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A REVIEW OF AFTER-SCHOOL PROGRAMS FOR HIGH-RISK YOUTH

Interventions using regular activities to engage high-risk school-age youth: A review of after-school programs in Latin America and the Caribbean

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Abstract

This research provides the review of an issue that is an urgent challenge in the development field: the effectiveness of after-school programs on preventing school-age youth violence in vulnerable settings of developing countries. The existence of highly underprivileged youth in poor neighborhoods and its association with violence have spurred a variety of programs covered by the name of after-school activities. Most rigorous trials of after-school interventions to prevent youth violence have been conducted in developed countries, with far fewer in Latin America. In this review, ranges of databases were systematically searched. Six studies in five Latin American and Caribbean countries have been identified, and most reported results favor after-school. But also some concerns have emerged: the results in some domains of youth behavior are null or even negative for some subpopulations. These findings suggest that after-school interventions hold significant promise for preventing violence and criminal behavior in at-risk school-age youth, but also that there is an urgent need for a significant upgrade in the quality of the programs and in the fidelity of the implementation. The identified concerns also demand more rigorously evaluated and reported studies, even of the different components of the interventions.

Keywords: youth at risk; violence; crime; prevention; delinquency; extra-curricular programs; after-school programs; Latin America and Caribbean

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Introduction

Reducing behavioral difficulties and encouraging self-regulatory skills in youth at risk is of paramount importance to prevent violence (Heller et al., 2015). Many attempts have been applied to tackle this issue in vulnerable populations (Taheri & Welsh, 2015). This research focuses on the effect that regular after-school activities have on school-age youth at risk in terms of misconduct and violent behavior in Latin American and the Caribbean. There is a threefold explanation to focus in this region. First, most rigorous impact evaluations of after-school programs to prevent youth violence have been conducted in developed countries (Taheri & Welsh, 2015). Second, Latin American governments mainly have been focusing their efforts in expanding youth care coverage: countries of the region now face the challenge of ensuring the quality of the programs (López-Bóo, Araujo & Tomé, 2016). Third, the rise of urban violence in Latin America –one of the most urbanized regions in the world (Glebbeck & Koonings, 2016)- contrasts to not only the consolidation of democratic institutions in the region but also to positive trends in economic and social indicators after 2000 (World Bank, 2013). This puzzled combination of trends in Latin America, and the relative lack of attention that this region has received in terms of quality of the interventions and scientific evaluations, make this region especially interesting to concentrate in.

Youth Violence in Latin America

According to descriptive statistics reported by the Regional Human Development Report compiled by the United Nations Development Program (2014) between 2000 and 2010, the murder rate in Latin America and the Caribbean grew by 11 percent, while it remained more or less stable in the rest of the world. The region known as the Northern Triangle (El Salvador, Guatemala and Honduras) is among the most criminally violent regions in the world (Berk-Seligson et al., 2014). Five out of ten

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Latin Americans perceive that security in their country has deteriorated: up to 65 percent stopped going out at night due to insecurity and 13 percent reported having felt the need to move to another place for fear of becoming victims of a crime (LAPOP-UNDP, 2012). Thus, crime and violence affect social and economic development, reinforce social exclusion and poverty, threatens the citizenship and security and reduce the Government's efficiency (Benvenuti, 2003). Citizens feel that crime and violence limit their opportunities and rights to live freely and without fear (UNDP, 2014).

The World Health Organization (2015) states that more than 200,000 homicides occur among people between the ages of 10 to 29, which constitute 43% of the total number of homicides globally each year. This is the fourth leading cause of death among this age group; 83% of these homicides involve male victims and when not fatal, it has serious and often lifelong impact on a person's physical, psychological and social functioning.

In a study carried out by Vilariño, Amado and Alves (2013) on 84 male adolescents between the ages of 14 to 19, the authors found that this antisocial behavior constitutes a lack of social skills, which translates into higher vulnerability to perform criminal acts. These young people have socializing problems - resorting usually to unproductive affronting strategies - and show limited emotional intelligence. Early drop-outs from the formal educational system and being jobless, engaging in substance abuse, behaving violently, and initiating sex at a young age are all examples of factors that can be tackled through interventions (Redondo & Andrés-Pueyo, 2007): after-school programs aim to prevent adverse outcomes, decrease risks, and improve functioning with at-risk youth in several areas, such as academic achievement, crime, behavioral problems and socio-emotional functioning (Kremer et al., 2014).

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After-school strategies

Out-of-school time is an opportunity for children and adolescents to participate in organized activities where they could develop skills and attitudes that may complement and foster what they gained from formal education. After-school programs are some of these “organized activities”, characterized by structure, regular and scheduled participation, adult-supervision and a focus on skill-building.

A theory of change

Mahoney, Larson and Eccles (2005) provide an in-depth summary of the underlying theory of after-school programs. They hypothesize that participating in these organized activities facilitate the attainment of age-appropriateness abilities, which in turn would allow the child or adolescent “to take advantage of personal and environmental resources that promote positive functioning in the present, reduce the risk for developing problem behaviors and increase the likelihood for healthy adjustment in the future” (p. 6).

Zief, Lauver and Maynard (2006) and Aizer (2004) also offer some mechanisms through which after-school programs could improve outcomes for participants: increasing time in safe, supervised settings; academic support; participating in enriching activities; creating more positive peer associations; and increasing parental involvement in home and school activities. These positive attributes, knowledge and social network may act as protective factors against risky behaviors.

Concerns about after-school programs

Cid (2014) provides a recent review of the challenges that may undermine these interventions: (i) the possible non-existence of a sequenced set of activities designed to achieve the targeted skill objectives; (ii) the limited duration of the intervention; (iii) the existence of negative peer associations that may

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provide “deviance training” or may reinforce deviant attitudes and antisocial behavior; (iv) children may be more fatigued and act up because they are spending more time away from their households, or could be misbehaving due to programs tolerating behavior for which students would be disciplined during regular school; (v) the possible low degree of contact with after-school educators; (vi) the necessity of staff effectiveness in creating emotional bonds with youth participants; (vii) the relationship between attendance rates and after-school outcomes may be linear or there may be a point of diminishing returns after which attendance has a negative effect; (viii) it may not be enough to merely decrease children’s idle time, but rather it may be necessary to explore the type and quality of extracurricular involvement available to today’s children; (ix) the possible lack of commitment of children’s parents.

Method

Information Sources

The following databases were searched: Google Scholar and TIMBO. TIMBO is an online platform available in Uruguay that gives access to more than 19,000 scientific magazines and 34,000 e-books, conference abstracts, databases, citations, etc. from all over the world. As the site explains, it enables access to the latest bibliography and scientific literature through the different collections available: Science Direct, IOP Science, Sage, Emerald, Scopus, OvidSP, Reaxys, Springer, NPG, EBSCO Host, IEEE, The Cochrane Library and Jstor. We also did an exhaustive research of databases in PubMed and the webpages of different universities and institutions such as UNESCO, UN, UNDP, IADB, World Bank, CEPAL.

This review considers studies written in English or Spanish. The search terms (keyword “after-school” in combination with “behavior”, “violence”, “crime”, “delinquency”, “prevention”) were restricted to titles, abstracts and keywords and filtered by region as the focus is on Latin-American and

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the Caribbean programs (thus, this region was the second exclusion criteria) and by age as we concentrated the analysis in school-aged youth (thus, age 6-18 was the third exclusion criteria; we included a program that accepts also age 19-20 youth because most of the children of this intervention are between 12 and 17). Another strategy was the use of pearl growing, identifying through citation in research papers, other keywords, descriptions and themes. In addition, unpublished reports were sought by Google Scholar. Finally, seventeen experts on the subject of violence were contacted in order to seek their help to exhaust all the possible literature available. The criteria for the selection of the experts was the relevance of their research in accordance with the topic of the present review, their region of interest, their background (research on after-school demands different approaches, from economics, sociology, urban studies, development, psychology, political science, anthropology). All these seventeen experts were asked for published or unpublished articles, reports, monographs, thesis, congress proceedings, etc. that they may know about impact evaluation of afterschool programs in Latin America and the Caribbean. Eight of these researchers responded but they were not able to provide more relevant papers.

Figure 1 summarizes the process of identifying, collecting, and screening studies that met the inclusion criteria. Based on the search strategies, we identified an estimated 4,430 references to after-school programs in Latin America and the Caribbean. A total of 221 studies were identified as potentially relevant and the abstracts (or executive summaries) were reviewed. Of these studies, 197 were excluded because they were not evaluations, and another 11 studies, which may or may not have met the inclusion criteria, could not be obtained.

We found thirteen evaluations - in the form of full-text reports, journal articles, and theses - of after-school programs with a misbehavior preventive component, carried out in Latin America and the Caribbean. A rigorous criterion for inclusion of studies was developed, six studies met the inclusion

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criteria and seven studies were ruled out. Exclusions were based on the following reasons: three studies employ only ex-post data (Sampson & Vilella 2013, Solano 2011, Gallego 2008) with no control group or with a control group that is unbalanced at the baseline; another one exploits exclusively qualitative data (López-Aranda et al., 2015); two studies are rigorous field experiments (Balsa & Cid, 2014, Balsa & Cid, 2016) but the treatment is school and after-school combined, thus it is not possible to isolate the after-school effect from the school effect; lastly, another study (Martínez Restrepo, 2012) with a quasi-experimental approach, was discarded also because of the impossibility to isolate the effect of the after-school.

Study Characteristics

Design and sample size.

Table 1 shows that sample sizes range from 46 (Bernatzky & Cid, 2014) to 2,999 (Aleman et al., 2016) young individuals. Table 2 reports the methods used for the evaluations that met the inclusion criteria: Randomized Control Trials (Aleman et al., 2016; IADB, 2014; Cid, 2014; Bernatzky & Cid, 2014), and difference-in-difference (Cabrera, Cid & Irisarri, 2016; Galarce, 2012).

Settings and participants.

The studies took place in five different Latin-American and Caribbean countries, one classified by the World Bank (2015) within Low Income Economies (Haiti), two as Upper Middle Income Economies (Jamaica, Peru), and two as Higher Income Economies (Uruguay, Venezuela). Participants were youth at risk living in poor neighborhoods, from 6 to 20 years old.

Synthesis of the methods applied by the evaluations

Experimental designs

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Aleman et al. (2016) assess the impact of a large-scale music program on children's functioning in the context of high rates of exposure to violence. The study describes the results of an experimental evaluation of Venezuela's National System of Youth and Children's Orchestras, with a considerably larger sample than prior experiments. The curriculum of the program, better known as "El Sistema", emphasizes social interactions through group instruction and group performances. The randomized control trial was conducted between May 2012 and November 2013, in 16 music centers. Sites received applications from 2,603 adult guardians on behalf of 2,999 children, aged 6-14 years old. In eight centers, 85 children (of 74 guardians) were admitted earlier by the directors and did not participate in the randomization. Half of the remaining 2,529 (representing 2,914 children) were offered admission in September 2012 (the treatment group), while the rest were offered admission in September 2013 (the control group). At the time of the first follow-up, in September 2013, the researchers were able to compare the outcomes of the treatment group (this group had received already one year of the intervention at September 2013) with the outcomes of the control group (the children of this group started their participation in the program in September-October 2013). Due to the existence of non-compliers (children that were randomly selected to attend the program but then did not show up or experienced a low rate of attendance), the authors employed an Intention-to-Treat (ITT) approach.

The study of Aleman et al. employs an important number of observations, measures more than twenty outcomes that represent four domains of children behavior, and is the first rigorous impact evaluation of a large-scale music training program. The authors offer the following suggestions to improve this evaluation in further research: i) their study is a short-term impact evaluation and it would be interesting to study medium and long-term effects (it may be necessary to examine possible fade out of impacts and whether cognitive impacts emerge after a longer time frame); ii) the rate of attendance to the program observed in the treatment group is far from perfect and may jeopardize the assessment of

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the complete effect (it may be desirable to consider additional targeting and retention mechanisms); iii) findings are limited to reported outcomes, which may introduce bias associated with scale measures; iv) finally, the authors state that “although the evaluation was of a fully-scaled program, the generalizability of these results is potentially hampered by a focus on a modest number of music centers”.

IADB (2014) is part of the Development Effectiveness Overview series, and reports several evaluated projects sponsored by the IADB. One of these is the “Symphony for Peru: Music and Social Inclusion” project, a social intervention inspired by the Youth and Child Orchestras of Venezuela. The project established in 2011 musical centers in four marginalized urban ghettos of Peru. Each center brings music (equipment, qualified instructors and a novel methodology) to children and adolescents living at or below the poverty level. The impact evaluation was designed as a field experiment with randomization. The sampling consisted of 806 children and teenagers aged between 6-18 years old: 401 children from the musical center in Huánuco (198 candidates were randomly assigned to participate in the program, while 203 were assigned to the control group) and 405 from Manchay (200 randomly assigned to the treatment, and 205 to the control group). After the intervention, cognitive and socio-emotional tests were conducted, and the authors compared the outcomes between the treatment and control group.

Though IADB (2014) reports the results of an evaluation of musical instruction (as Aleman et al. 2016 do), the full-paper is not yet available and the issued report does not allow the reviewer to assess the quality of this impact evaluation: there is no information about how the randomization was performed, magnitude of the attrition, compliance rates, period of the evaluation or if the balancing condition of baseline characteristics was fulfilled.

Cid (2014) evaluates the impact of an after-school program called “Apoyo Escolar” at the educational center “Los Pinos” (a non-governmental organization in a neighborhood that has one of the

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highest poverty, drug abuse, and violence rates in Uruguay). At “Los Pinos”, children have lunch, practice sports, participate in other extra-curricular activities and receive support with their homework, in a daily basis. In March 2010, 54 children aged 6-7 years old showed up to apply for one of the 28 places at the after-school program. The Author exploits the oversubscription to the program and designs a randomized control trial. Thus, 28 applicants were randomly assigned to the treatment group. The remaining candidates were assigned to the control group. At the end of the first academic year, the children of the treatment group were compared in terms of academics and behavioral outcomes with the children of the control group. Like Aleman et al. (2016), the author employed an Intention-to-Treat approach due to the existence of non-compliers. Bernatzky and Cid (2014) show the results of the second follow-up, which took place at the end of the second academic year. In this second follow-up, the evaluation suffered an increase in the attrition rate that is common in deeply vulnerable populations but may bias the results. Though Cid (2014) is published in a peer-reviewed journal, suffers less attrition and has consistent internal validity, the limitations of the evaluation may be the small number of students at the after-school and the fact that the author concentrates the assessment in the short-run.

Quasi experimental designs.

Cabrera, Cid and Irisarri (2016) evaluates “La Banda Celeste” - developed by the nongovernmental organization “Fundación Celeste” -, an extracurricular intervention aimed at engaging high risk adolescents (many of them were not studying nor working) from underprivileged settings. Adolescents that attended the program had committed minor crimes or were prone to commit them. The intervention consists in practicing sports (especially soccer and rugby), on a weekly basis. Adolescents, - in groups of approximately fifteen - are supervised by a team of three adults (a psychologist, a coach, and a fitness instructor), that devote training sessions to develop non-cognitive skills. Authors, in order to explore possible effects of the program, exploit the geographical and time variability of the

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intervention, and design a difference-in-difference approach. Also, they collect and employ qualitative data to analyze possible mechanisms. As usually occurs in assessments of interventions directed to deeply vulnerable populations, a limitation of this study was the presence of an important rate of attrition. Though the authors managed to cope with this issue and try to minimize it employing some technics (observing the balancing condition between treated and controls after the attrition, and including the unbalanced variables in the regressions), the attrition may introduce some bias in the analysis.

Galarce (2012) evaluates a project of social inclusion via an intervention focused on music instruction. In June 2009, the Organization of American States (OAS) started OASIS, a pilot orchestra program for youth at risk in the Caribbean (Haiti, Jamaica and Saint Lucia). The Program is an adaptation of Venezuela's National System of Youth Orchestras. Three orchestral and choral training centers were created in high-risk urban areas: at the Ecole de Musique Sainte Trinité in Port-au Prince, Haiti; at the Saint Andrews Technical High School in West Kingston, Jamaica; and at the Marchand Elementary School in Castries, Saint Lucia. Each center has one general coordinator, 7 instructors, and an average of 80 beneficiaries from 10 to 18 years old. The participants receive group lessons in orchestra, choir, instruments, voice, and music theory 2 hours a day from Monday to Friday. The researcher built a control group by selecting school classmates of those children. The selection was made by matching in some observables variables at the baseline. Galarce (2012) performed a six-month and eighteen-month follow-up surveys, and carried out a difference-in-difference impact evaluation with the collected data.

The study of Galarce (2012) presents methodological limitations, which may jeopardize his analysis. The most important limitation is that he employed a difference-in-difference approach but he did not study if the basic assumptions of this methodology were fulfilled. Difference-in-difference

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should compare the children that receive the intervention (the treated children) with a good control group. A good control group is defined as one that fulfills the following characteristic: the treated children would have behaved as the control group if the treated children were not treated. Thus, in a difference-in-difference approach, it is of paramount importance to find a good “contrafactual”. Galarce (2012) defined the control group as classmates that did not participate in the music program. Since the participation is not random, Galarce should have showed reasons for the selection of his control group. One symptom that his research may suffer from bias is that some outcomes show significant differences between treated and control individuals when measured at the baseline: this may suggest that the control group is not a good contrafactual of the treatment group.

Results

Impact of the after-school by kind of intervention

Intervention: Focused after-school programs

Cabrera, Irisarri and Cid (2016) evaluate the project “La Banda Celeste”, a program focused in sports, that provides regular training sessions as means to attract youth at risk from poor neighborhoods. It employs soccer and rugby to foster non-cognitive skills like self-control, respect for the others and social integration. In addition, by providing activities for the adolescents’ idle time, seeks to have a deterrent effect on crime involvement. Authors find positive associations between the program and resilience indicators. Adolescents that receive a higher intensity treatment show a greater probability to develop positive aspirations towards education, labor and family, higher social integration and fewer problems with the public authority. Authors explore possible mechanisms employing qualitative data: personal coaching, frequent practice of non-cognitive skills, and spend time in supervised settings seem to be important channels.

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Three studies analyze the effect of an after-school program where music training through a novel methodology is the highlighted component. Aleman et al. (2016) aim to assess the effects of the large-scale music program “El Sistema” on children from violent settings in Venezuela. The authors measured 26 primary outcome variables within the four domains of self-regulatory skills, behaviors, prosocial skills and connections, and cognitive skills. Data was collected by tests and self- and guardian-reported questionnaires. After one year, full-sample estimations indicate improved self-control and reduced behavioral difficulties. Sub-sample effects are larger among vulnerable populations: (i) children with less-educated mothers and (ii) boys, especially those exposed to violence at baseline. They did not find any full-sample effects on cognitive skills or on prosocial skills and connections. Also, they found few effects for girls overall, with some unexpected decreases in different skill domains.

IADB (2014) assesses the effect of a social intervention in Peru inspired by “El Sistema”. In comparison to the control group, children who received the intervention experienced a reduction in verbal and physical aggression, as well as an increase in positive self-perception.

Galarce (2012) evaluates OASIS - also an adaptation of Venezuela’s “El Sistema” -, a pilot orchestra program for youth at risk in Haiti and Jamaica (in the start of the evaluation, the author sought to assess also the effect of the program in Saint Lucia but the sample suffered a too high attrition at the follow-up). In the eighteen-month follow-up, both in Haiti and in Jamaica, statistical analyses showed that there were significant differences between the OASIS and non-OASIS students: treated children experienced a reduction in their self-reported anger, their aggressive behavior, and in the association with delinquent peers in comparison with the control group.

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Intervention: Multicomponent after-school programs.

Cid (2014) reports the results of the first follow-up of the impact evaluation of “Apoyo Escolar”, a multicomponent after-school program at the educative center “Los Pinos”. Every day, children attend “Apoyo Escolar” after school: they have lunch, do sports, and receive homework support for five hours. “Los Pinos” also has a computer room where children can improve their computer skills. The program includes sports competitions against schools from non-poor neighborhoods in order to allow them to interact with children from different social backgrounds. In addition, during most of the vacations, children attend “Los Pinos” in the afternoon for recreational activities.

“Los Pinos” is sited in deeply disadvantaged shantytown. The author argue that in this kind of population, two types of individuals are usually identified, (i) those who live there and represent a *neglectful* type of parent (not necessary due to their fault, their earlier circumstances may be highly adverse)- they typically show a lack of responsibility and conscientiousness, have no great aspirations, and are uncommitted to the education of their family, and (ii) those who are *committed* to their children’s future well-being through education of cognitive and non-cognitive skills but live in that poor area because of bad luck (*committed* individuals who had bad luck in their lives and have been unable to escape the shantytown).

The author observes that the argument in favor of the correspondence between after-schooling and *committed* parents is not obvious. Is it a good policy to suggest that responsible and dedicated parents should leave their children many hours a day in an after-school program? Wouldn’t it be better for those children to remain at home in contact with their *committed* parents? Should policy be directed to the children of *neglectful* parents?

He finds that the after-school program under analysis is effective in improving children’s behavior at school (measured by the official school report) but only for those with a *committed* parent.

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Two academic years after the start of the intervention, Bernatzky and Cid (2014) find the same result in the second follow-up of the impact evaluation of “Apoyo Escolar” at “Los Pinos”. Thus, increasing time in safe, supervised settings is not enough: it seems that the after-school program demands parents’ involvement.

Synthesis of results

All impact evaluations analyzed in this review find some positive effects of after-school programs on behavioral outcomes on school-age youth at risk. Aleman et al. (2016) also find some null effects (on cognitive skills, and on prosocial skills and connections), and even some decreases in different skill domains of girls.

Aggressive behavior. Aleman et al. (2016), IADB (2014) and Galarce (2012) find that the music-training program reduces aggressive behavior. Though Galarce (2012) may show some bias due to the features discussed in the methodology section above, Aleman et al. (2016) and IADB (2014) are both randomized control trials and seem to be rigorous evaluations. Thus, there are a robust symptoms that the music-training program tackles aggressive behavior.

Self-control. Aleman et al. (2016) indicate an improvement on self-control for those children that were selected to participate in the music-training program by the random draw.

Problems in social integration. Cabrera, Cid and Irisarri (2016) find a positive impact on the social integration of youth at risk. But Aleman et al. (2016) find null effects on this variable.

Conflicts with public authority. Only Cabrera, Cid and Irisarri (2016) measure the impact of the after-school program on this variable. They find that the sports program is associated with a reduction of conflicts with law and public authority

Association with delinquent peers. Galarce (2012) find that music training reduces the rate of association with delinquent peers in comparison with the control group.

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Misbehavior at school. Cid (2014) and Bernatzky and Cid (2014) find that the after-school improves behavior of children at school, measured by the official school report, but only for those children that were selected to participate in the after-school and also have *committed* (good type) parents.

Risk of bias across studies (Table 3)

The body of evidence in this review comes from four randomized control trials and two difference-in-differences assessments, involving 4,275 school-age children in five countries. Four studies had small sample sizes (Cabrera, Cid & Irisarri, 2016; Cid, 2014; Bernatzky & Cid, 2014; Galarce, 2012). In two studies (IADB, 2014; Galarce, 2012) there was also poor reporting on methods of sequence generation as well as incomplete outcome and baseline demographic data. Two studies show challenges to their internal validity because of considerable attrition rates (Cabrera, Cid & Irisarri, 2016; Bernatzky & Cid, 2014). However, the studies by Aleman et al. (2016) and Cid (2014), -taking into account the robustness of the methodology and the details of the applied procedures described in both of the studies- are assessed as having a low risk of bias and therefore reliable and valid results. Table 3 highlights these two studies and the overall assessment that they received in this review.

Mediators

Aleman et al. (2016) hypothesize that short-term participation in choruses and orchestras may foster positive change in four child functioning domains: self-regulatory skills, behavior, prosocial skills and connections, and cognitive skills. Participation may increase self-regulation skills, or the modulation of emotion, as it requires dedicated practice as well as turn-taking, patience, and careful monitoring one's performance to synchronize with others. The collaborative nature of participation in an orchestra or chorus as well as the demands of self-regulation suggest that the intervention may also increase prosocial behaviors and prevent negative conduct. The authors also emphasize that music-making may

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foster social bonding, group cohesion, and shared goals, which could, in turn increase prosocial connections, or engagement with peers. Finally, they suggest that, although the program was not designed with an explicit goal of improving cognitive skills, participation could improve working memory, visual-spatial skills, and processing speed, as these cognitive skills have been associated with musical training. The authors also highlight the program provides an adult supervised setting and it may be especially helpful for violence-exposed school-age youth.

Cid (2014) and Bernatzky and Cid (2014) emphasize that it is not enough to keep the children in a supervised area during their idle time. They point out that while some studies find that after-school children outperform other students (Arbreton et al., 2008; Dumais, 2009; Durlak & Weissberg, 2007; Lauer et al., 2006), others studies find that they are no different (Bodilly & Beckett, 2005; Zief et al., 2006; Zimmer, Hamilton & Christina, 2010), or even negative effects of after-schools (Black, Somers, Doolittle, Unterman & Grossman, 2009; Grolnick, Farkas, Sohmer, Michaels & Valsiner, 2007; James-Burdumy, Dynarski & Deke, 2008). These mixed results are confirmed recently by Aleman et al. (2016) and Taheri and Welsh (2015). The hypothesis of Cid (2014) and Bernatzky and Cid (2014) to explain this heterogeneity in after-school effects is that the impact of these programs implemented in shantytowns or underprivileged neighborhoods depends on parent type. In a shantytown, parents may have faced pressure to conform to peer norms and it may influence their *type*. For instance, when parents move to a shantytown, they can choose to associate with “*committed*” parents (*committed* to their children’s future well-being) and adopt their norms, or be close to “*neglectful*” parents and adopt their norms to gain acceptance. Parent type may affect children’s outcomes by means of cultural and social norms transmission. Hence, preferences that govern children’s behavior and their performance at school are partially transmitted through generations and acquired by different forms of social interaction. After-school programs do not produce positive impacts simply by changing the environment in which students

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spend their after school time. Increasing time in safe, supervised settings is not enough: the authors suggest that parental involvement seems also to be a key feature.

Cabrera, Cid and Irisarri (2016) find positive associations between a sports program (“La Banda Celeste”) - aimed at a highly vulnerable population - and resilience indicators. Authors explore possible mechanisms employing qualitative data and stress the importance of personal coaching by qualified adults as a positive mediator. Proactive mentoring could help to address several behavioral barriers (procrastination, unbelief in the effectiveness of a program, cultural identity, peer pressure, and discrimination) in highly vulnerable populations. Previous literature of many different fields relates the one-to-one assistance with the term case management. The National Association of Social Workers (2013) states that the practice of case management by social workers emerged in the United States during the late 19th, fuelled by poverty and social problems associated with immigration, urbanization and industrialization, and continues to the present day, often working with vulnerable populations in an ever-broadening array of settings. The following examples denote some of the current settings of case management: aging, health care (also mental and substance abuse), children’s and adolescents’ welfare, disabilities, employee assistance, housing, immigrant, refugee and tribal populations.

In addition, Cabrera, Cid and Irisarri (2016) point out the positive effects of sport for youth at risk, as a relaxing, stress-releasing activity. Viña (2011) argues that rugby has proven itself to be useful in tough environments by helping to develop desirable virtues for coexistence. It demands obedience to rules, respect for others and a great deal of self-control. Also rugby requires, on the one hand, the player’s strength and physical effort, and, on the other, a great deal of partnership and team commitment. It embraces particular values such as sacrifice of individuality for the benefit of the team and a mandatory dependence on other players. Individual plays in rugby are not prominent and the whole commitment of the team is necessary in order to score. These particular features make rugby a

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sport that requires self-discipline and the internalization of rules to work as a unit. In *Mind, Self and Society* (1934), Mead suggests that sports plays a major role in socialization. Sports have a certain logic that obliges a person work in an organized way, as, for instance, a defined objective is needed and individual non-conflictive actions are related towards the sport's goal.

IADB (2014) and Galarce (2012) do not provide an explicit and detailed mention of the theory of change that may be behind their hypothesis and findings.

Synthesis by kind of mechanism that may prevent misbehaviors

Mediator: Team building

Participating in an orchestra, a chorus, or in soccer or rugby team fosters social bonding, group cohesion and shared goals, which could in turn, increase prosocial connections or engagement with peers (Aleman et al., 2016; Cabrera, Cid & Irisarri, 2016).

Mediator: Training self-regulation and self-monitoring

Participation in music training may increase self-regulation skills and careful monitoring one's performance to synchronize playing and singing with others. These features may contribute to self-control in children and thus prevent violent behavior (Aleman et al., 2016).

Mediator: Stress-release

Sports training in a regular basis seems to be a stress-releasing activity. It requires the player's strength and physical effort. The aftermath is the relaxing effect that may prevent violent behavior (Cabrera, Cid & Irisarri, 2016).

Mediator: Personal mentoring

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Personal coaching by qualified adults is hypothesized to be a positive mediator. Proactive mentoring could help to address several behavioral barriers (unbelief in the effectiveness of a program, cultural identity, peer pressure and discrimination) in highly vulnerable populations (Cabrera, Cid & Irisarri, 2016). Also, one-to-one counselling may help to developed non-cognitive skills that make possible that children act in more constructive ways. These skills prepare youth at risk to better affront complex situations of daily life, like conflict and aggression (Cabrera, Cid & Irisarri, 2016).

Mediator: Increasing time with adult supervision

Increasing time with adult supervision reduces exposure to opportunities for risky behavior (an incapacitation effect: individuals have less time to participate in risky activities) and may prevent misconducts in youth at risk (Aleman et al., 2016; Cabrera, Cid & Irisarri, 2016). Bringing youngsters together for activities without adequately monitoring their conduct can actually foment misconducts, thus adult supervision is required. Providing adult supervision in a safe and accessible setting may be especially helpful for violence-exposed school-age youth (Aleman et al., 2016).

Mediator: Increasing human capital

After-school programs and initiatives that promote education increase human capital, which may affect adolescent preferences for crime (Aleman et al., 2016).

Mediator: Introducing positive aspirations

Bernatzky and Cid (2014) find a high correlation between parents' educational aspirations and the behavioral performance of their children at school. Though they do not design an identification strategy to infer a causal relationship, the correlation between expectations and academic achievements fosters future interventions that explore the role of parents' aspirations on their children behavior. The

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hypothesis of the authors seems promising and deserves future research since Dobbie and Fryer (2013) summed up forty years of research on effective policies for school effectiveness, highlighting the role of high parental expectations.

Mediator: Including the family in the program

The hypothesis of Cid (2014) and Bernatzky and Cid (2014) are that the impact of an after-school program depends on “parents’ type”. *Committed* parents (that is, parents that show commitment to their children’s educational attainments) are a key component towards the effectiveness of after-school programs. These programs do not produce positive impacts simply by increasing time in safe and supervised settings: parental involvement seems also to be necessary.

Cost analysis

Only the impact evaluation of two programs includes a cost analysis. Cabrera, Cid and Irisarri (2016) evaluate the program “La Banda Celeste” and estimate that the total annual cost per adolescent is around 1,000 dollars. Bernatzky and Cid (2014) estimate the cost of the after-school program “Apoyo Escolar” and find that the annual running cost is 1,575 dollars per child, which is similar to the cost of a public-sponsored after-school program in this country.

Discussion

The most rigorous and well documented evaluations included in this review (Aleman et al. 2016, and Cid, 2014) show promising findings in favor of the after-school and its role in preventing misbehaviors in school-age youth at risk in Latin America: both of the studied after-school programs (“El Sistema” and “Apoyo Escolar”) reduce children’s behavioral difficulties, and “El Sistema” also improves children’s self-control. The results proved to be robust. The cited authors suggest some

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theories of change that may be behind these findings. Aleman et al. (2016) suggest that the social bonding, group cohesion and shared goals promoted by the active participation in an orchestra and a chorus may explain the increase in prosocial behaviors. At the same time, self-control skills and human capital acquired through music training may contribute to prevent conflict and violence in complex daily life situations of youth at risk. Though Aleman et al. (2016) suggest the existence of an incapacitation effect of a supervised environment that may prevent misbehavior, Cid (2016)'s hypothesis is that it is not enough to maintain children in a supervised environment: in order to be effective, the after-school in deprived neighborhoods would demand *committed* parents (*committed* to their children's future well-being through education, of both cognitive and non-cognitive skills). In Cid (2016), the after-school "Apoyo Escolar" has no impact if it is considered alone, but the interaction of "Apoyo Escolar" and *committed* parents has a positive and robust effect on children's behavior.

Though these results are promising, readers should proceed with caution. Aleman et al. (2016) provide the only impact evaluation with a large sample of a scaled-up country intervention that employs an experimental and well-documented assessment. Notwithstanding the positive effects of "El Sistema" on self-control and behavior, the authors do not find any full-sample effects on cognitive or prosocial skills and connections. Also, they find few effects for girls overall, with some unexpected decreases in different skill domains. The necessity to have caution at considering the role of after-school to prevent misbehaviors is confirmed by Taheri and Welsh (2015). These authors provide a literature review about the effects of seventeen after-school programs on delinquency prevention in developed countries (almost all of the studies were carried out in the United States, with one originating in Sweden and another in Canada), finding a small but non-significant effect on delinquency.

Latin American governments have been focusing their efforts mainly in expanding youth care coverage, but the quality of the interventions in these countries seems to be overlooked (López-Bóo,

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Araujo, & Tomé, 2016). Even in a region like this, with a puzzled combination of positive economic trends and increasing crime rates, where providing school-age youth with at least safe and supervised settings is supposed to work to prevent misconducts, the mixed results of after-school evaluations shed light on the necessity that practitioners, researchers and policy makers do consider different features of after-school programs that may strengthen or weaken the effectiveness of these interventions. It seems to be a lesson also to other underdeveloped or developing regions that seek ways to tackle youth delinquency: after-school programs are not a silver bullet to prevent misconduct and violent behavior. In this line, Cid (2014) suggests some issues to explore: the quality of the program, the fidelity of the intervention to the original design, the qualifications and commitment of the staff, the negative peer associations that may reinforce deviant attitudes, the involvement of the family and the community.

Limitations of this Review

We have made efforts to identify all the studies -published or unpublished- on the subject. However, the literature is not vast for Latin America and the Caribbean, which forced us to include also two quasi-experimental evaluations and, without renouncing scientific rigor, some studies with small samples.

Recommendations for Research

This review shows the need for more rigorously evaluated interventions, especially better study design, reporting randomization, allocation concealment, blinding of assessors, treatment of non-compliance and missing data. The specific evaluation of each feature of multicomponent interventions will be welcome to understand the underlying mechanisms. There is also need for standardized, comparable outcome measures, using direct observational assessment conducted by blind raters, which reduces the risk of bias inherent in self-report measures or carried out by the teachers/counselors

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themselves. For the moment, very few projects include cost analysis, thus there is almost no indication that programs would be replicable and feasible if adapted to other cultures and settings.

This study identifies at least eight mechanisms that may help to explain the positive effects of after-school programs on the behavior of youth at risk: *Team building; Self-regulation and self-monitoring; Stress-release; Personal mentoring; Increasing time with adult supervision; Increasing human capital; Introducing positive aspirations; and Including the family in the program.* These mediators should be considered in the design of interventions.

The evaluations included in this review contribute to our understanding of the complexity of after-school interventions designed to tackle violence and misbehavior among the youth. To address this, donors, policymakers and researchers should watch over the quality of the afterschool and the fidelity to its design, and ensure that future interventions include the resources needed to allow the highest standards of rigorous impact evaluations. Also, the cost analysis of programs demands more attention and evaluations should include cost estimates: the limited economic resources could be a barrier to adoption of interventions in low-resource settings. This effort should conform the strategy for building an evidence-based approach to violence prevention among youth at risk in Latin America and the Caribbean.

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Ethical approval

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The present research is a literature review. All the review was performed following the ethical standards.

Informed consent

This research is a literature review and does not employ individual data. Thus, informed consent has not been necessary.

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