prevented substance use as well as other outcomes such as attitudes toward condom use and violence (*Familia Adelante*) or teen pregnancy and SRH programs that targeted other youth risks such as drug use and gang involvement (*Youth Peer Provider model from Planned Parenthood Global*).

Chapter 5. Policies and laws in LAC that promote healthy behaviors among youth

Socio-ecological theory, social learning theory, and the PYD framework—key theories and frameworks that have been used in theory-based youth programs presented in chapter 4—emphasize the role of the environment where youth live—family, schools, community—as factors that shape youth risks and behaviors (Bandura 1977, Lerner et al. 2012, Bronfenbrenner 1979). That environment is influenced by policies and regulations that can support or hinder youth health (Brindis and Moore 2014). Therefore, it is relevant for planners and decision makers to consider the larger social and policy context in which youth prevention programs are implemented in the LAC region.

This chapter presents a summary of policies and laws related to teen pregnancy and SRH, violence, youth idleness, and substance use that have been implemented or approved recently in the LAC region with an emphasis on Uruguay, Paraguay and Brazil. We extracted the information from reports and websites from international and local organizations such as the Center for Reproductive Rights, Human Rights Watch, the International Labor Organization, Pan American Health Organization, and Ministry of Health websites of Uruguay, Paraguay and Brazil.

Policy environment for teen pregnancy and SRH

Sexual education laws

In 2008, the governments of all LAC countries signed the Mexico City Ministerial Declaration *Prevenir con Educación* (Preventing through Education), a progressive regional initiative to expand young people's access to comprehensive sexuality education and SRH services (Declaracion Ministerial 2008). Through the Ministerial Declaration, countries committed to update sexuality education curricula to reflect evidence-based best practices and expand these improved programs nationally. For example, by 2015, all countries committed to reducing by 75% the number of schools that have not institutionalized comprehensive sexuality education, and decreasing by 50% the number of young people who do not have access to SRH services (Declaracion Ministerial 2008).

Abortion laws

Most countries in the LAC region have restrictive abortion laws, and until recently, a woman could request a legal abortion in only three countries—Cuba, Puerto Rico, and Guyana (Kulczycki 2011). Nevertheless, in the last decade, some countries in the region have moved toward more liberal abortion laws (Kulczycki 2011). For example, in 2012 the senate of Uruguay passed a law to legalize abortion, allowing women to request an abortion without restriction during the first trimester of pregnancy (Human Rights Watch 2012). Another important advancement occurred in April 2007 when the government of Mexico City legalized elective abortion through the first 12 weeks of gestation (Gaceta oficial del Distrito Federal 2007). In addition, 2006 changes in the law in Colombia expanded the number of circumstances in which abortion is permitted, i.e., the Constitutional Court legalized abortion in cases of rape, endangerment to the woman's life or health, and conditions that would result in fetal death (Constitutional Court 2006).

In other countries of the LAC region, despite feminist and human right organizations and groups of physicians and legislator advocating for the liberalization of abortion policies, the laws have remained unchanged. For example, in Brazil, abortion is only legal in cases of rape, when a woman's life is at risk, or severe fetal malformation are determined by judicial consent (Richardson and Birn 2011). (Table 5.1)

Table 5.1: Abortion laws in Brazil, Uruguay, and Paraguay

Abortion laws	Brazil	Uruguay	Paraguay
Circumstances in which abortion is legal	• Rape and incest • If the life of the pregnant woman is at risk • The fetus has severe birth defects (?)	• Legal on request until 12 weeks of gestation	• Legal only when the life of the pregnant woman is at risk

Furthermore, in five of the 33 countries of the LAC region, including Paraguay, abortion is only allowed if the life of the pregnant woman is at risk, and eight of the 33 countries only allow abortion in the case of rape or incest (Center for Reproductive Rights 2015). Access to safe abortion services in the case of rape is often cumbersome and time consuming and there have been numerous cases in which authorities have denied the procedure even when it falls under the exception (Kulczycki 2011, Lara et al. 2006).

Access to abortion services in any of the allowed circumstances is often difficult; many health providers resist and/or fear carrying out abortions, even though they fall within the exceptions (UNICEF 2005). The breakout of the Zika virus epidemic in the LAC region and its potential causal relationship with microcephaly might open a window of opportunity to review the protocols to women's swift and safe access to abortion services in Brazil and other countries in the region where abortion is legal for fetal malformations (Roa 2016). It could also open the door to move forward dialogs on abortion laws in countries in which abortion is completely banned such as El Salvador, Chile, and Dominican Republic (Center for Reproductive Rights 2015), and others in which abortion is not permitted in cases of fetal malformation (Roa 2016).

Access to SRH

Uruguay, Paraguay, and Brazil, like the rest of LAC countries, have policies and laws that recognize the right to contraception, respect individual choices regarding the number and spacing of children, and regard reproductive rights as a fundamental human right (PAHO 2010). Likewise, in 2007, the Ministers of Health of Uruguay, Paraguay, and Brazil, and other countries that belong to Mercosur, signed a Ministerial Declaration to develop and strengthen policies and programs in SRH (Reunión Ministros de Salud del Mercosur 2007). Importantly, the Ministerial Declaration recognizes the link between domestic and sexual violence and SRH, acknowledges the need to integrate violence prevention, detection and treatment into SRH services, and a need to commit to improved access to emergency contraception and abortion services.

Influenced by this favorable policy environment, the majority of the countries in the LAC region, including Uruguay, Paraguay, and Brazil, have successfully increased free access to contraception among youth through the private and public sector (PAHO 2010). In order to continue improving youth access to SRH services, PAHO' 2010-2018 plan of action recommends evidence-based policies that encourage environments promoting the health and development of youth using evidence-based policies (PAHO 2010).

Despite the WHO's recommendation that all women have access to emergency contraception (EC), this is still a challenge in many places in Latin America. For instance, in Costa Rica, Haiti, and Honduras there are no registered EC products and EC is not available through existing health services (ICEC 2016b). However, EC services are improving in other LAC countries. Both Brazil and Paraguay include EC in their lists of essential medicines, but Uruguay does not. Additionally, while Brazil and Paraguay do not have an age restriction to obtain EC, Uruguay requires an adult to be present (ICEC 2016a). Despite this, all three countries offer EC through public sector clinics and pharmacies for free or at a reduced cost (ICEC 2016a).

A barrier for adolescents' access to contraception in the public or insurance health system is the potential lack of confidentiality when using available medical services. However, a report that reviews adolescent policies in the region did not find information about the legal age of consent to obtain contraception or other SRH services in public or private medical services (UNICEF 2005).

Table 5.2 summarizes some of the policies that Uruguay, Paraguay, and Brazil have signed in the last decade to advance SRH. Note that some of these policies are not specific to adolescents.

Table 5.2 Summary of sexual and reproductive health policies in Uruguay, Paraguay, and Brazil

Policies	Date Enacted Countries	Impact on SRH
Mexico City Ministerial Declaration *Prevenir con Educación*	2008 All LAC countries	- Update sexuality education curricula to reflect evidence-based best practices - Expand sex education to the national level - Reduce by? 75% the number of schools that are not providing sex education - Reduce by? 50% the number of young people who do not have access to SRH services

Regional strategy and plan of action to address the needs of adolescents and youth (PAHO)	2010–2018	- Develop and strengthen an integrated response from the national health sector and work collaboratively with local, national, and international stakeholders, as well as adolescents, to respond to the needs of young people in LAC - Promote and secure the existence of environments that enable adolescent and youth health and development through the implementation of effective, comprehensive, sustainable, and evidence-informed policies, including legal frameworks and regulations
Mercosur, Ministerial Declaration	June 2007 Members of Mercosur: Uruguay, Paraguay, Brazil, Argentina, and Venezuela	- Provide a wide range of free contraceptive methods including emergency contraception - Develop strategies to prevent abortions and to treat unsafe abortions - Create protocols for the legal interruption of the pregnancy in health services and countries in which abortion is legal - Promote actions to reduce the incidence of domestic and sexual violence, considered a public health, human rights and social problem. - Develop comprehensive policies in SRH, gender and human rights, with the support of the civil society

Policy environment for violence

With violence rates remaining a top concern in LAC, almost every government in the region is moving toward a more comprehensive approach to violence prevention. Political commitment has resulted in the creation of regional and national institutional bodies for violence prevention, scaling up of public security efforts, as well as government-supported prevention programs that target youth through education, mentoring, bullying prevention, and home visits (WOLA 2011, Meyer and Seelke 2015). This policy shift is a response to the failed attempt of the strict security policy of “mano dura” that resulted in mass incarceration of youth who were associated with illicit substances and gang membership (WOLA 2011, Meyer and Seelke 2015). Additionally, gun policies have been enacted to combat the burden of homicides from firearms. These policies include background checks, minimum age requirements, and restrictions on carrying guns on school premises (see Table 5.3) (WHO 2014).

Gender-based violence has sparked the formation of community advocacy groups to influence leaders in the region to take action. Leaders have responded and vowed to prevent gender-based violence through strengthened political and financial commitments, and integrating health systems in preventing violence against women (Economist 2013). As a result in some countries, the policies have spurred appropriate and responsive medical care, legal aid, and designated specialized police stations for women (Economist 2013). Almost 40% of Latin American countries, including Brazil, have implemented dating violence prevention programs in schools, and more than half have implemented social and cultural norm changing programs (WHO 2014).

5.3 Summary of gun policies in Brazil, Uruguay, and Paraguay

Laws and policies	Brazil	Uruguay	Paraguay
Minimum age requirement for carrying guns, yrs	25	18	22
Background checks	Yes. People who buy guns should pass a criminal, mental health and employment check.	Yes. Places that sell guns should inform the authorities within 72 hours about the transaction and the buyer.[1]	Yes. People who buy guns should demonstrate a legitimate reason for having the gun such as self-defense, sport, or collection.
Laws against carrying guns in public	Yes. People who carry guns in public should have a valid government authorization.	Yes. People who carry guns in public should have government authorization. Penalty of 3-18 months in prison for illegally carrying guns. *	Yes. Carrying guns is permitted under a valid government authorization. Civilians are not allowed to carry automatic weapons.

* Uruguay approved a stricter gun law in 2014 http://www.andes.info.ec/es/noticias/uruguay-aprueba-ley-armas-endurece-penas-trafico-ilicito.html

Policy environment for youth idleness

In 2005, with growing recognition for the problem of youth idleness, the International Labor Organization (ILO) developed a comprehensive set of policies and programs to address youth employment; in 2012, these steps were further strengthened and operationalized. (ECLAC/ILO 2012). Since the resolution in 2005, many countries in the LAC region have adopted policies and developed programs to improve both employment and educational prospects for youth. Strategies to address youth idleness generally fall under the following categories: 1) policies and laws to promote economic growth by improving working conditions and access to the labor market for at-risk youth; 2) policies and programs to encourage the transition from school to work; 3) apprenticeships, internships, and job training programs; 4) programs that promote youth entrepreneurship and self-employment; 5) laws that create wage subsidies for young workers ; 6) public employment services that specifically target youth; and 7) social dialogue that promotes youth participation and representation (ECLAC/ILO 2012).

Policy environment for drugs and alcohol use

With the emergence of the Latin American Commission on Drugs and Democracy in 2009, drug policy is shifting away from decades of supply side anti-drug policies to three main policy strategies: 1) treat substance use as a public health issue; 2) repress organized crime; and 3) reduce consumption through information, education, and prevention. The commission calls for countries to target policies to prevent young people from becoming involved with drugs and drug-related violence (Latin American Commission on Drugs and Democracy 2009). In December 2013, Uruguay became the first country to legalize and regulate cannabis, giving the state control of the cannabis industry. Similarly, countries like Mexico, Brazil, Ecuador, Peru, Argentina, Paraguay, and Colombia are moving toward decriminalization of certain drugs through the legalization of cannabis, allowing? personal possession, and reducing criminal punishment (Transnational Institute , BBC News 2015). For example, to decrease juvenile arrests, Brazil has restricted punishment of young drug offenders to those committing crimes with violence and those who are repeat offenders (Szabo de Carvalho 2014).

A majority of countries have alcohol-related policies in place to limit access and exposure of alcohol to youth (e.g., a minimum drinking age and a restriction of hours and locations where beverages are sold). Among 24 countries surveyed in LAC, all countries had a minimum age of 18 years for purchasing alcohol with the exception of Jamaica and Suriname (minimum drinking age of 16 years) and Nicaragua (minimum purchasing age of 19 years. Venezuela, Peru and Brazil restrict advertising of certain types of alcohol on national TV and radio while Guatemala, Costa Rica, and Panama have full restrictions on alcohol sponsorship of youth events (Monteiro 2007).

Chapter 5 Summary

- Progress has been made in the enactment of policies that protect adolescents' rights in the LAC region during the last decade.
- Uruguay has made significant progress in enacting progressive laws that aim to protect adolescents' rights and promote healthy development. Brazil and Paraguay also have made positive changes in their laws but gaps remain in policies that enable adolescents to access SRH services and reduce violence.
- Efforts have been made in the region to integrate the prevention of multiple youth risks at the policy level. For example, protocols have been established in health services to detect and treat victims of domestic and sexual violence. Likewise, laws have been passed to reduce youth access to alcohol with the secondary goal to reduce violence, acknowledging the interrelation between both health risks.
- Ministerial declarations and other policies have recognized the role of the non-profit sector in designing and implementing the laws. This strategy should continue in order to encourage the collaboration between the government, the non-profit sector, and the society in the enactment of new laws.
- While progress has been made in establishing new policies, the implementation of the policies requires monitoring; human rights and reproductive rights organizations have denounced inconsistencies in the implementation of the new policies.

Chapter 6. Conclusions

This systematic literature review highlights the breadth of evaluated theory-based interventions that address youth risk behaviors based on four risk areas of interest: teen pregnancy and SHR; violence; youth idleness; and substance use.

Key findings

Limited number of multi-level, theory-based programs with rigorous evaluations

Through the systematic literature review, we found that only one quarter of the studies in LAC that were retrieved for full text review had been evaluated and were based on one or more of the five selected behavioral health theories, frameworks and strategies. Only 28% of the global studies retrieved for full text review were based on one of the five selected theories and had been rigorously evaluated.

The low number of theory-based interventions retrieved in this systemic literature review might be explained by underreporting of information about theories that influence programs in articles published in journals (Painter et al. 2008). In addition, it might be due to the strict inclusion criteria that we set for theories (socio-ecological theory, social-learning theory) and frameworks (PYD) that target multiple levels (individual, family, community and social context) and the exclusion of theories that only used an individual approach. Others have pointed out that individual-level theories such as the transtheoretical model, health belief model, or the theory of reasoned action, are more frequently used in health behavior interventions compared with multi-level theories, despite the wide evidence supporting the effectiveness of multi-level theories (Painter et al. 2008). This might be due to the economic and logistical difficulties involved in translating multi-level theories into programs and into empirical research (Glanz, Rimer, and Viswanath 2008).

However, we recommend and encourage planners and researchers to incorporate the use of multi-level theories in designing behavioral youth interventions since they are the most comprehensive and may be more effective.

More research on teen pregnancy and SRH than on violence, youth idleness, and substance use

Across the four areas of interest, we found more rigorously evaluated, theory-based interventions related to teen pregnancy and SRH compared with youth violence, idleness and substance use in both the LAC region and globally. While we found fewer rigorously evaluated theory-based interventions for the three remaining areas of interest in LAC, findings from the global search indicate that several interventions may be appropriate to replicate within LAC (e.g., name a few here?).

Need for more integrated interventions

Of special interest for this literature review was the identification of programs that targeted a combination of youth risks. We found only 12 programs, two in the LAC region and 10 in other regions of the world, which addressed and measured outcomes related with multiple risks (see page xxx or Table xxx).

Even though this is a positive start, we recognize that the field of integrated youth risk prevention is still in development. Therefore, it is important to emphasize the need to design programs that incorporate a curriculum or components that address multiple risks.

More formative research about innovative, integrated interventions targeting multiple risks is needed in the LAC region. It would also be relevant to replicate and evaluate integrated interventions that have been successful in other regions of the world.

Settings and approaches in the delivery of the program

Interestingly, most of the violence prevention efforts were focused in school settings, while many of the substance abuse treatment and prevention efforts were based on individual- or family-level interventions, or in clinical settings. The majority of the teen pregnancy and SRH programs used a combination of activities in different settings such as schools, families, and community spaces. In addition, a number of programs that aimed to prevent teen pregnancy and violence also used multimedia campaigns delivered by radio and TV. Some violence prevention programs also mobilized and involved community leaders. Youth idleness programs tended to be delivered more frequently at the community level, and many involved schools and families.

Program sustainability

We found that most of the programs have been implemented by non-profit organizations and/or academic institutions, without government partnerships. Even though some programs implemented their activities in public schools or clinics that are operated by the government, their replication and scalability would be more likely if governments were involved in the funding, design, implementation and evaluation of the program. Many promising programs no longer existed due to losses in funding or changes in funding priorities.

Gaps in knowledge in rural areas

The majority of the programs identified in the LAC region and globally had been implemented in urban areas. Only 6 out of 26 programs (23%) in the LAC region included youth from rural areas. In other regions of the world, we found a higher proportion (43%, or 18 out of 24) of programs that had been replicated in a rural context or included rural communities in their sample design.

In the LAC region, we identified programs targeting rural youth to prevent idleness and teen pregnancy and SRH outcomes. However, we did not find any programs for rural youth addressing violence or substance use. In contrast, in the global literature review, we identified programs for rural youth in the four youth risks areas. The adaptation and replication of these rural programs in the LAC region would cover important gaps in programs and research.

Differences between programs conducted in LAC region vs other regions of the world

Important distinctions arose between programs conducted in the LAC region and programs conducted in other regions of the world. For example, in the field of youth idleness prevention, interventions in developed countries were primarily school-based and designed to prevent youth from falling into the idle youth group. In contrast, programs in the LAC region used diverse, innovative strategies that were

largely community-based and aimed to reintegrate youth back into the school system, help them enter vocational training, or bring youth into the formal job sector.

In addition, the majority of the programs that have a long history of implementation and that have been rigorously evaluated in multiple settings, were primarily from developed countries. Clearly, more funding is necessary in the LAC region in order to replicate and evaluate similar programs.

One positive finding from the systematic literature review in the LAC region was the existence of innovative programs that use theater (*Galpão Aplauso*), expressive arts (Brandao et al 2014), PhotoVoice (Denman et al. 2014), or sports (*GenNext, A Ganar*) in order to decrease youth risks, though evidence of their impact remains limited. Some of these programs are based in a multi-level behavioral health theory and others are not. We did not find as many innovative approaches in programs in other regions of the world. More formative research on innovative approaches to prevent youth risk behaviors is needed in the LAC and other regions.

These innovative approaches are good examples of programs grounded and sensitive to the cultural context in which youth live in LAC countries. In order to replicate and adapt programs from other regions of the world to the LAC region, researchers and planners should take into consideration the cultural context, income, and urban/rural differences of youth in the LAC region.

Integration of program implementation and policy environment

Youth programs would have more chances to be successful and have a positive impact on youth if they were supported by the enactment of policies and laws to protect adolescent rights. Even though important progress has been made in policy frameworks, there are still gaps in laws that would enable adolescent to access SRH services, decrease or prevent substance use, and prevent violence.

Implications and Recommendations

Our findings from the systematic review provide an in-depth look at theory-based strategies and interventions addressing the four youth behavior risk areas studied (teen pregnancy and SRH, violence, youth idleness, and substance use). For these four areas, the implications from the results inform our recommendations. Below we illustrate what steps and actions could be considered to address the implications in general for all four topics and then provide recommendations of programming to replicate for at-risk youth populations within Uruguay, Paraguay and Brazil.

1. Technical Assistance

Implication 1: Most of the successful programs relied on an infrastructure of training and resources accessible to those who implemented the programs.

Recommendation 1: To move evidence-based programming in each of the four areas studied, providing technical assistance in the areas of evaluation, training, and resource tools should be considered. Approaches proven effective include: train-the-trainer systems and learning circles to build leadership capacity to organize and implement programs for youth; web-based repository of tools accessible to program organizers; etc.

2. Workforce Strengthening

Implication 2: Many of the successful programs were initiated through school-based programming, with some successes driven by community-based programs.

Recommendation 2: For Uruguay, Paraguay and Brazil, more research is needed to identify the scope of practice and maximum potential of those in youth-serving roles. An assessment of school, community, and government-supported organizations and workers would help to identify resources and training required to strengthen the workforce.

3. Theoretical Framework and Implementation Science

Implication 3: It is clear from our research that there is no "one-size-fits-all" to youth programming addressing any of the four topics. Some programs used social learning theory as their foundation; others were built on the positive youth development framework while others were grounded in the socio-ecological theory. In general, however, we found a need for comprehensive interventions that teach and strengthen both life skills and technical skills, enable youth to thrive and feel supported within an academic setting, and help youth build connections to transition into formal employment. These programs must be built on the foundation of evidence-based theories and frameworks that support positive youth development and empowerment.

Recommendation 3: Innovations and programming may require a combination of theories such as socio-ecological theory in combination with positive youth development; multipronged interventions will be needed to address several youth risk areas and focus on protective factors to ameliorate the risk factors. This development work should be driven by the field of **implementation science** to help consider the challenges to implementing programs that will: be sustainable; go beyond an individual focus to a population focus; and address the multidimensional nature of problems and needs of young people to build safe climates in which they can prosper.

4. Leadership and Infrastructure

Implication 4: Of all the programs studied, those that had strong leadership at the local, regional and/or national levels and those that used a government/local partnership governance structure were proven to be most effective.

Recommendation 4: Organizational infrastructure and leadership can address challenges encountered by various environments of a nation. For example, a successful program in an urban area will likely require modification to be successful in a rural area. We recommend that government / organization partnerships be formed to improve likelihood of sustainability and scalability across the various environments.

5. Underserved Areas

Implication 5: Programming for rural, isolated and poor areas has not been thoroughly (if at all) implemented or evaluated. Yet, youth in these areas are at-risk and have high rates of teen pregnancy,

violence and substance use and have little knowledge of SRH issues while having limited access to health and education services. More programs are needed that are designed for, and evaluated among, special populations of youth, such as out-of-school youth, youth who are homeless, or youth in justice facilities or jails.

Recommendation 5: Engaging government and non-government partnerships will help to develop this field. To identify and evaluate promising practices, we recommend pilot testing evidence-based programing with formative evaluation. Successful results could then be disseminated and scaled/ replicated for similar environments. With this approach, researchers will work hand-in-hand with those implementing the programs and will be able to identify models that leverage multi-pronged approaches to address the complexities of the underserved areas and special youth populations.

Recommendations: Specific Theory-Based Interventions

Having reviewed published articles among youth populations in both Latin America and the Caribbean as well as the global community, we have identified a few programs that appear to be the best-of-the-best practices (the majority of these programs were presented as study cases in chapter 4). We recommend further investigation of the following programs for consideration of pilot testing, evaluating and replicating in Uruguay, Paraguay and Brazil.

1. Teen Pregnancy and Sexual and Reproductive Health

- CERCA, Community embedded reproductive health care for adolescents (Ecuador, Bolivia, Nicaragua)
- Youth peer provider model from Planned Parenthood Global (Nicaragua, Ecuador)
- Nyeri Youth Health Project (Kenya)

2. Violence

- The Kingston YMCA Youth Development Program (Jamaica)
- Nurse-Family Partnership (USA)
- Communities that Care (USA)
- CASASTART (USA)

3. Youth Idleness

- Galpão Aplauso (Brazil)
- Youth-Initiated Mentoring (USA)

4. Substance Use

- Familias Fuertes (Multiple countries)
- Keepin' it REAL (Mexico and the USA)

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