




Self-Regulation and Toxic Stress Report 3:

A Comprehensive Review of Self-
Regulation Interventions from Birth
Through Young Adulthood

OPRE Report # 2016-34

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Self-Regulation and Toxic Stress:
A Comprehensive Review of Self-Regulation Interventions

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OVERVIEW


This is the third in a series of four inter-related reports titled *Self-Regulation and Toxic Stress*. The first report, subtitled *Foundations for Understanding Self-Regulation from an Applied Developmental Perspective*, provides a comprehensive framework for understanding self-regulation in context, using a theoretical model that reflects the influence of biology, caregiving, and the environment on the development of self-regulation. The second report, *A Review of Ecological, Biological, and Developmental Studies of Self-Regulation and Stress*, provides a cross-disciplinary review of research on the relationship between stress and self-regulation. The present report describes results of a comprehensive review of self-regulation interventions from birth through young adulthood and summarizes the level of evidence for different interventions across age groups and outcome domains. In this report, we provide details on the methodological approach and data findings, including figures with detailed descriptions for the reader who is interested in the evidence base supporting our conclusions. These conclusions are repeated in our fourth report, *Implications for Programs and Practice*, with a more applied summary of the results organized by their implications for different types of programs. This third report therefore provides a more technical reference for the fourth report.

The overarching aim of this review was to inform the selection and use of self-regulation interventions within human services programs supported by the Administration for Children and Families (ACF). For that reason, our focus was on universal and targeted interventions that could be used within the existing infrastructure of those human services programs, with particular attention to vulnerable populations living in adversity or with specific risk characteristics.

Our approach to this review was informed by the theoretical framework for understanding self-regulation development provided in the first report in this series, *Foundations for Understanding Self-Regulation from an Applied Developmental Perspective*. Studies were included if they either targeted self-regulation with an evidence-supported theoretical mechanism or directly measured cognitive or emotional self-regulation as an outcome. The two theoretical mechanisms of self-regulation development considered were 1) direct skills instruction in cognitive, emotional, or behavioral self-regulation and 2) enhancement of “co-regulation”, defined as a warm, responsive relationship in which a caregiver positively structures the environment and provides support, coaching, and modeling for self-regulation skills.

Using two lists of key words reflecting “self-regulation” and “intervention” across four databases, along with targeted supplemental searches, we identified 311 publications that met full inclusion criteria. These publications reflected 299 distinct intervention studies, listed with individual study outcomes in Appendix C. Overall characteristics of the studies and interventions are as follows:

- Two-thirds of the studies were randomized controlled trials and two-thirds were conducted in the U.S. The majority were interventions evaluated for children aged 3-13 years delivered in




school settings; thus, much less is known about interventions for adolescents and young adults. There was considerable racial and ethnic diversity in the samples, and 38-78% of samples across different ages were considered to be living in adversity or defined as “at-risk”.

- Except for interventions for children under age 3, most interventions were delivered “universally” to a given population rather than selectively targeted to a subgroup with particular risk factors. The majority of interventions utilized a skills-instruction approach. A relatively small number had a special focus such as mind-body interventions or health.
- Teachers, clinicians, and other trained staff most commonly delivered the interventions. They typically had implementation supports (e.g., coaching or supervision) to promote fidelity, but fidelity was infrequently measured and reported.
- Interventions for infants and toddlers always included a co-regulation component to build caregiver capacity for warm, responsive interactions along with skills that support self-regulation development. There was a dramatic decrease in involvement of caregivers after age two, with fewer than half of the studies with preschool-aged children including a co-regulation intervention approach. By elementary school, this number dropped further to under 10%.
- Programs focusing on child-directed skills often included social-emotional curricula, problem-solving, coping skills, and conflict resolution. For middle-schoolers and older youth, intervention approaches appeared more diffuse and highly variable in approach, with targets such as violence prevention, leadership, and life skills. Interventions for older youth also showed an increased focus on cognitive and mind-body interventions.

Outcomes for children and youth were broadly categorized into core self-regulation domains and functional outcomes. Core self-regulation domains measured cognitive, emotional, and behavioral self-regulation, initiative/motivation, mindfulness, and stress. Functional domains include learning/language, health, mental health, delinquent behavior, and interpersonal functioning. Parent outcomes for which data were available include parenting skills, parent attitudes/beliefs, stress, social support, mental health, parent self-regulation, and co-regulation skills. Teacher outcomes include classroom climate, teacher attitudes, instructional quality, teacher self-regulation, and co-regulation skills. Effect sizes were categorized as small, medium, or large for each domain in each developmental group based on commonly accepted metrics, generating overall strength of findings. Study quality was then coded and examined as an outcome predictor along with variables such as type of intervention, sample risk characteristics, level and duration of intervention, and type of outcome. The following are key findings from these analyses:

- **Self-regulation interventions were found to have positive and meaningful impact on a range of child and youth outcomes.** Averaged across studies, interventions demonstrated small to medium effects on self-regulation as well as functional outcomes across a wide range of measures. Effects for parent and teacher skills and behaviors (at younger ages) and for young adult outcomes tend to be moderate to large. Significant effects in functional domains reinforce the importance of targeting self-regulation to improve well-being defined across many domains.
- **Many different intervention approaches showed a positive impact** on self-regulation development. More specifically, our analyses found no consistent advantage for any one type




of intervention approach. This is encouraging in that it suggests multiple avenues for effective interventions and opportunities for combining approaches to maximize results. However, certain populations benefitted from different approaches or were less likely to respond to certain interventions, highlighting the need to tailor interventions with population needs in mind.

- An important note of caution, however, is that **outcomes varied greatly across specific interventions and type of outcome, with many finding no significant positive effects and others finding large effects**. There were also some consistent differences by developmental groups. Thus, average effect size categories may not capture the variability of effects across studies. This suggests that care is needed in selecting interventions that may be effective for the outcomes of interest with the specific populations and setting. In addition, attention to the quality of the study needs to be considered, as those with the lowest quality often report the most positive effects.
- **There were significant gaps between the types of interventions being studied and those that would be recommended** based upon our theoretical model of self-regulation development. For instance:
 1. Different aspects of self-regulation appear to be emphasized at different ages. This may reflect normative development to some extent, but fluctuations in focus are not well-aligned or integrated across ages. In particular, limited attention is given to emotion regulation or its integration with cognitive regulation in early to mid-adolescence, when neurobiological changes may make emotion regulation a greater challenge.
 2. Caregiver involvement through co-regulation approaches are infrequent after preschool, though there is reason to believe that co-regulation support is critical across all ages of development and could greatly enhance outcomes if combined with direct skills instruction.

To strengthen the impact of self-regulation interventions, we recommend the following approaches:

1. Interventions should be **systematic and comprehensive in targeting emotional and cognitive self-regulation together and should teach explicit strategies for their integration**. Optimal functioning requires that these two components of self-regulation are mutually influential. For instance, prosocial emotions related to attachment and compassion can guide prosocial decision-making. Likewise, cognitive regulation skills can be used to effectively manage overwhelming emotions and guide subsequent behaviors.
2. **Interventions targeting the co-regulation skills of caregivers are needed for older youth**, not just younger children. Self-regulation not only continues to develop over time, it also requires skills of growing complexity as children enter adolescence and young adulthood. Caregiver co-regulation is needed to support, model, monitor, and coach these developing skills during the crucial transition from childhood to young adulthood.
3. **Self-regulation interventions should be provided across development and settings** using a systematic and intentional approach like that our society takes with literacy. Skills must be learned, practiced, reinforced, and deepened over time to develop a self-regulating adult who can successfully manage complex interactions at home, in the




community, and in the workplace. This will be particularly important for youth who live in adversity, for whom universal interventions may decrease overall level of risk for self-regulation difficulties.



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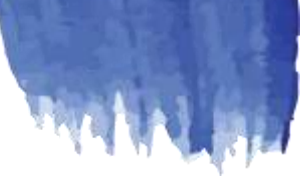
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INTRODUCTION

The study of self-regulation has grown rapidly in the past decade and is considered a maturing and increasingly inter-disciplinary field (Tamir & Mauss, 2011). Within many scientific areas, self-regulation is now recognized as foundational for lifelong physical and mental health (Shonkoff et al., 2012), with data establishing it as a predictor of violence and substance use (Dishion & Connell, 2006; Garland, Boettiger, & Howard, 2011), mental health disorders (Buckner, Mezzacappa, & Beardslee, 2009), physical health problems (Francis & Susman, 2009), and even socio-economic success (Moffitt et al., 2011). There is a large empirical literature demonstrating the effectiveness of interventions that target self-control (Piquero, Jennings, & Farrington, 2010), executive function (Diamond, 2012) and social-emotional outcomes (Greenberg, 2006). Each of these target domains overlap with the construct of self-regulation, however, these types of interventions were not developed using a self-regulation framework and may or may not measure outcomes relevant to self-regulation. Adopting such a framework has potential value in bringing together multiple aspects of self-regulation in a holistic way and advancing knowledge of mechanisms of change based upon current cross-disciplinary science. Because self-regulation is rooted in the developmental literature, it provides a lens for understanding interventions to promote wellbeing and prevent social-emotional and behavioral difficulties across developmental ages.

Despite this potential “value added” of a self-regulation framework, many questions exist regarding what type of self-regulation intervention approaches may be most effective, what core intervention components may be critical for change, and for which types of outcome domains. To date, a variety of approaches have been utilized, including those that teach skills to promote resiliency or reduce problem behaviors, those related to enhancing parent and teacher competencies and supports provided to a child, and those related to the broader ecology of the child’s environment. Some interventions combine approaches in comprehensive program packages, while others focus on more narrowly-defined skills and outcomes. Interventions also vary considerably by developmental age of the target population. Thus, a current literature review to inform understanding of self-regulation interventions is indicated.

Interventions during adolescence and young adulthood are of particular interest in this review given increased awareness of developmental plasticity during this time period (Giedd et al., 1999), with potential opportunity for interventions to contribute to lasting neurobiological remodeling that supports healthy development. However, we anticipate that much more work considering self-regulation mechanisms of change has been done on early childhood interventions than on interventions for adolescents and young adults. This review will specifically address any gap in knowledge of self-regulation interventions for adolescents and young adults, with the aim to provide promising directions for future intervention development if indicated.

This review is also particularly interested in interventions that may be relevant to programs supported by the Administration for Children and Families (ACF), which targets the most vulnerable populations for which the primary determinant is living in poverty. Indeed, ACF provides a range of human service programs that support one in four children overall and one in two poor children, continuing a critical role that began more than 50 years ago with the “War on Poverty”. Many children and youth served by



ACF are likely to have experienced adverse childhood experiences or “ACES” (Dube et al., 2003). Self-regulation interventions may be especially needed for this population given established links between poverty, ACES, and difficulties in self-regulation development (Blair & Raver, 2014; Raver, McCoy, Lowenstein, & Pess, 2013). In order to address this issue, we will specifically examine interventions targeting such children living “in adversity” as well as those who might be considered “at-risk” based upon their behavior or social-emotional functioning (a distinction we define further in the Methods section below). To retain our focus on interventions relevant to ACF, this review does not extend to clinical interventions or treatments for children and youth who have been diagnosed with specific psychiatric disorders.

As self-regulation has only been identified as a specific mechanism of change within the intervention literature fairly recently and because there are many constructs related to self-regulation that use different terms (e.g., social-emotional competence, resilience, executive functioning, effortful control, stress management), we did not restrict our review to interventions specifically labeled as such. Taking this broad perspective ensures that interventions targeting similar underlying constructs are included in this review regardless of terminology, enhancing the validity of our conclusions regarding the scope and effectiveness of self-regulation interventions. At the same time, it was also necessary to define self-regulation and theoretical mechanisms of change in order to conduct a thorough yet internally consistent review. The basis for our definitions and related study inclusion criteria is provided in the first report in this series, which can be found here:

<https://www.acf.hhs.gov/programs/opre/resource/self-regulation-and-toxic-stress-foundations-for-understanding-self-regulation-from-an-applied-developmental-perspective>. We briefly review our definition of self-regulation and theoretical mechanisms below.

Self-regulation is defined from an applied perspective as the act of managing cognition and emotion to enable goal-directed actions such as organizing behavior, controlling impulses, and solving problems constructively. The domains of self-regulation that guided our choice of search terms and inclusion criteria are based on our theoretical model (described further in our Foundations report); they are briefly reviewed in Box 1.

Box 1. Domains of Self-Regulation

Cognitive self-regulation includes focused attention, executive functioning (i.e., cognitive flexibility, mental shifting), goal-setting, self-monitoring, attributions and appraisals, problem-solving, perspective taking (i.e., theory of mind and future orientation), and decision-making.

Emotional self-regulation involves actively managing strong and unpleasant feelings and results in adaptive functioning in emotionally arousing situations. It requires awareness and understanding of feelings and involves self-calming strategies and tolerance or management of internal distress. It also supports empathy and compassion for self and others.

Behavioral self-regulation includes following rules, delay of gratification, persistence, impulse control, conflict resolution, enactment of active coping strategies (e.g., doing something like physical activity, deep breathing, or seeking support), and goal-oriented behaviors (e.g., organizing time to complete tasks).


The evidence-supported theoretical mechanisms targeting self-regulation (described in greater detail in our Foundation report) are as follows:

1. **Co-Regulation** provided by a parent figure, teacher, or mentor which includes: 1) teaching self-regulation skills through modeling, providing opportunities to practice skills, monitoring and reinforcing progress on skill development and goals, and coaching children and youth on how, why, and when to use their skills in increasingly complex situations; 2) providing a warm, responsive relationship where children and youth feel safe and are motivated by these relationships to learn, practice, and implement self-regulation skills; and 3) structuring the environment to make self-regulation manageable and provide a buffer against environmental stressors. This co-regulation is believed to increase a child's ability to understand, express, and modulate their thoughts, feelings, and behavior.
2. **Skills instruction** in cognitive, emotional, or behavioral domains of self-regulation, which is ideally provided in a systematic and scaffolded learning environment that strengthens self-regulation development.

METHODS FOR LITERATURE REVIEW

Search Procedure

We indexed published peer-reviewed studies that include search terms corresponding to intervention-related terms and to self-regulation-related constructs. Searches were conducted in the following databases: Scopus, ERIC, PubMed, and PsycInfo. Any article meeting inclusion criteria and no exclusion criteria published between 1989 and November of 2013 was extracted and included in the review. We



chose this start date based upon Tamir’s (2011) historical review of emotion regulation research. Finally, we identified additional studies that were referenced in the papers selected that may have been missed in the database searches (“snowballing technique”).

As specified in [Appendix A: A Search of Terms and Criteria](#), we made two lists of search terms – one list indicating *intervention-related terms* and one list indicating *terms relevant to self-regulation* across cognitive, emotional, and behavioral domains as well as specific terms related to stress. We also included a few program-specific terms that we believed might target self-regulation in adolescents and younger adults. In order to be included, a study must have at least one term from the intervention list and one term from the self-regulation list. In identifying what counts as “self-regulation-related”, we used the conceptual framework laid out in the Introduction and in the Foundations report previously referenced.

[Search Validation](#)


In order to supplement and validate our initial search results, we took two additional search steps:

1) We reviewed several websites examining potentially relevant interventions: Cochrane Database of Reviews, Center for Disease Control (CDC) Community Guide, Social Programs that Work, Promising Practices Network, SAMHSA’s National Registry of Evidence-Based Programs and Practices, and What Works Clearinghouse. This website review identified 10 additional interventions on which we then conducted additional searches, and included studies located if all criteria were met.

2) Our research team generated a list of 20 specific interventions considered potentially relevant to our review in consultation with ACF’s Office of Planning, Research, and Evaluation (OPRE) prior to initiating our systematic search (See Appendix A). All of the interventions we had identified a priori were identified in our initial search except three, one of which did not yet have published data available and another which did not meet inclusion criteria. The third intervention was searched and studies added to our review.

[Criteria for Inclusion](#)

In order to address our questions of interest, we included two types of intervention studies: 1) those that specifically targeted self-regulation with an evidence-supported theoretical mechanism (described above), and 2) those that directly measured cognitive or emotional self-regulation as an outcome. Including both types of studies allowed us to evaluate outcomes of clear self-regulation interventions as well as identify other types of interventions that may lead to improvements in self-regulation. This latter inclusion criteria allowed us to include many interventions that were not developed with a self-regulation framework and do not describe specific self-regulation change mechanisms, but may be quite relevant and effective in enhancing self-regulation. Studies promoting resilience to stressful life events were included when an intervention mechanism or outcome was linked to self-regulation in these ways.



To confirm that studies met inclusion criteria, the three study investigators reviewed each study's intervention description and measures in detail. Where questions arose, consensus discussion was used to determine each study's eligibility and whether any exclusion criteria applied.

Criteria for Exclusion

Studies were excluded if they measured self-regulation outcomes *only* in the behavioral domain and did not describe the intervention as targeting a theoretical self-regulation change mechanism. This allowed us to distinguish self-regulation interventions from interventions that focus only on changing behavior through external consequences without addressing underlying self-regulation components or change mechanisms. Indeed, a few well-recognized interventions fell in this category; more specific justification for their exclusion is provided in Box 2.

In addition, because our focus in this review was on prevention studies that have greatest relevance to existing ACF human services programs, we excluded mental health treatment studies for youth with diagnosed disorders. The literature is generally well-summarized in existing reviews for many psychiatric disorders (including ADHD and PTSD, which are often characterized by self-regulation difficulties).

We also excluded studies of very narrowly defined interventions that were unlikely to result in socially meaningful outcomes (e.g., specific writing interventions that did not include broader self-regulated learning training) and studies relevant primarily to older adult populations (e.g., cancer) or to very specific subpopulations (e.g., medical students). We excluded articles that were not written in English and unpublished dissertations. Research quality did not affect whether a study was included in this review, although we did systematically evaluate study rigor and consider that in our results. A detailed inclusion/exclusion list is provided in [Appendix A: Search Terms and Criteria](#).

Box 2. Why We Excluded Some Widely Used Interventions


According to our theoretical model of self-regulation development, an intervention must target either *Warm and Responsive Caregiving* or *Skills Development* in the domains of cognitive, emotional, or behavioral self-regulation as a mechanism of change, OR must directly assess cognitive or emotional self-regulation outcomes to be included in our review. There were a handful of social-emotional and behavioral programs that were identified in the initial search that were excluded after careful review of program descriptions in published studies and in other published work by the intervention developers, including *First Step*, *the Good Behavior Game*, and *the Olweus Bullying Program* (except for where they specifically measured cognitive or emotional self-regulatory outcomes). The first two programs, while evidence-based, describe the mechanism of change as motivating and reinforcing self-control behaviors through an external contingency management system. This does not meet our criteria for self-regulation development, although these interventions may certainly improve behaviors typically considered to reflect self-regulation (e.g., following rules and interacting more cooperatively with peers). The Olweus Program is described as a systems intervention, without clear mechanisms of change at the individual student level. Of note, our search terms identified very few studies of these interventions, likely because they were not described by authors in terms that mapped onto our self-regulation constructs.

FINDINGS

Our initial search identified approximately 5700 publications, of which 311 were determined to meet inclusion criteria. These papers reflect 299 separate intervention samples. If data in multiple publications represented the same sample of participants, they were considered the same “study” for our purposes of summarizing results. Likewise, if one paper included information on more than one sample, it was considered more than one “study”. A full list of all studies reviewed, by developmental group, and with a summary of outcomes is presented in [Appendix C: Effect Size Outcomes by Intervention and Developmental Groups](#).

Below is the order of findings that we will review. First, we describe the studies identified and their general characteristics, including participant characteristics and intervention characteristics. These data include type of study design, country of origin, sample demographics and risk status, intervention approach, duration and setting, characteristics of the intervention delivery agent, fidelity, and implementation supports. Where useful, we present this information by developmental group or, where data are limited, grouped into younger children and older youth. Second, we review our process for coding and analyzing data related to study quality and outcomes across multiple domains. Third, we summarize identified effects by developmental group. Finally, we report on factors that may influence outcomes such as intervention approach and study quality. To summarize, findings are organized in this report as follows:

- Description of Studies
- Participant Characteristics

- 
- Intervention Characteristics
 - Fidelity and Implementation Supports
 - Outcome and study quality measurement
 - Findings for each developmental group by domain, including effect size categories
 - Predictors of Effects

Description of Studies

Developmental Groups

We chose to report findings by developmental groups because most of the intervention samples were defined based upon school setting and/or grade rather than age. In fact, many studies did not include information on participant age. For the purposes of facilitating interpretation, the general ages corresponding to each developmental group are as follows:

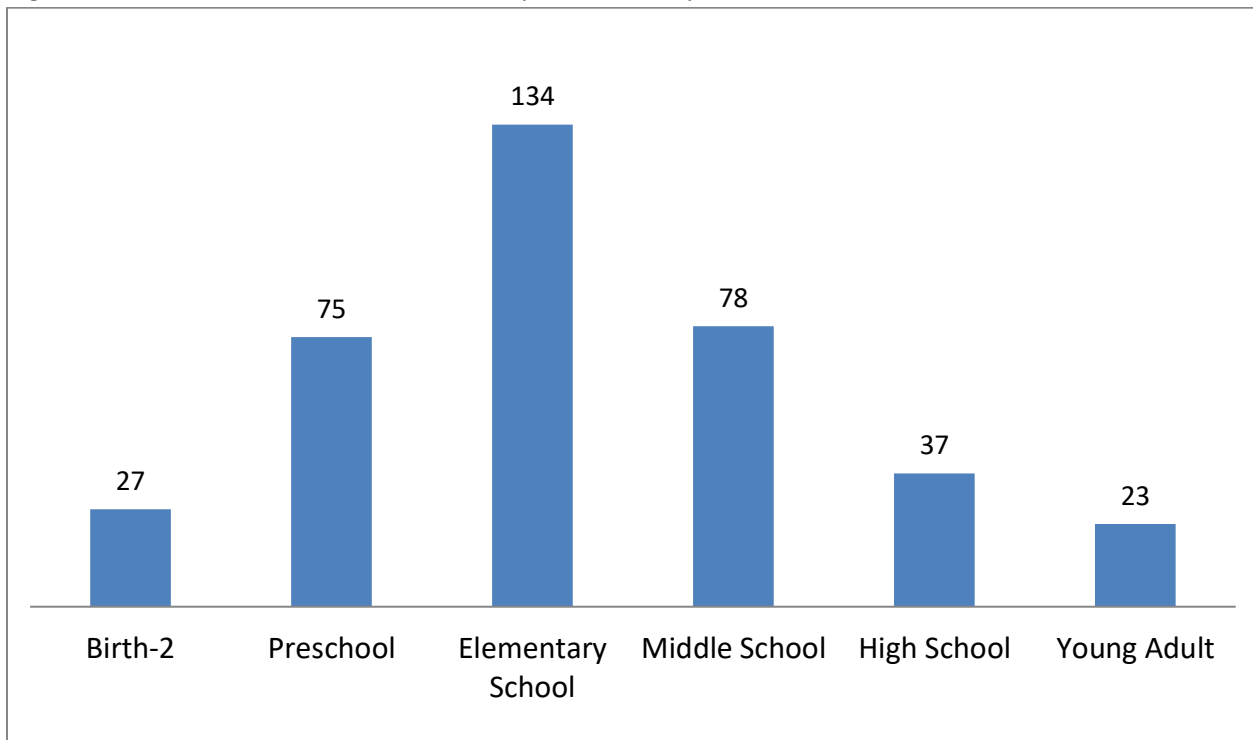
- Birth through Age 2
- Preschool (\approx 3-4 years)
- Elementary School (K-5th grade; \approx 5-10 years)
- Middle School (6th-8th grade; \approx 11-13 years)
- High School (9th-12th grade; \approx 14-18 years if in school)
- Young Adult (\approx 18-25 years)

It is also important to note that if an intervention included students in 5th through 7th grades, it would be coded and reported in both the elementary and middle school groups. This approach was necessary so that we could report on the full range of interventions studied in each developmental group, allowing outcomes for a given developmental period to stand alone and be interpreted separately. As a result, many of the 299 intervention samples are counted in multiple groups, resulting in our depiction of 374 “studies” across age groups. Within a developmental group, no studies will be duplicated, but a single study may contribute to the conclusions drawn in more than one of the groups. This should also be considered in interpreting the percentage of studies by developmental group that are represented in several figures, as in the section below.

Number of Studies Identified Across Developmental Groups

We first examined the number of studies with data for each developmental group. As can be seen in Figure 1, the largest number of “studies” of self-regulation interventions (36%) were identified for elementary-aged children in K-5th grade (i.e., ≈ 5-10 years). The fewest studies were identified for birth-2 years (7%), high school (10%), and young adulthood (6%). Thus, when considering overall findings, it is important to note that the vast majority of studies (77%) are based on children in the three groups of preschool, elementary, and middle school, ages ≈3-13 years.

Figure 1. Number of Studies in each Developmental Group

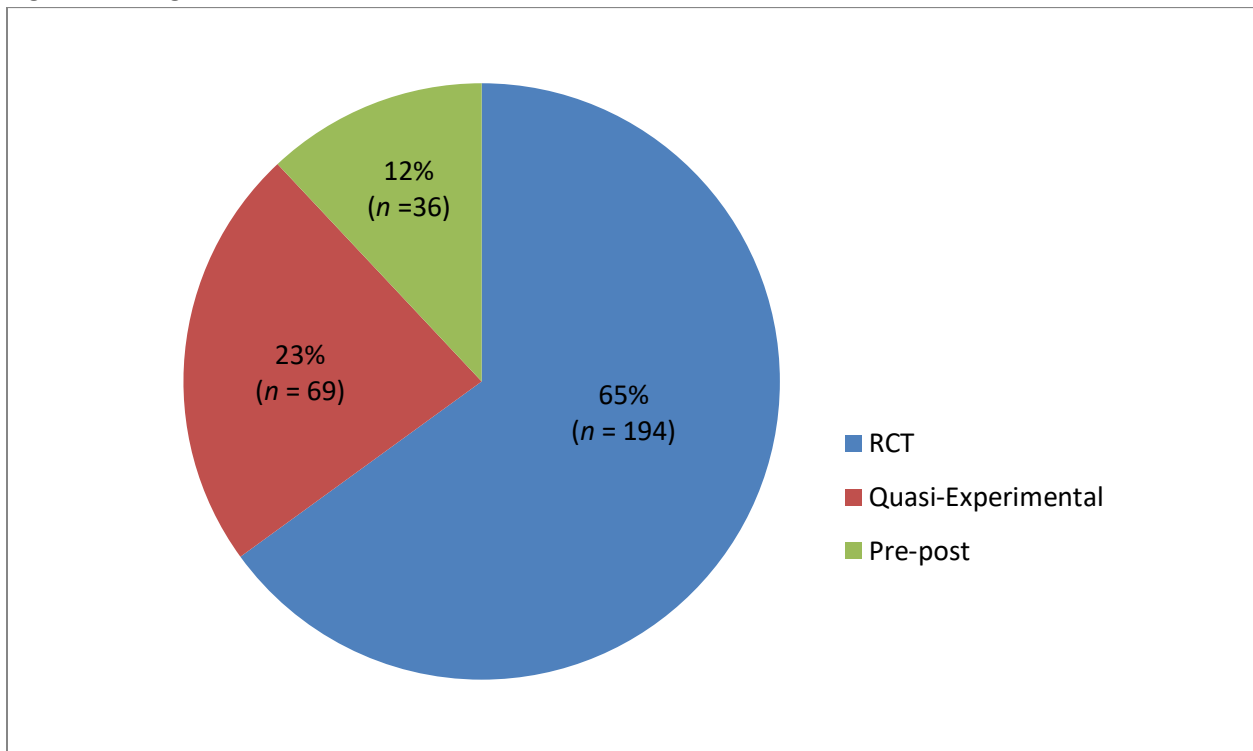


Note: The same study may be included in more than one age group

Study Design and Country where Conducted

As can be seen in Figure 2, about two-thirds of the studies identified were randomized-controlled trials; 23% were categorized as quasi-experimental, and 12% as pre-post.

Figure 2. Design of Studies Included



Note: This figure is based on 299 non-overlapping study samples.

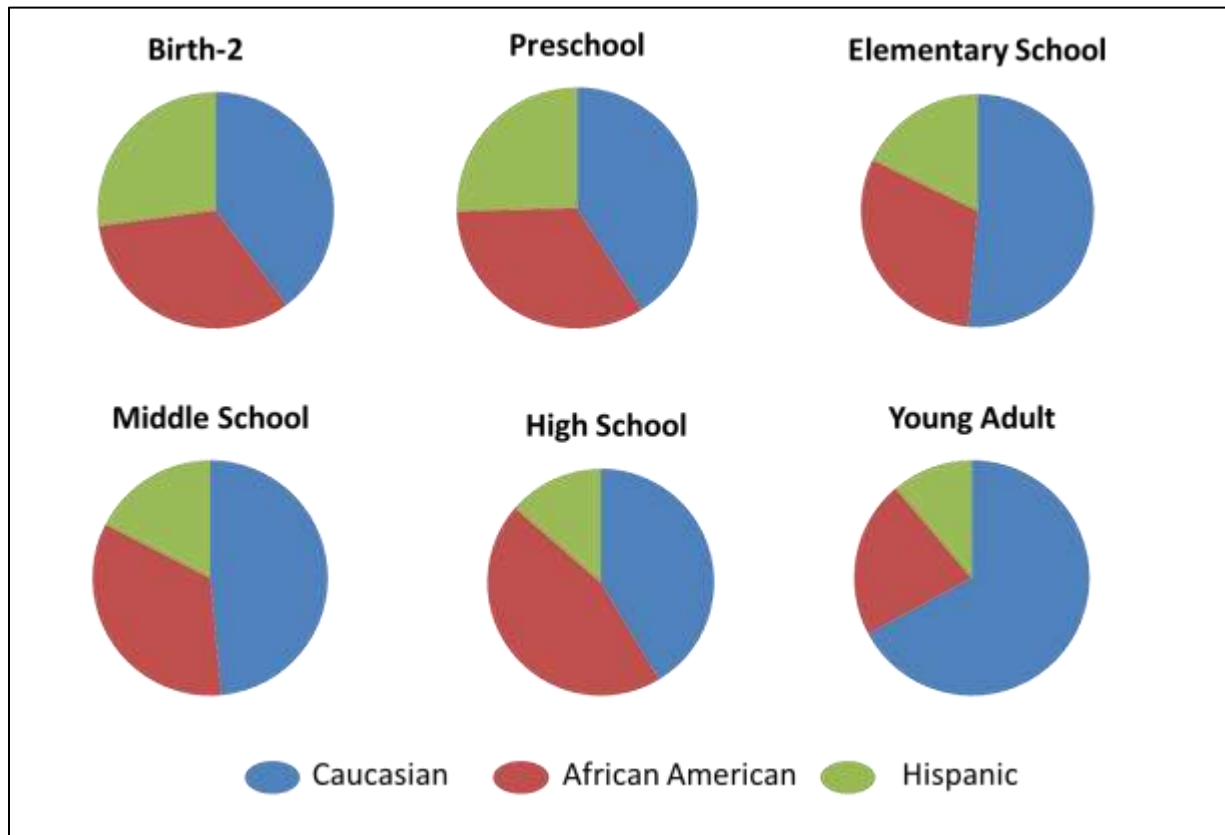
In addition, about two-thirds ($n = 199$; 67%) of the studies identified were conducted in the U.S. Approximately 20% were conducted across the U.K., Australia, and Canada ($n = 44$). This suggests that the studies evaluated in this report reflect a relatively strong evidence-base with regard to design and generally reflect research in well-developed English-speaking countries.

Participant Characteristics: Gender, Race/Ethnicity, and Risk/Adversity Profiles

Gender and Race/Ethnicity

Averaged across studies, there was an equal distribution of males (51%) and females (49%). More than half the studies (58%) also reported data on race and/or ethnicity. Of those, Caucasians represented 47.6% of participants, African-Americans 31.9% and those of Hispanic descent 18.7%, reflecting considerable diversity. However, this does vary by developmental group, as can be seen in the series of graphs in Figure 3. In particular, it should be noted that there are considerably fewer minority participants in studies in elementary and middle schools as well as for young adults. The developmental groups with the greatest racial and ethnic diversity are birth through age 2, preschool and high school.

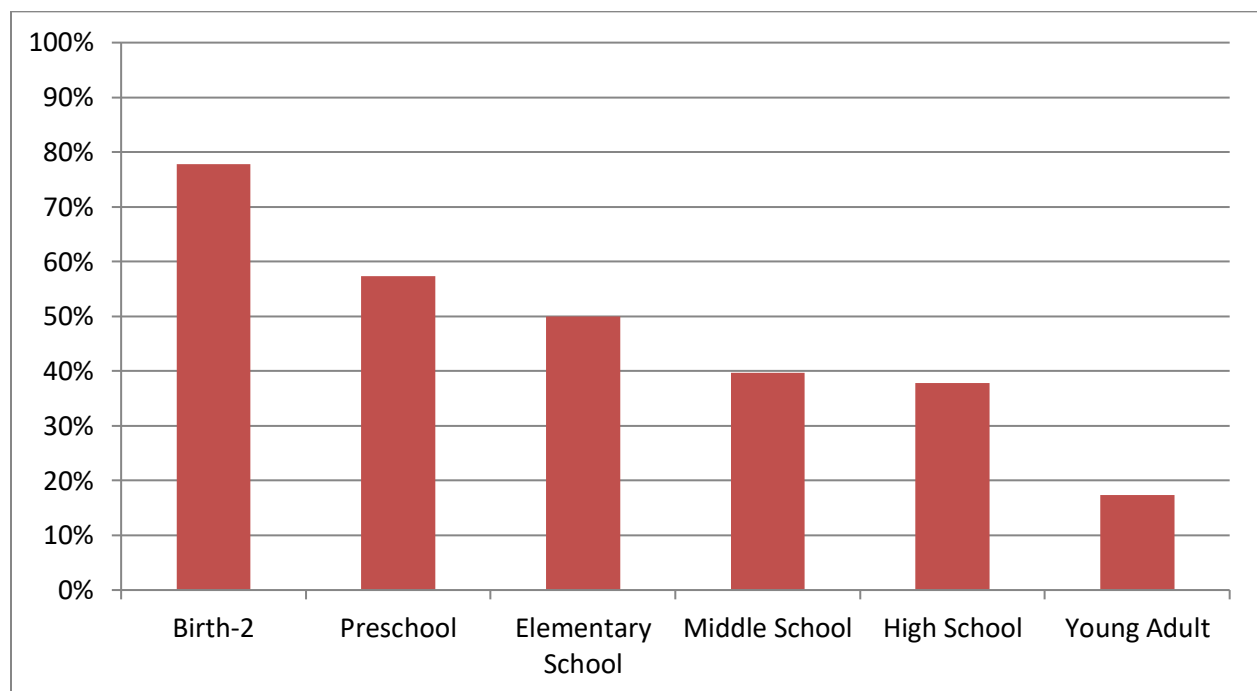
Figure 3. Race/Ethnicity by Developmental Group (for studies with data provided)



Risk and Adversity

We next examined the percentage of studies including participants who might be considered at increased risk of negative outcomes for any reason, targeting those living in adversity (e.g., poverty) or demonstrating individual risk factors associated with negative physical or social health outcomes (described more fully in Box 3). As can be seen in Figure 4 below, the percent of studies examining samples with elevated risk declined with age. Early childhood intervention studies appear to target this population quite well, whereas fewer than half of studies of older youth focus on higher-risk samples. In particular, less than 20% of young adult studies target higher-risk youth.

Figure 4. Percent of Studies Targeting Higher-Risk Participants, by Developmental Group



Looking more closely at type of risk, we separated samples that included participants “living in adversity” from those demonstrating specific risk behaviors or conditions. We further categorized living in adversity due to poverty and due to other factors. Our specific definitions are elaborated in Box 3 below.

Box 3. Definitions of Sample Adversity and Risk

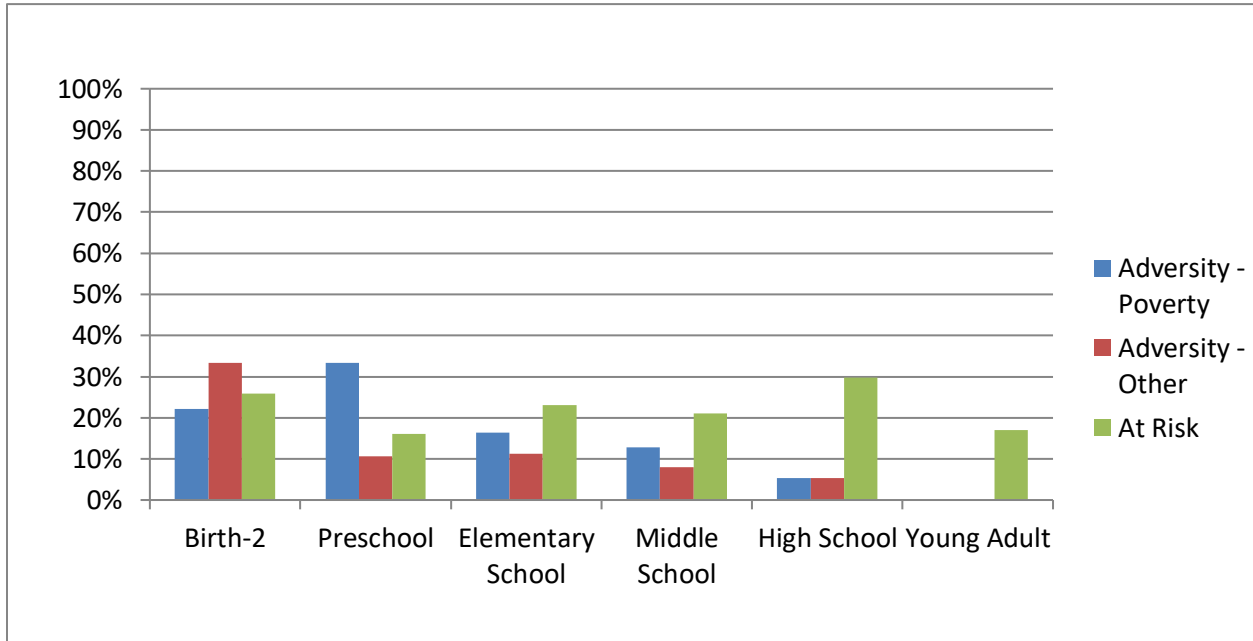
Samples were considered to be living “*in adversity*” if they were identified on the basis of environmental factors known to predict self-regulation difficulties (e.g., poverty, ACES). *In-adversity due to poverty* was defined as samples having >70% free/reduced lunch rates, Head Start schools, average household income < \$20,000, or defined by the researcher as “low income”. *In-adversity due to other factors* included studies targeting children and youth in foster care, those with a depressed or substance-using parent, and those whose parents had divorced, among others. Interventions for samples in adversity were either universally provided to all participants within the relevant setting (e.g., a Head Start classroom), or were provided in a more targeted program format.

Samples were considered “at risk” if they were identified based upon an individual health or well-being risk characteristic such as elevated rates of social-emotional (e.g., depressive thinking) or behavior difficulties or physical characteristics such as prematurity, low birth weight, or HIV status. Interventions for such samples were typically provided in some type of targeted format (e.g., pull-out program in a school setting). These studies were only included if they represented a subclinical risk population; samples with clinical diagnoses were excluded for the current review. It should be noted that participants who are “at-risk” may also be living “in adversity”; where relevant we evaluated the intervention in both categories.

Samples were considered to reflect a “general population” if they were population or school-based, without consideration of the risk or adversity status of the children or young adults in the group. Universal or preventive interventions were used with these samples, which may have been delivered to an entire population (or grade or school) or to a more specific volunteer or random sample.

Figure 5 shows the breakdown of studies across the three different groups defined above: “Living in Adversity due to Poverty”, “Living in Adversity due to other Factors”, and “At-Risk”. Similar to the results in the previous figure which combined these three groups, the proportion of studies in each risk category varies by developmental group. Younger ages have more studies of children living in adversity; studies of older youth include a small percentage of at-risk samples, but almost no studies with adversity samples. As noted previously, these percentages should be considered in the context of the total number of studies with data available for each developmental group (seen in Figure 1).

Figure 5. Percent of Studies with Different Types of Risk Samples, by Developmental Group



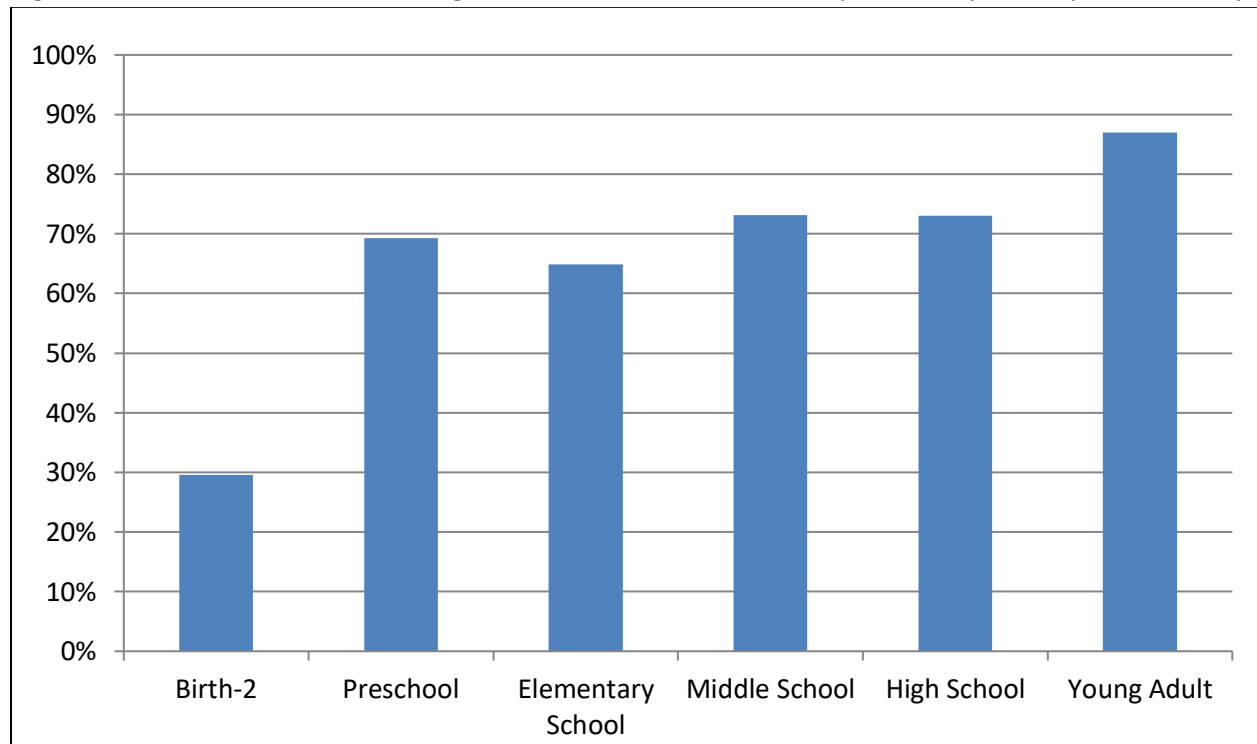
Characteristics of Self-Regulation Interventions

Interventions were examined on the basis of several characteristics including the method of participant selection (universal vs. targeted), the approach (co-regulation vs. skills instruction), duration, intervention delivery agent, as well as fidelity reporting and implementation supports. It is important to note that our categorization of studies on these dimensions was based solely on the description provided in the published studies.

Method of Participant Selection

As can be seen in Figure 6 below, the majority of interventions across all developmental groups except Birth through Age 2 were delivered to “universal” populations – that is, all the children or youth in a certain setting (such as a school or grade) were invited to participate or the intervention was provided to volunteers or a random sample. Children Birth through Age 2 were most likely to be “targeted” for participation in an intervention, meaning that they were selected to participate on the basis of individual characteristics such as a mother’s history of mental health or substance use, which is why such a small percentage of interventions for that age group were considered universal.

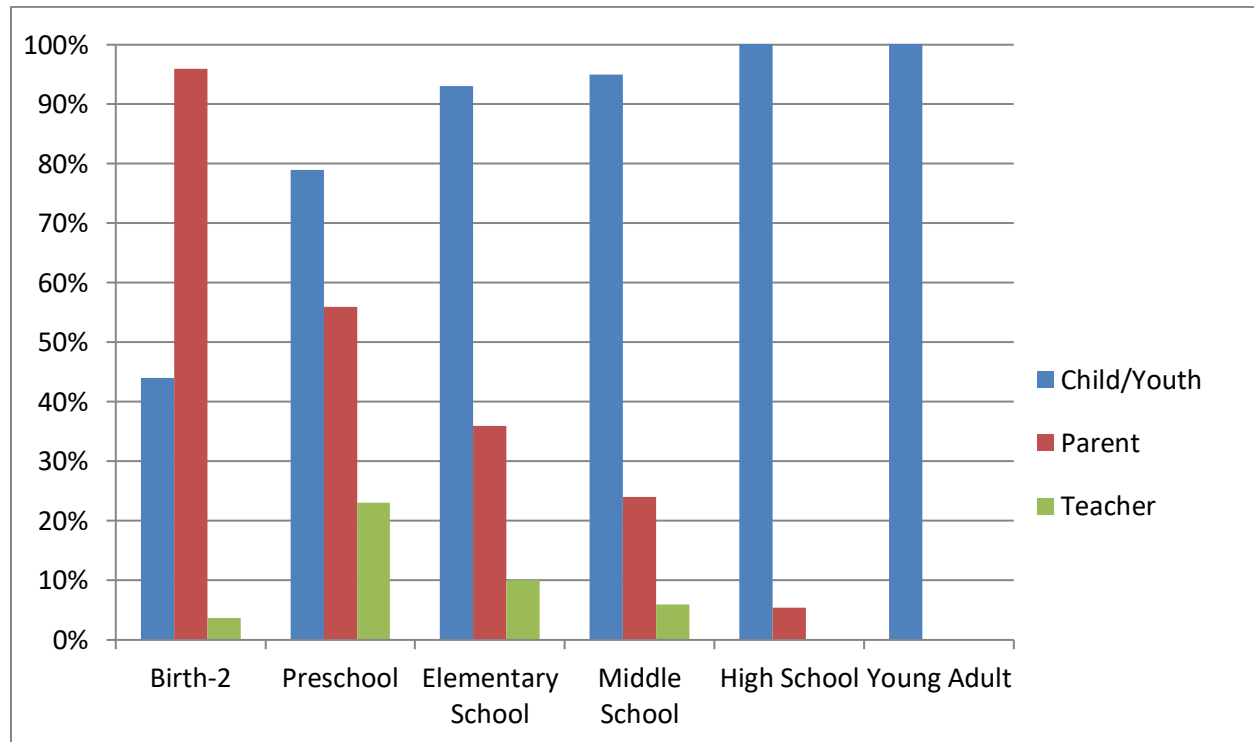
Figure 6. Percent of Studies Delivering Interventions to a Universal Population, by Developmental Group



Direct Recipient of Intervention Instruction

Next, we examined who it was that received the intervention instruction: the child/youth, the parent, or the teacher/caregiver (see Figure 7). It should be noted that if parents or teachers were involved in delivering a curriculum to children but did not receive direct instruction in caregiving skills, that study would be coded as having child recipients. If the parents or teachers were actually being taught caregiving skills, they would be considered the recipient. Where interventions delivered instruction to more than one type of recipient, each was counted separately. Figure 7 demonstrates that the large majority of interventions instruct children and youth directly, as might be expected. However, there is a dramatic decline in the percent of parents and teachers being taught caregiving skills across developmental groups (e.g., a third or fewer of intervention studies after preschool). Even where caregivers are instructed, interventions seldom provide instruction to teachers or child care providers even at preschool and elementary ages.

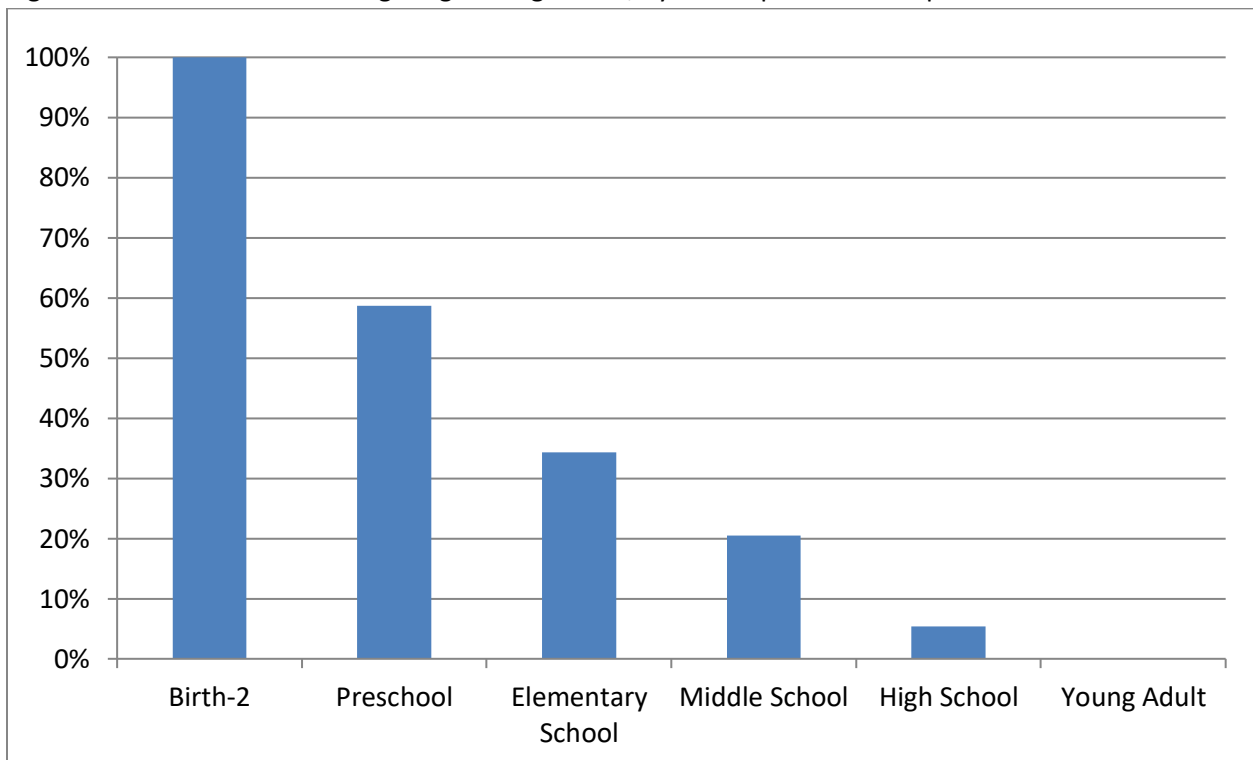
Figure 7. Percent of Interventions Delivering Instruction to each Recipient Type, by Developmental Group



Interventions Targeting Co-Regulation

Given our theoretical model of self-regulation mechanisms, we were particularly interested in the extent to which studies used an intervention approach targeting “co-regulation”, or parent/teacher warmth, responsiveness, and scaffolding. Such studies involve directly training teachers or parents, but not all studies training parents and teachers involved co-regulation. As can be seen in Figure 8 below, this intervention approach decreases dramatically with age. Although all the studies for children Birth through Age 2 involved co-regulation, only 59% of preschool studies and 34% of elementary studies did. In high-school and young adult studies, it was almost completely absent. Although it is important to consider the relatively small number of studies for the youngest and oldest developmental groups, this linear trend clearly demonstrates the decline in focus on co-regulation support as children grow older.

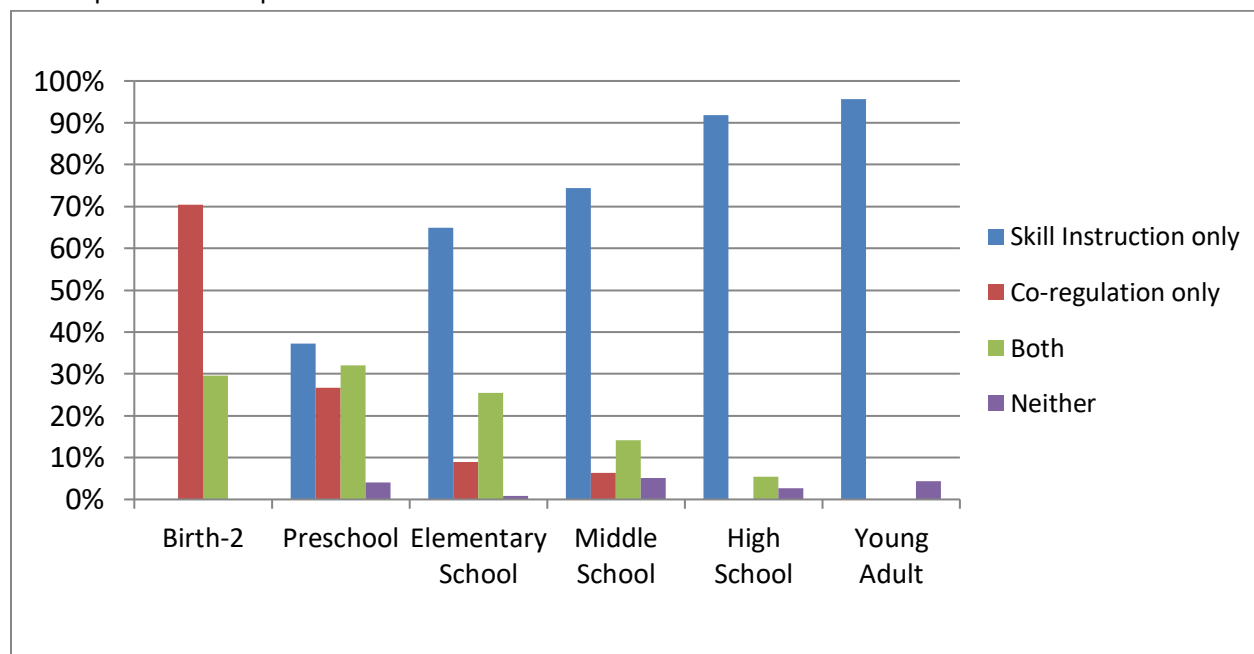
Figure 8. Percent of Studies Targeting Co-Regulation, by Developmental Group



Interventions Targeting Child/Youth Skills

The second major theoretical approach for improving self-regulation in our model is through direct skills instruction to the child or youth in the areas of cognitive, emotional, or behavioral regulation. Figure 9 below shows the percentage of studies that provide child skills instruction in relation to those that target co-regulation. A few interventions did not fall into either category (“neither”), including those providing only assessment and referral, preschool attendance, and money to families. These interventions were included in our sample because they examined self-regulation outcomes. Across all studies, direct skills instruction to the child or youth increases proportionally with age, starting during the preschool years. Although this trend might be expected developmentally, what is surprising is that more studies focus on skills instruction than co-regulation at all ages except Birth through Age 2. In fact, the percentage of studies including co-regulation, either alone or in combination with skills instruction, is minimal beyond preschool and almost non-existent after middle school. This is inconsistent with current knowledge of adolescent neuroscience (Bradshaw, Goldweber, Fishbein, & Greenberg, 2012) and research on the importance of parent monitoring and support for adolescent wellbeing (Steinberg, 2001), which underlie our theoretical model. This suggests a gap in existing interventions, which might be addressed with systematic inclusion of co-regulation approaches, where caregivers can support and coach skills instruction in an ongoing way.

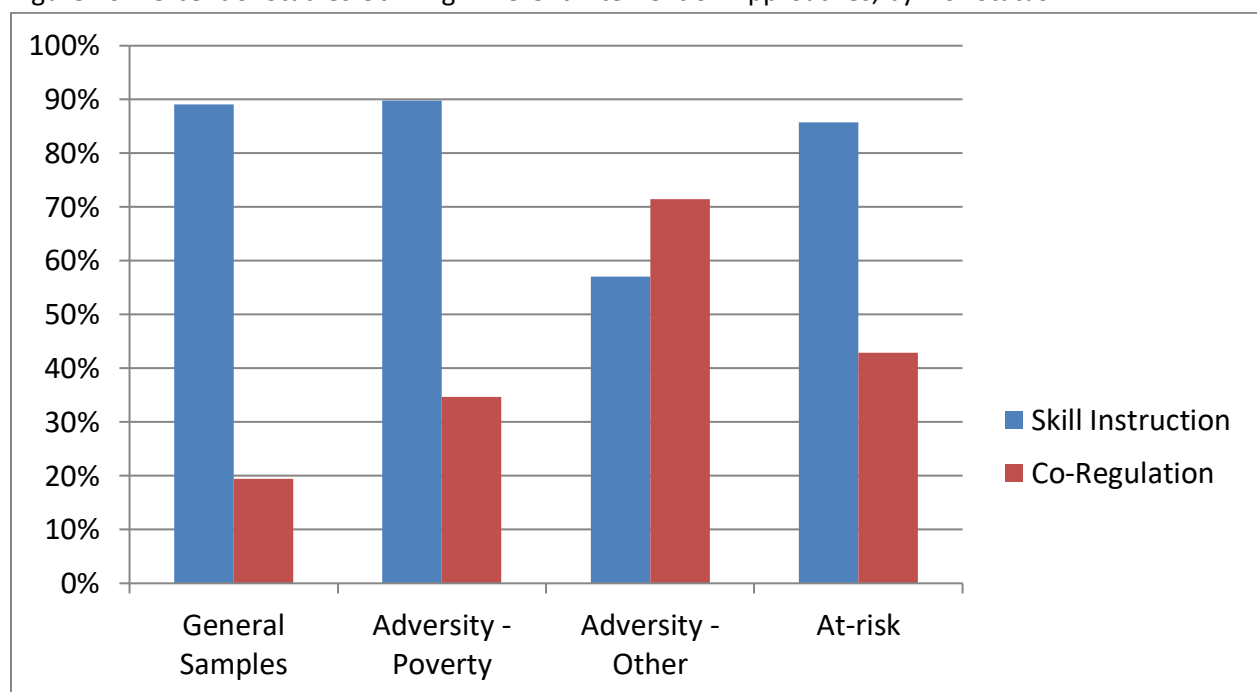
Figure 9. Percent of Studies Targeting Child Skill Instruction Relative to other Approaches, by Developmental Group



Difference in Intervention Approach by Sample Risk Status

Given the enhanced needs of children and youth with specific risk factors, either “at-risk” or “living in adversity”, we were interested in whether intervention approach varied by the risk status of the samples. As can be seen in Figure 10 below, co-regulation approaches were used most often for samples living in adversity due to factors such as out-of-home placement or having divorced, depressed, or substance using parents. This makes sense, as caregiver challenges were typically the reason families in this group were targeted for intervention. Somewhat surprising is that fewer than half of the studies including children and youth who were identified as being at-risk in some way utilized a co-regulation approach. Given the specific risk factors of these youth, caregiver support and coaching are likely to be important components in improving self-regulation capacity.

Figure 10. Percent of Studies Utilizing Different Intervention Approaches, by Risk Status



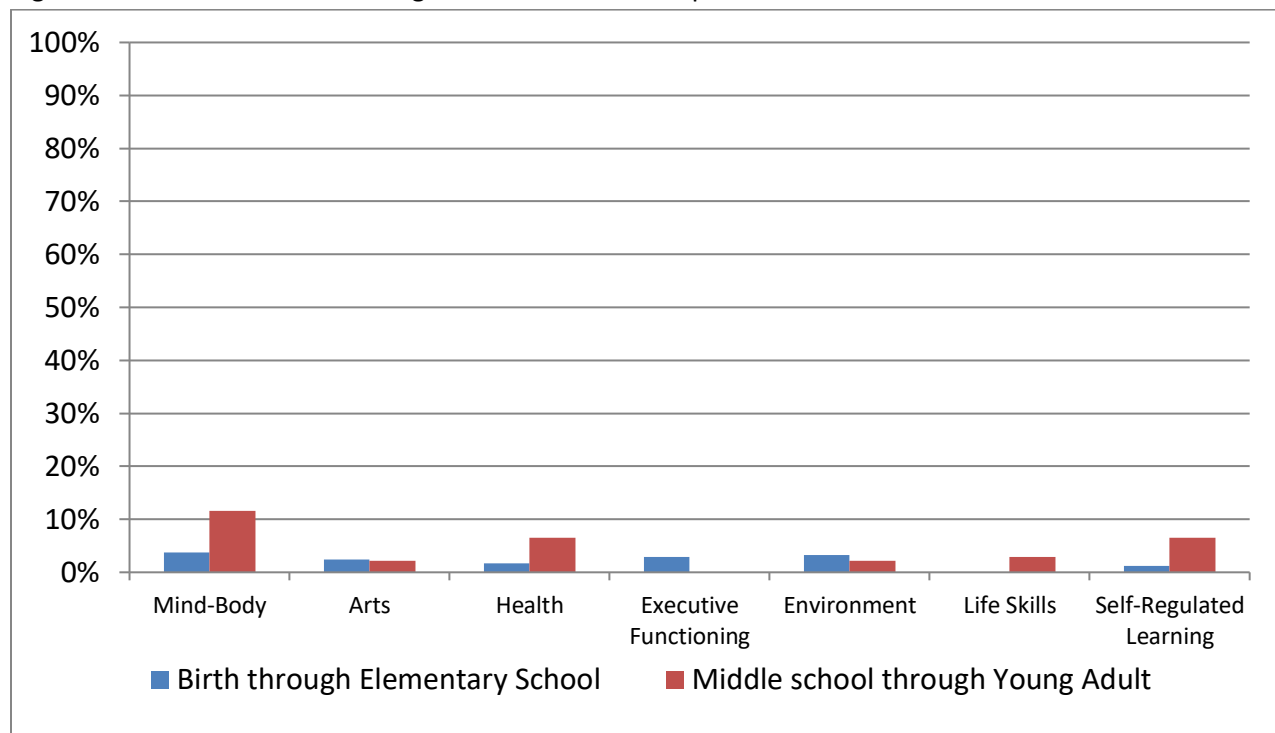
Interventions with a Special Focus

To further understand the types of interventions being used to target self-regulation, we also coded interventions with a special focus, such as mind-body interventions (e.g., yoga, mindfulness, martial arts), arts interventions (e.g., dance, music), health interventions (typically focused on healthy eating, exercise, and sleep), executive functioning interventions (e.g., Tools of the Mind and computerized attention training interventions), environmental interventions (e.g., attending preschool, changing school start time, providing money to low-income families, and Family Check-Up), Life Skills (often called “life skills” or focused on mentoring, leadership, or empowerment), and self-regulated learning interventions (strategies for studying or learning and self-monitoring). Because there were fewer of

these special focus programs, we examined them across younger and older developmental groups rather than within each separate developmental group.

As can be seen in Figure 11 below, older youth have more special focus interventions than younger children, particularly with mind-body, health, life skills, and self-regulated learning; this makes sense given the nature of these interventions. Overall, however, these types of programs represented a very small percentage of intervention studies that we found in our review.

Figure 11. Percent of Studies Using Interventions with a Special Focus



Intervention Delivery Agents

In order to understand more about intervention implementation, we also examined the different types of delivery agents (e.g., parent, teacher, clinician, other specially trained staff, self-administered via computer, etc.). In other words, who is doing the instruction? Each intervention was categorized by the one type of delivery agent that best represented the approach used. These data are presented separately for younger children in Figure 12 and for older youth in Figure 13. As can be seen, a wide range of individuals (and in some cases, technology) are being used to deliver interventions, including teachers, other school staff, university staff, clinicians, staff trained in a specific curriculum or specialty area, and others. There is again considerable variability across developmental groups, with a substantial number of clinicians and specially trained staff for Birth through Age 2 interventions (reflecting a large number of home visiting studies). For young adults in particular, a notable percentage (22%) are computerized interventions. Understanding delivery agents and staffing requirements has implications for feasibility of scale-up.

Figure 12. Percent of Interventions Delivered by Different Types of Agents (younger children)

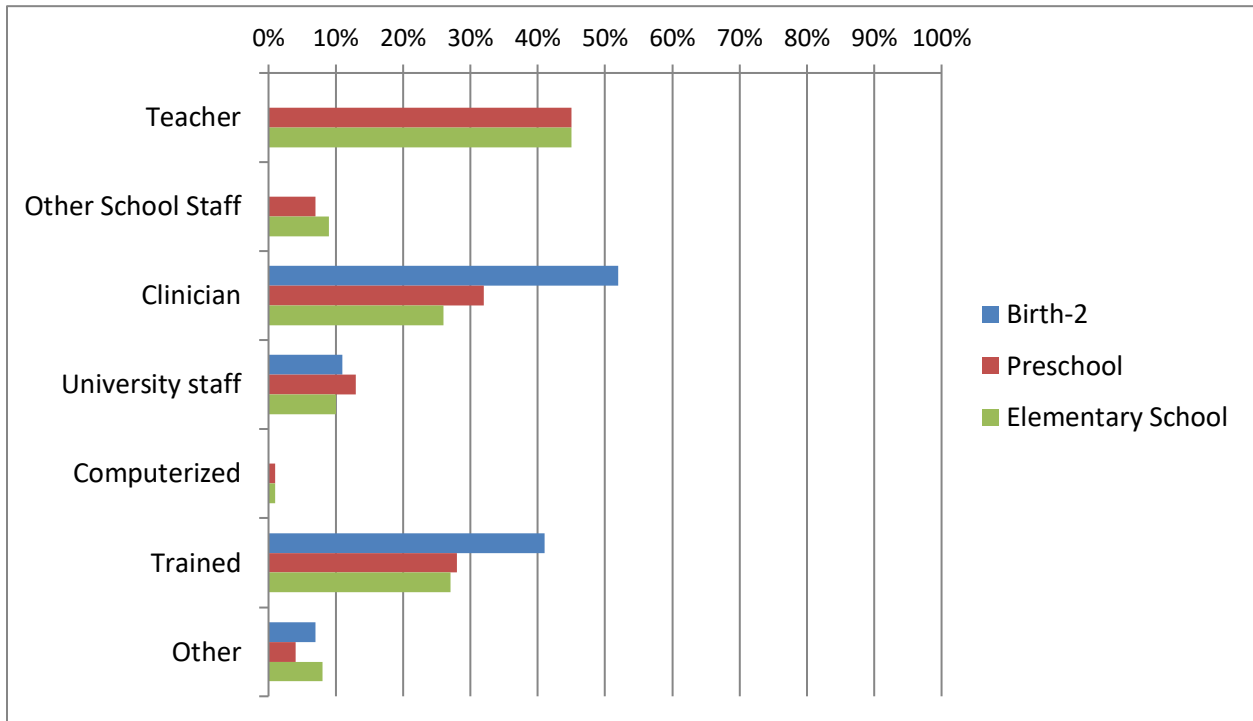
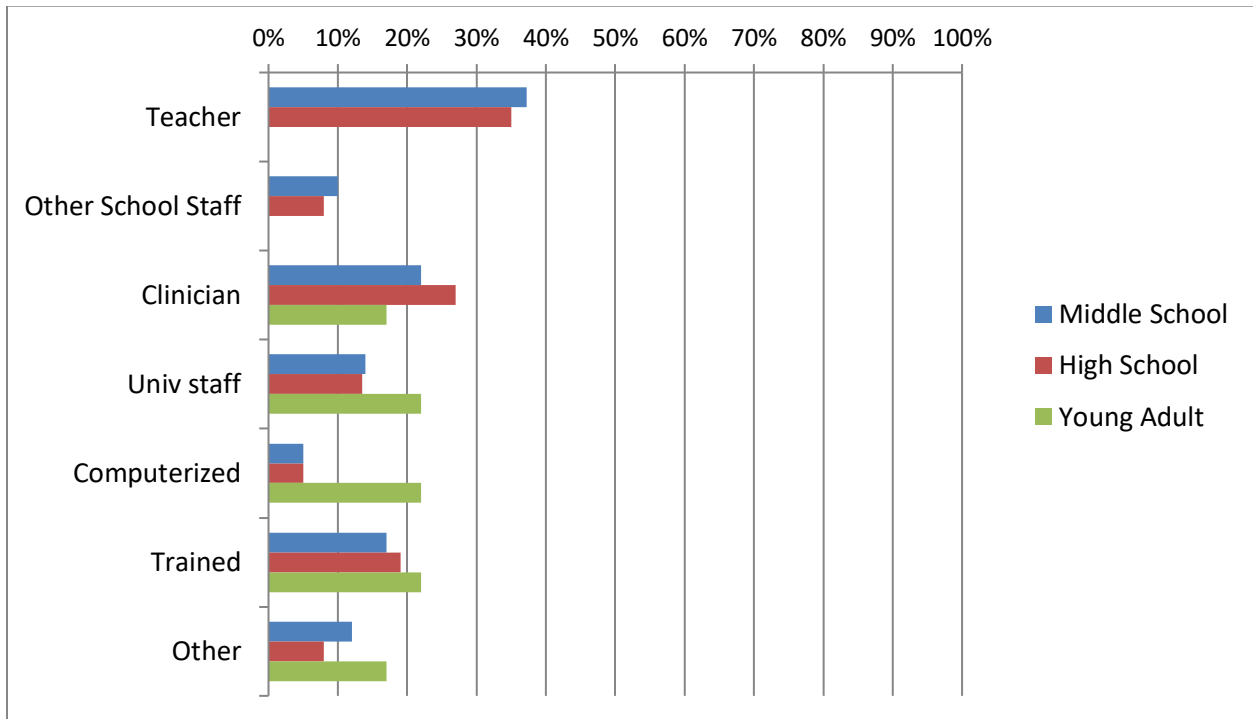


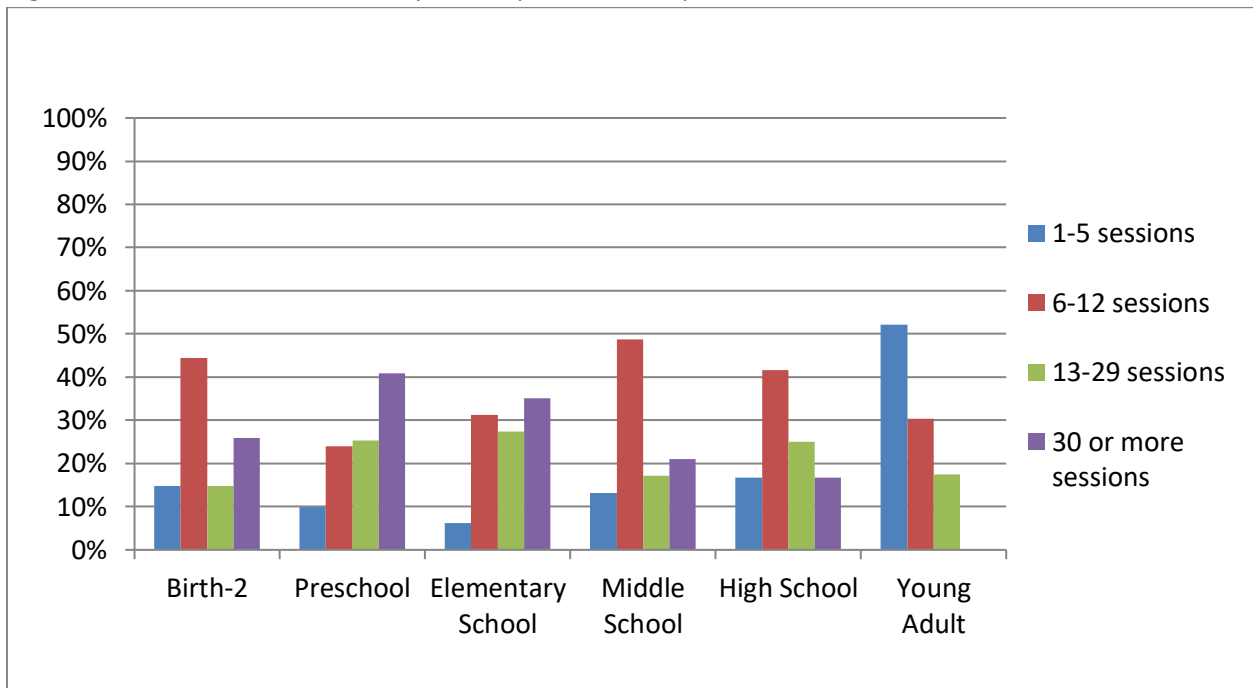
Figure 13. Percent of Interventions Delivered by Different Types of Agents (older youth)



Duration of Intervention

Duration, as defined by *number* of sessions, is another intervention delivery characteristic that we examined by developmental group. As seen in Figure 14, preschool and elementary school interventions tended to have more sessions on average than interventions for other ages. For adolescents, the typical intervention was 6-12 sessions and for young adults it was 1-5 sessions. Nonetheless, given the nature of self-regulation, 6-12 sessions seems surprisingly brief for a stand-alone intervention to achieve a lasting effect. If self-regulation interventions were instead provided incrementally across development, briefer “booster” interventions might be adequate (although this is an empirical question that should be explored in future research).

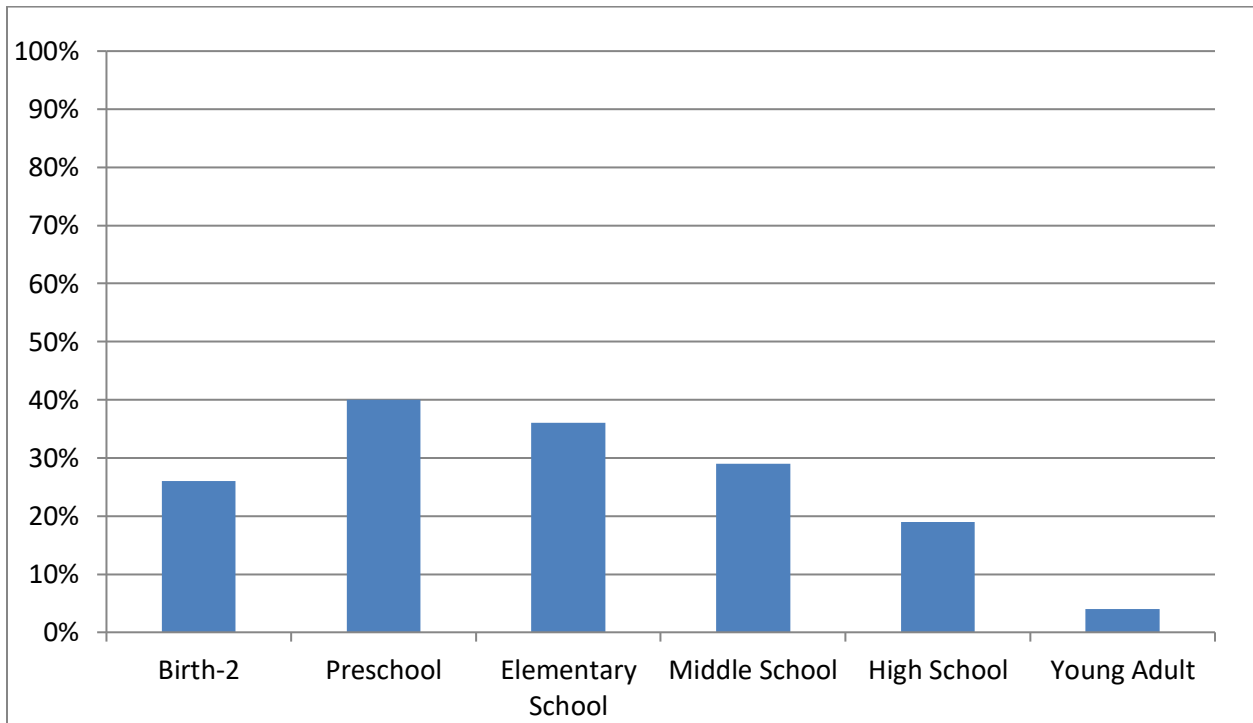
Figure 14. Intervention Duration by Developmental Group



Intervention Fidelity and Implementation Support

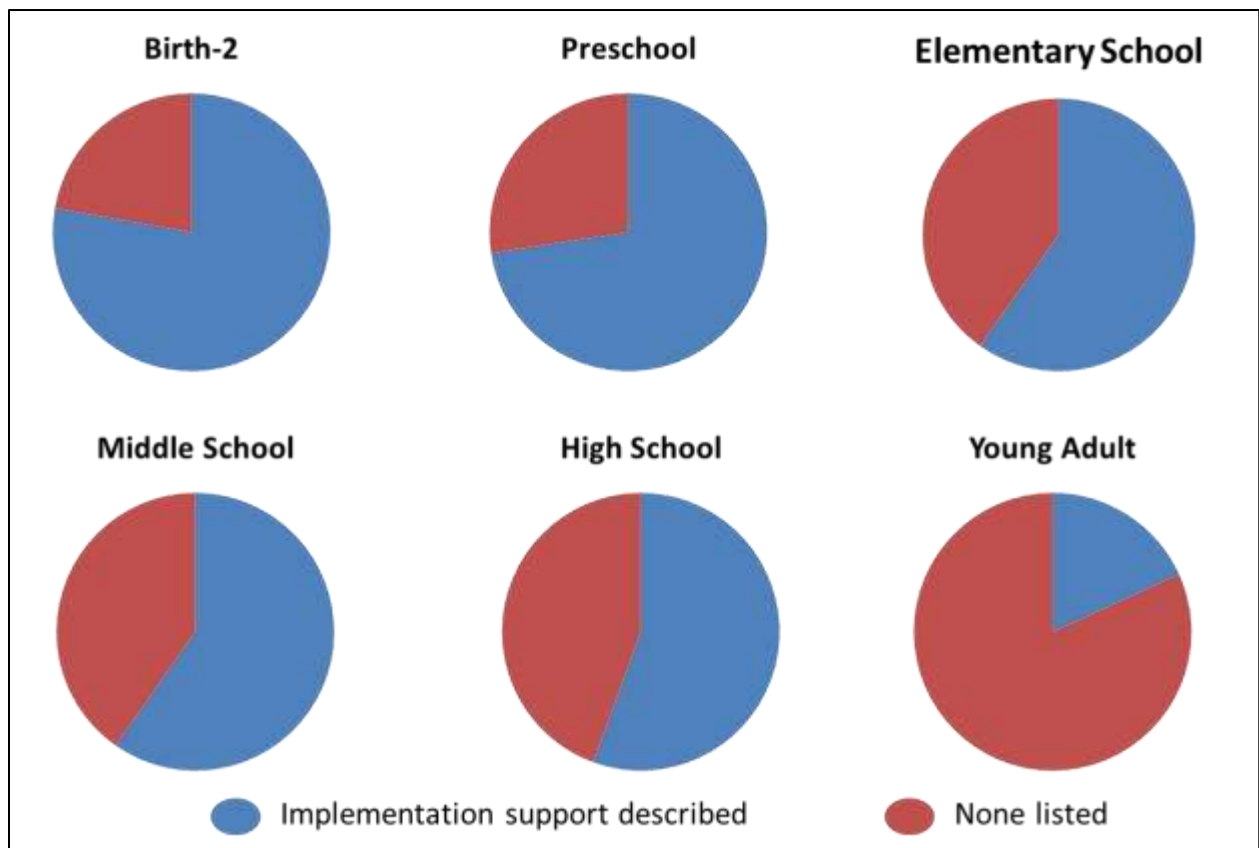
To assist in interpreting intervention outcomes, we also examined whether fidelity data were reported in each study. Given tremendous variability in types of fidelity assessments used, the presence of any type of fidelity data appeared to be a more meaningful variable than the actual level of fidelity. We did not count studies that provided statements assuring fidelity without any actual data. As seen in Figure 15 below, considerably fewer than half the studies reported fidelity data, and this was lowest in the youngest and oldest developmental groups. Interestingly, when we evaluated fidelity data by year of publication we did not find any relationship between studies published before 1999 and those published after 2009, despite increased attention to intervention fidelity in recent years. These findings raise concern that study outcomes may not reflect implementation of interventions as intended in the majority of studies.

Figure 15. Percent of Studies Reporting Fidelity Data, by Developmental Group



To further inform understanding of self-regulation interventions, we also assessed for implementation supports, such as having a developer implement an intervention, including coaching for program deliverers, or other clearly described supervision or supports for the delivery of a program. Figure 16 below shows the percentage of studies reporting implementation support for interventions by developmental group. As can be seen, the youngest developmental group has a larger proportion of studies with implementation support. However, as one proceeds through developmental groups, the percentage of studies with clearly described implementation support decreases markedly. For young adults, the relatively low percentage of studies with implementation support may reflect a number of computerized interventions that may not actually require supports. Across all studies, there are a large number that did not indicate whether any implementation support was provided or not. Though lack of published information does not necessarily mean these supports were absent, the pattern does suggest that interventions for younger children are more likely to consider implementation supports as an intentional component of their model.

Figure 16. Percent of Studies Reporting Implementation Support, by Developmental Group



Methods for Examining Study Outcomes

In examining **child outcomes**, we first categorized outcomes based upon authors' descriptions of measures into two types: core self-regulation outcomes and broader, functional outcomes. As is detailed in Table 1, core self-regulation outcomes are tied directly to our definition of applied self-regulation including cognitive, emotion, and behavior regulation. Core self-regulation also includes measures of initiative/motivation, mindfulness, and stress which are closely connected to core self-regulatory processes. Broader functional domains refer to other aspects of wellbeing for children and youth that might be expected to improve if self-regulation improves. These include learning/language, health, mental health, delinquent behavior, and interpersonal functioning. As can be seen, the breadth and depth of outcomes that have been evaluated in this body of literature is impressive.

It should also be noted that some outcomes are long-term, and therefore include things that are affected by an intervention, but may not be observed until later at older ages (e.g., delinquency outcomes for preschool interventions). Of note, not all outcomes have been assessed for each developmental group, which is understandable given the developmental nature of self-regulation.

Table 1. Child Outcome Domains and Components

Core Self-Regulation Domains	Components
Cognitive Regulation	Attention, attributions, beliefs, cognitive skills, executive functioning, goal-setting, monitoring, problem-solving, rumination, self-concept, theory of mind
Emotion Regulation	Emotion knowledge, emotion management, soothability, empathy, expression of feelings
Behavior Regulation	Positive coping skills, compliance, cooperation; improvement in aggression, disruptive behavior, oppositionality, and hyperactivity
Initiative/Motivation	Engagement in schoolwork, initiative, autonomy, motivation, internal locus of control, persistence, productivity
Mindfulness	Observing, describing, or acting with awareness; non-judgment and non-reactivity to inner experience
Stress	Salivary cortisol, subjective stress
Functional Domains	Components
Learning/Language	Grades, achievement and ability scores, language skills/development
Health	Healthy eating, exercise, sleep problems, daily living skills
Mental Health	Improvement in anxiety, depression, somatic complaints

Delinquent Behavior	Lower risk for or incidence of stealing, vandalism, delinquent behavior, substance use
Interpersonal	Social-emotional competence, encoding and interpreting social cues, prosocial behavior, attachment to caregivers, peer relationships

Similarly, we categorized **parent outcomes and teacher outcomes** into the domains listed in Table 2. For both parents and teachers, there was a range of outcomes from more personal benefits (e.g., stress reduction and social support) to skills that we believe support self-regulation development in children—namely, positive parenting practices, classroom climate, and co-regulation skills. These three specific outcomes, which are most closely aligned with our theoretical model of self-regulation development, are indicated with an asterisk in the table.

Table 2. Parent and Teacher Outcome Domains and Components

Parent Outcomes	Components
Parenting Skills*	Positive and effective discipline, communication with child, monitoring, supervision; reduction in negative discipline
Attitudes/Beliefs	Parenting self-efficacy, caregiving attitudes, developmental expectations, knowledge, parenting satisfaction
Stress	Improvement in ratings of parenting stress
Social Support	Self-reported social support, partner support
Mental Health	Parent mental health, improvement in depression and anxiety
Parent Self-Regulation	Parent emotional awareness and regulation
Co-Regulation Skills*	Bonding, coaching, scaffolding, use of emotion language, sensitive response to child cues
Teacher Outcomes	Components
Classroom Climate*	Classroom climate, positive behavior management
Attitudes	Teacher attitudes, self-efficacy
Instructional Quality	Quality of instruction
Teacher Self-Regulation	Teacher self-regulation knowledge and actions
Co-Regulation Skills*	Coaching and scaffolding

Effect Size Calculation

For each outcome domain, we derived estimates of effect sizes from statistics reported in the publications, even where the authors did not explicitly present them. Depending on study design, effect sizes were based either on comparisons between an intervention and a no-treatment control group or on comparisons within a single group from pre- to post-intervention. Where possible (i.e., continuous outcomes with means and variances reported), we calculated Cohen's *d* for maximal comparability; for binary outcomes, we derived odds ratios. In cases where the necessary information was not reported, our fallback was most often (partial) eta-squared. In some cases, however, data presented were insufficient for any calculation and so effect sizes could not be obtained.

In general, effect sizes describe the magnitude of an intervention effect, or the standardized change in outcomes that can be attributed to the intervention. Though all effect sizes are indications of the strength of findings, the numeric ranges for different types of effect sizes are interpreted differently. In order to facilitate comparability, we present results using effect size categories: **negative (any significant detrimental effect)**, **none (no significant effect)**, **small (Cohen's *d* < .35)**, **medium (Cohen's *d* = .35-.65)**, or **large (Cohen's *d* >.65)**. Values for categorizing other effect size metrics are provided in Table 3 below. These categories will be referred to as the “strength of findings” in our review of outcomes.

Table 3. Ranges for Categorizing Effect Size Metrics

Effect Size Metric	Size of Effect		
	<i>Small</i>	<i>Medium</i>	<i>Large</i>
Cohen's <i>d</i>	< .35	.35 - .65	> .65
Odds Ratio	< 2.0	2.0 - 3.3	> 3.3
Eta squared	< .035	.035 - .10	> .10
Correlation (<i>r</i>)	< .2	.2 - .4	> .4
R squared	< .05	.05 - .17	> .17

Coding and Analysis of Study Quality

Information on study quality with potential for impacting the validity of outcomes was coded by a trained team and entered into a database used for descriptive and inferential analyses. Although study quality was not used as a basis for excluding studies, we assessed such characteristics based upon guidelines developed by the Coalition for Evidence-Based Policy for quasi-experimental design studies and randomized controlled trials (Coalition for Evidence-Based Policy, 2010, 2014). This information was

summarized and used as a general index for study quality. A list of the types of data collected on study quality are found in [Appendix B: Criteria for Evaluating Study Quality](#). Briefly, these data reflect the adequacy of sample size, the equivalence of comparison groups, nature of randomization procedures, reliability and validity of outcome measures, extent of attrition and any group cross-over or contamination, and statistical reporting.

Many of the dimensions coded lacked sufficient variability among studies to warrant further consideration as predictors of study findings. Quality for the dimensions utilized in analyses, listed in Table 4, were coded as present or not (as consistent with the Coalition checklists) with the exception of study design: this was scored 0 to 2 based upon literature suggesting that different designs may have different analytic implications. Quality coding numbers were summed to produce a single omnibus study quality score of 0 to 11. Finally, to evaluate if study quality influenced outcomes, we regressed study effect size onto the study quality score.

Table 4. Study Quality Coding

Study Characteristic	Codes		
	2	1	0
Design Strength	Randomized controlled trial	Quasi-experimental	Single group pre-post
Implementation support		Implementation support described	None mentioned
Fidelity		Fidelity assessment described	No fidelity assessment mentioned
Assessors blind to condition		Data collectors not informed about treatment group membership	Data collectors aware of treatment group membership
Measure validity		Outcome measures show adequate validity	Outcome measures have questionable validity or have not been validated
Measure reliability		Outcome measures show adequate reliability	Outcome measures have questionable reliability
Consent		Participants sign consent before randomization	Participants sign consent after randomization

Attrition		Attrition less than 20% and equivalent between groups	Attrition greater than 20% and/or markedly different between groups
Prospective design		Groups selected prospectively	Groups formed retrospectively (e.g., based on intervention receipt)
Intent-to-treat analysis		Analyses conducted with all those consented regardless of intervention participation (ITT)	Analyses conducted with subsample based on participation (e.g., only intervention completers)

Controlling for outcome domain and developmental group, **study quality significantly predicted outcome effect size, with lower quality studies obtaining higher effect sizes.** Further exploration identified study design as the key predictor of effect size: randomized controlled trials and quasi-experimental designs had outcomes equivalent in size, but single group pre-post designs had larger effects across domains. This is not surprising, because pre-post study effects include improvements that are related to developmental growth (e.g., getting better over time because of increased age or maturity), something accounted for in studies with control groups (i.e., randomized controlled trials and quasi-experimental designs).

Summary of Study Outcomes for each Developmental Group

Given that study design clearly influenced outcomes in our review, it is important to consider this in interpreting results. In the following summary of study outcomes, we take a conservative approach in focusing only on findings from more rigorous studies (i.e., all those with a comparison group), which helps control for developmental changes that may be occurring in self-regulation in children over time. Effect sizes from pre-post design studies are noted in Appendix C: Effect Size Outcomes by Intervention and Developmental Group. For studies with no effect size available, we also provide information on statistically significant effects in Appendix C.

In the following sections for each developmental group, average effect sizes from comparison group studies representing the strength of evidence for interventions evaluated are summarized and presented graphically. More specifically, each section for the six developmental groups will present the following:

- A box summarizing key features of study and intervention characteristics
- A description of child/youth outcomes and graphical depiction of strength of evidence for core self-regulation and functional outcomes
- A description of parent outcomes (if data are available) and graphical depiction of strength of evidence for core self-regulation and functional outcomes

- A description of teacher outcomes (if data are available) and graphical depiction of strength of evidence for core self-regulation and functional outcomes
- Conclusions and limitations
- A box summarizing results of findings for that developmental group

As a reminder, all studies including children or youth from a particular developmental group are included in the presentation of data for that group, so interventions may be included in multiple sections. That is, if an intervention included children ages 2 and 4, it would be reported in both the Birth-2 and Preschool groups. This approach was necessary so that we could report on the full range of interventions studied in each developmental group, allowing outcomes in each developmental group to stand alone and be interpreted separately.

Birth through Age 2 Outcomes

To provide context for understanding outcomes for children birth through age 2, important study and intervention characteristics for the reviewed literature are summarized in Box 4:

Box 4. Key Features of Study and Intervention Characteristics for Birth through Age 2

Study Characteristics:

- The number of studies for this age group is limited ($n = 27$)
- About a third included infants only (<1 year); most other studies included children up to age 3
- Most interventions (78%) target families living in adversity (poverty, foster care, parents at risk), similar to those served in many ACF programs
- The majority of participants (65%) were from a minority background (36% African-American, 29% Hispanic)

Intervention Characteristics:

- All the interventions targeted parent co-regulation
- The modal length of interventions was 6-12 sessions, although 30% were 30+sessions
- More than half of the interventions were provided by clinicians with considerable implementation support, although others were delivered by paraprofessionals or individuals who might be comparable to Early Head Start staff
- Example programs include: ABC, Child First, PALS; most were attachment-based and many were home-visiting programs. See Appendix C for special studies.

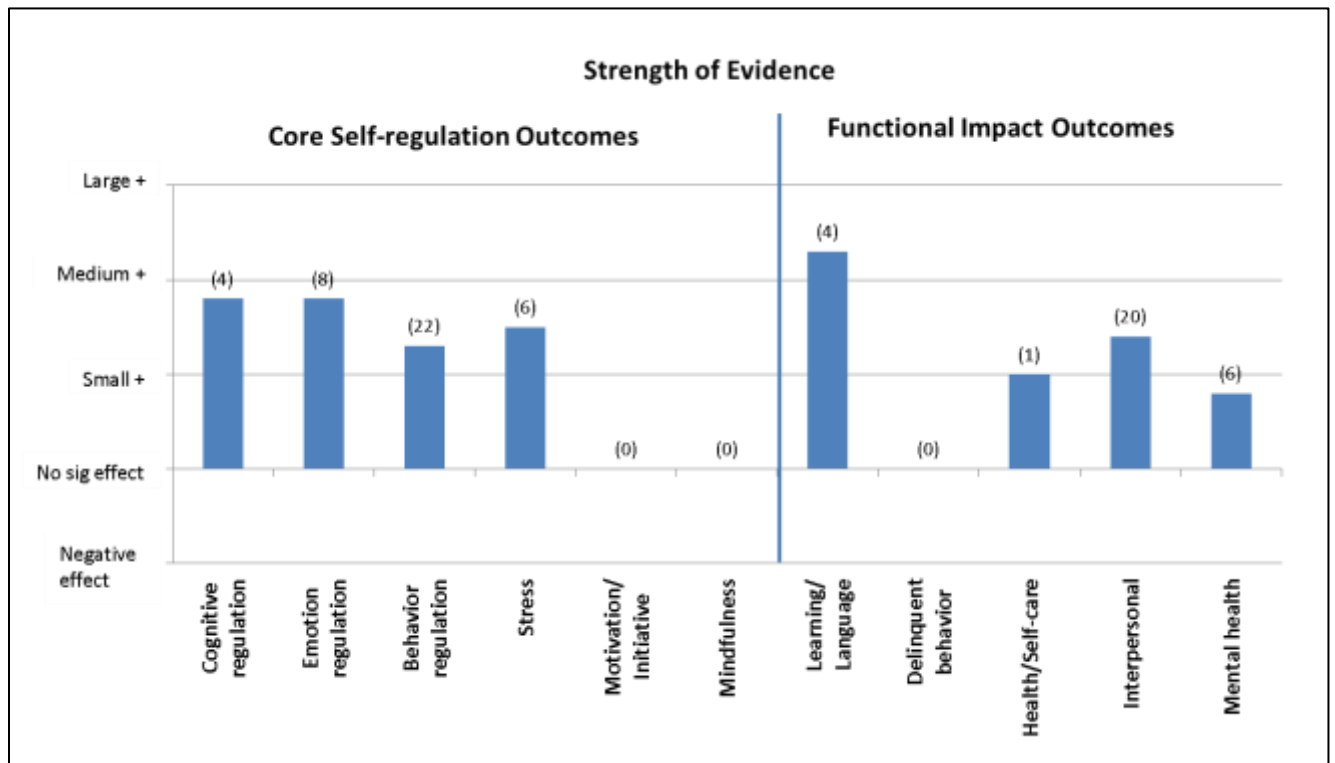
Child Outcomes: Birth through Age 2

As will be noted across developmental groups, there is considerable variability in outcomes across studies. For instance, almost 50% of studies did not find any significant effects in the domain of child

behavior regulation. On the other hand, over one-third found a medium to large effect in this domain. On the flip side, for interpersonal outcomes, one-third of the studies found no effect, but over 60% found medium to large effects. Parents, who were the key recipients for intervention in this developmental group, had somewhat more consistent results: the large majority of studies measuring co-regulation (70%) found medium to large effects. Figures depicting this variability are available upon request. This inconsistency in outcomes makes it important for program implementers to carefully review the specific findings of interventions under consideration (see Appendix C for a summary of outcomes by intervention).

Figure 17 below shows the mean effect size for each child outcome, with number of studies indicated in parentheses above each bar. As can be seen, the average strength of evidence for core self-regulation outcomes assessed at this age is between small and medium. For more functional outcomes, the strength of findings varies across domains, with measures of language and learning obtaining a medium to large average effect size, interpersonal findings small to medium, health findings small, and mental health outcomes negligible. However, the number of studies assessing each domain must be taken into consideration, with behavior regulation and interpersonal findings the most commonly assessed. Likewise, the developmental stage should be considered: milestones for children birth through aged two are more focused on language and attachment, which showed the larger functional outcomes across studies.

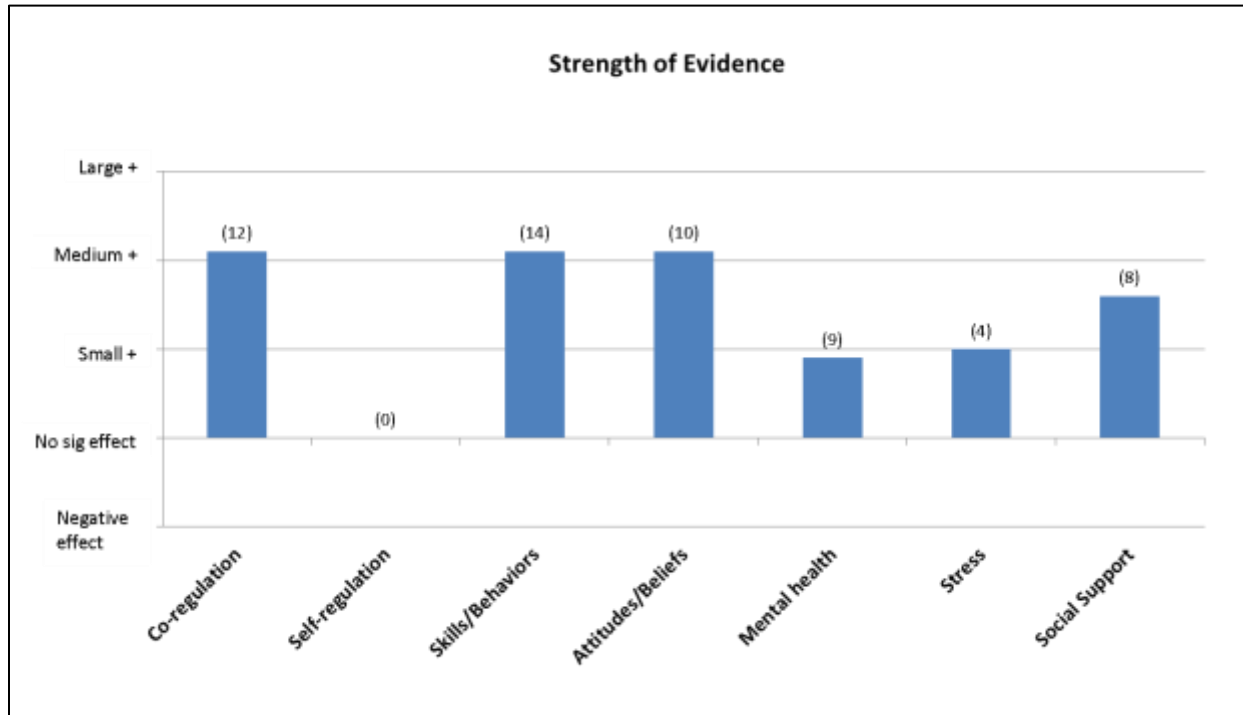
Figure 17. Child Outcomes: Birth through Age 2



Parent Outcomes: Birth through Age 2

Parenting outcomes for this age group appear to be slightly larger than child outcomes, perhaps because parents are directly targeted by the interventions. In addition to co-regulation outcomes, broader parenting skills/behaviors, attitudes/ beliefs, and social support achieved an average medium effect size. Parent mental health and stress outcomes were fairly small, on average.

Figure 18. Parent Outcomes: Birth through Age 2



Conclusions and Limitations: Birth through Age Two

Overall, these data suggest that there are meaningful positive outcomes for parenting skills and co-regulation, which were directly targeted in interventions for this age group. This appears to translate reliably to child improvements in behavioral regulation and attachment in babies and toddlers. The majority of interventions assessing child stress (primarily through biological measures such as salivary cortisol) also found improvements. However, there is considerable variability across studies with regard to the strength of evidence. Differences in outcomes by intervention and domain are itemized in Appendix C. Given increasing numbers of very young children spending time in child care, it also appears that there is a gap in research on interventions implemented by or for child care providers.

Limitations of these findings include a small number of studies assessing most outcome domains, meaning that estimates may not be fully reliable. Also, the most frequently used measures of child outcomes were based on parent report; given that parents were involved in the interventions this may introduce some bias. It should also be noted that these results are based primarily on interventions with risk populations, using clinical staff, and often in a home-visiting program. Thus, these findings may not generalize to programs such as Early Head Start.

Box 5. Summary of Results for Birth through Age 2

Results:

- Moderate to large effects on parents' warmth and responsiveness, skills, and attitudes; parents also report improved mental health and social support; such effects impact the environment in a way that may translate into long-term benefits for young children
- Small to moderate benefits seen on child behavioral regulation and attachment/social interactions
- Considerable variability across programs, with many failing to show significant effects

Strengths: All studies were RCTs; risk and diversity of samples appears comparable to ACF populations

Limitations: Relatively small number of studies, the majority of child outcomes are based on parent ratings while parents are participants in the intervention

Preschool Outcomes (≈3-4 years)

To provide context for understanding outcomes for preschool-aged children, important study and intervention characteristics for the reviewed literature are summarized in Box 6:

Box 6. Features of Study and Intervention Characteristics for Preschool-Aged Children (3-4 years)

Study Characteristics:

- Large numbers of studies ($n = 75$), majority delivered universally
- Half of the samples live in adversity or are at-risk, suggesting strong application to those served by ACF programs
- 59% of participants were from a minority background (34% African-American and 25% Hispanic)

Intervention Characteristics:

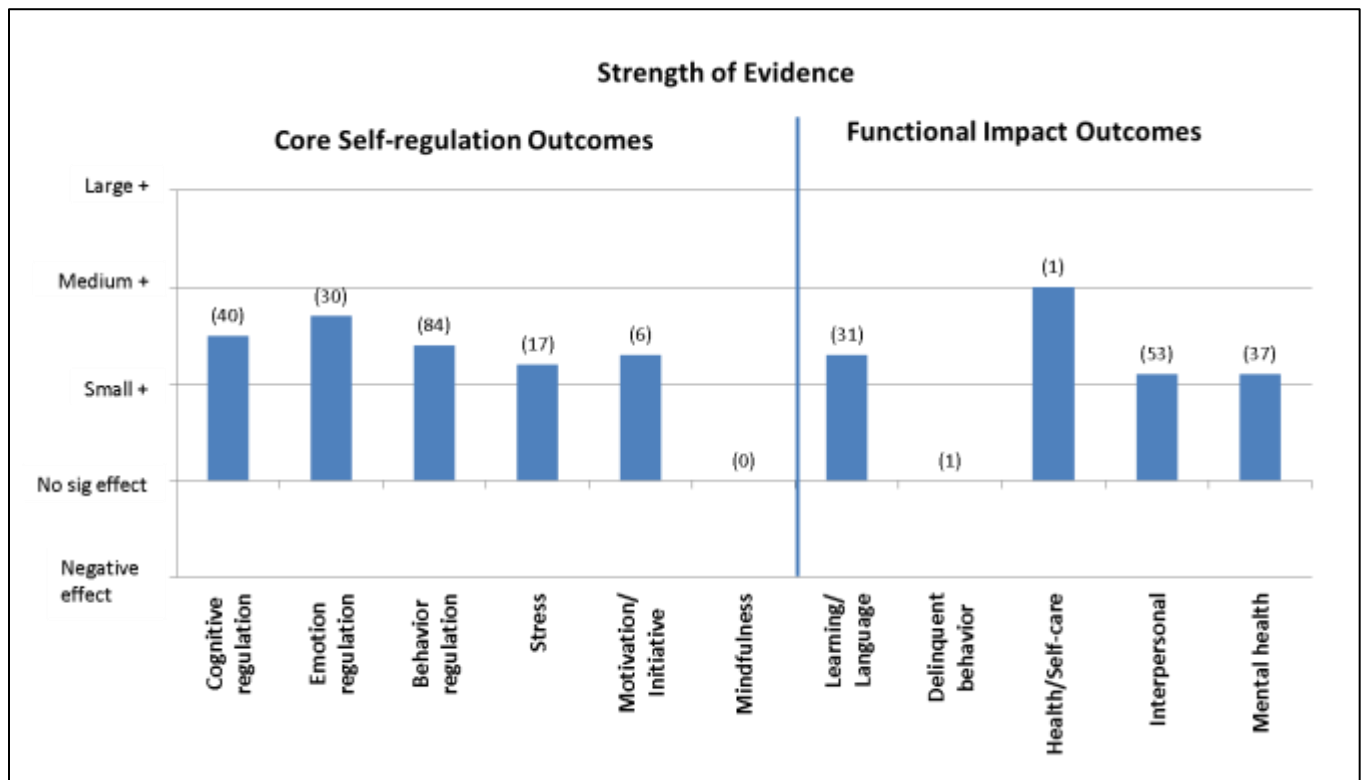
- Almost half were implemented across a full year of preschool (30 = modal # sessions)
- Almost 60% were implemented in daycare/preschool; 20% were implemented in homes
- Almost 80% of studies directly targeted children with the intervention; 57% targeted parents and 23% targeted teachers
- Over 70% of interventions provided implementation supports
- Example programs include: Triple P, Incredible Years, PATHS, Parent Corps, Tools of the Mind, Head Start REDI (see Appendix C for full list)

Child Outcomes: Preschool-Aged Children

Figure 19 below shows the mean effect size for each child outcome, with number of studies indicated in parentheses. As can be seen, the average strength of evidence for core self-regulation outcomes is between small and medium, based on a reasonably large number of studies for many outcomes. In particular, there are a very large number of behavior regulation outcomes, as a result of more than one measure of behavior regulation being assessed in several of the individual studies.

The strength of evidence for interventions in this age group is remarkably similar across different domains of self-regulation. Small to moderate effects are seen on cognitive, emotional, and behavioral self-regulation in the majority of interventions studied, which may be because direct skills instruction with children was used in most of the studies. Stress experiences also decrease with a small but significant effect for almost half the studies that assessed this construct. For more functional outcomes for preschoolers, the strength of evidence is slightly more variable but generally in the same range. In particular, language/learning, interpersonal skills/relationships, and mental health appear to be promising outcome domains; however, fewer than half the studies assessing functional outcomes found positive effects.

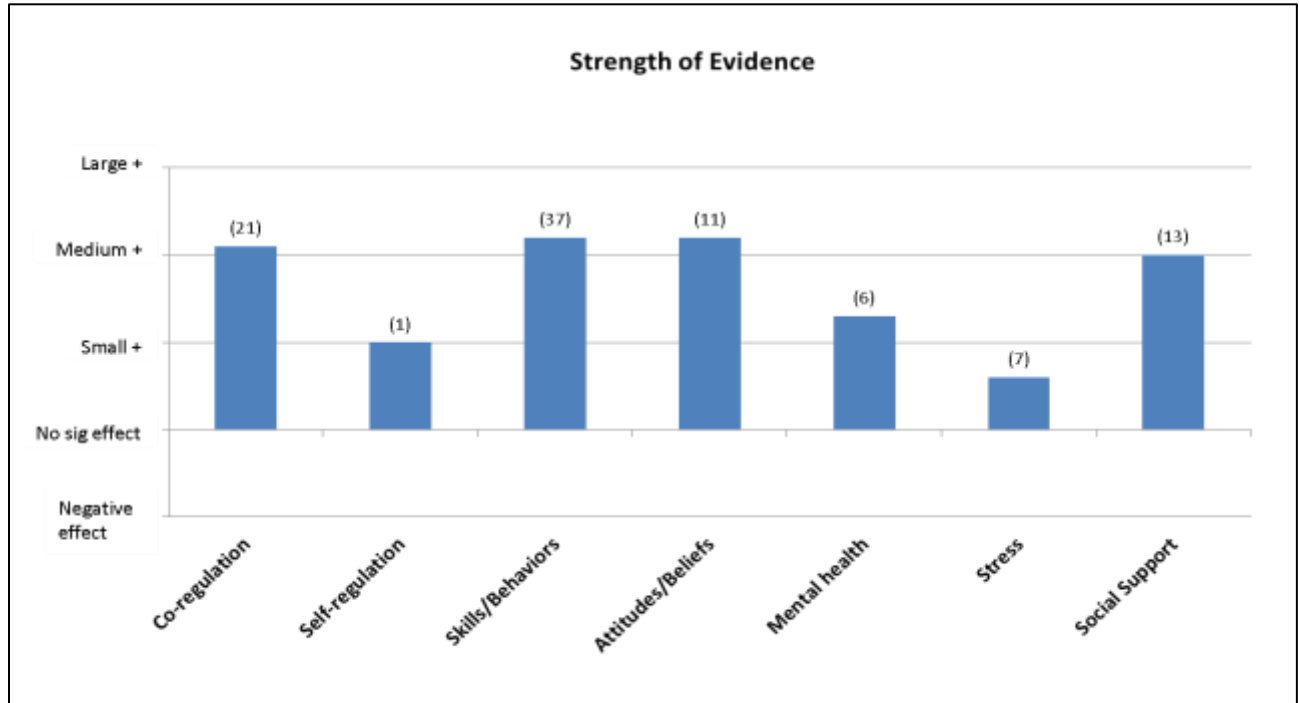
Figure 19. Child Outcomes: Preschool-Aged Children



Parent and Teacher Outcomes: Preschool-Aged Children

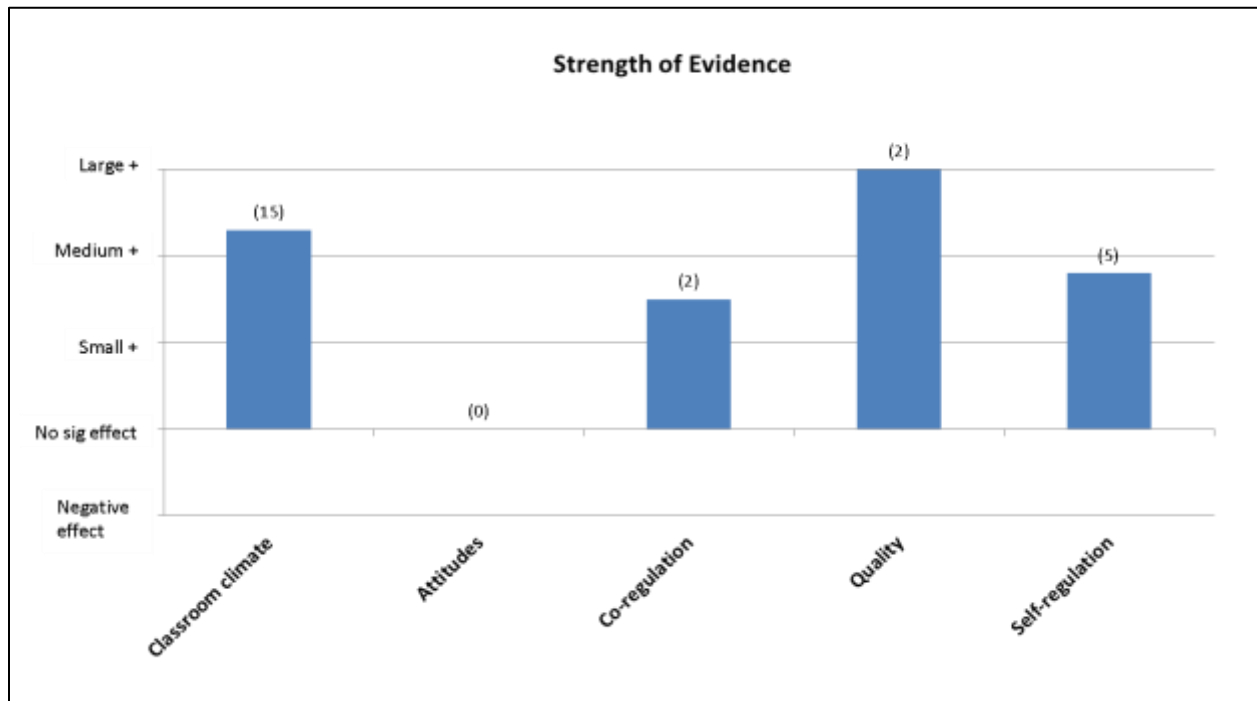
Similar to outcomes for Birth through Age Two, the strength of evidence for parenting outcomes (see Figure 20) is somewhat larger on average than are child outcomes. Several findings have effect sizes in the medium range, suggesting meaningful improvement, including those we theorize are most likely to contribute to children’s growth in self-regulation skills (i.e., parenting skills and co-regulation). In addition, parent attitudes/ beliefs and social support (including co-parenting) appear to reliably improve with intervention.

Figure 20. Parent Outcomes: Preschool-Aged Children



The strength of evidence for teacher interventions for preschool-aged children is also generally moderate to large, although the number of studies evaluating these outcomes is relatively small. Nonetheless, effects in the small to medium range in areas most likely to contribute to growth in child self-regulation skills (i.e., classroom climate and co-regulation) suggest opportunity for meaningful improvement.

Figure 21. Teacher Outcomes: Preschool-Aged Children



Conclusions and Limitations: Preschool-Aged Children

Broad, substantive changes in self-regulation can be obtained with comprehensive interventions during the preschool years, with positive impacts seen on cognitive and emotional regulation along with behavior and stress. A variety of intervention approaches appear effective, including those that focus on direct skills instruction with children and those that focus on caregiver co-regulation.

Although many effective self-regulation interventions exist for this age, close to half of these are lengthy in duration (e.g., more than 30 sessions). Also, despite the effectiveness of interventions targeting parenting, fewer than half of the studies included this approach. This may reflect general challenges in implementing school-based parenting programs. Similarly, teachers are often overlooked for their role in creating a positive classroom climate and providing co-regulation support.

Box 7. Summary of Results for Preschool-Aged Children (3-4 years)

Results:

- Consistent medium positive effects on adult caregivers, including parent co-regulation, skills, attitudes, & support as well as teacher-led classroom climate (when targeted)
- Small to medium effects on cognitive, emotional, and behavioral self-regulation in children, although this reflects considerable variability across programs, with some having no effects and others having large effects (see Appendix C)
- Effects are seen on direct observation measures as well as biological measures (e.g., on stress) and parent/teacher report
- About half the interventions have a positive effect on stress and functional outcomes like learning, social competence, and mental health
- Comparable child outcomes are seen for different intervention approaches, including co-regulation only, child skills only, and the combination of co-regulation and child skills

Strengths: Large number of studies have examined several different types of outcomes; over 40% of the outcome measures were direct assessments of child skills/behavior; most interventions are implemented universally in preschools

Limitations: Typical intervention duration is lengthy; parent and teacher intervention approaches are under-utilized

Elementary Outcomes (≈5-10 years)

To provide context for understanding outcomes for elementary-aged children, important study and intervention characteristics for the reviewed literature are summarized in Box 8:

Box 8. Key Features of Study and Intervention Characteristics for Elementary-Aged Children

Study Characteristics:

- Large number of studies ($n = 134$), the majority of which are universal
- Half of the samples live in adversity or are at-risk, suggesting application to those served by ACF programs
- 47% of participants were from a minority background (30% African-American and 17% Hispanic)

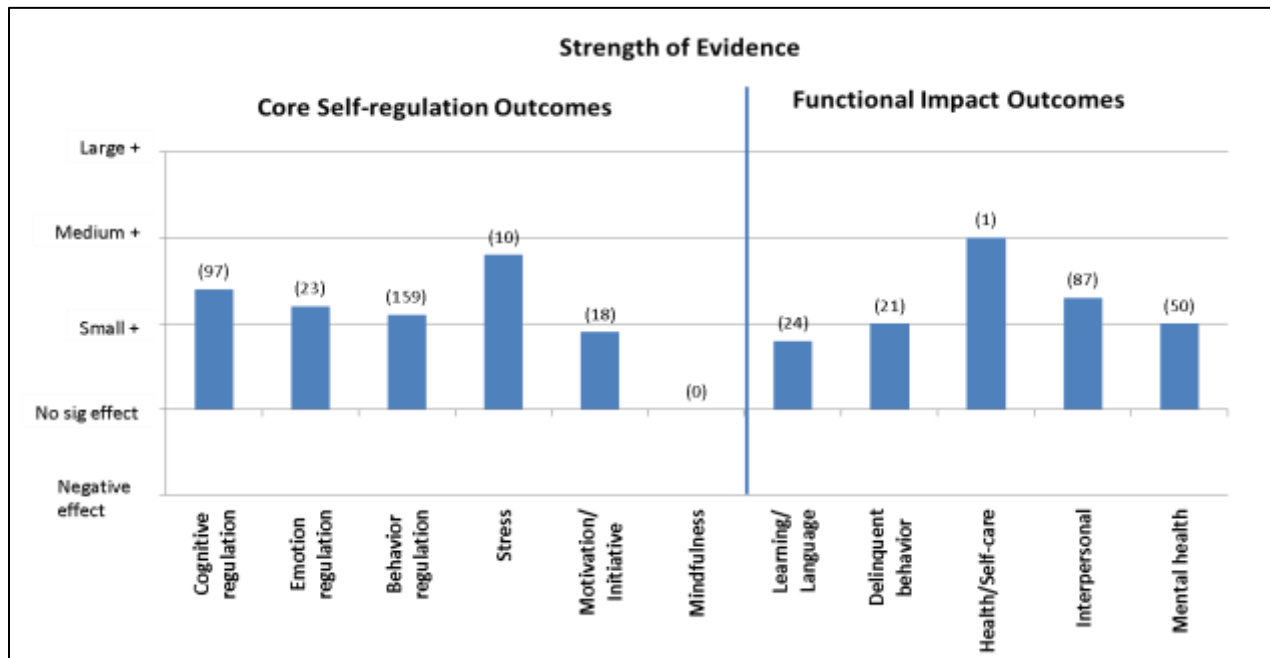
Intervention Characteristics:

- About 3/4ths of interventions were implemented in schools
- Few interventions include co-regulation (1/3rd targeted parents; 10% targeted teachers); only 1/4th combined skills instruction and co-regulation approaches
- Half the interventions were implemented by teachers; the others by clinicians or other trained staff
- Intervention length varied widely, with about a third being 6-12 sessions long, a third 13-29 sessions, and a third more than 30 sessions in duration
- Typical interventions for this age group include FAST Track, Strengthening Families, Making Choices, I can Problem-Solve, Strong Start, Second Step, mindfulness, yoga, and computerized attention training

Child Outcomes: Elementary-Aged Children

As can be seen in Figure 22, there are small effects overall on a range of core self-regulation skills and functional domains, with cognitive and behavioral self-regulation and interpersonal functioning being most commonly assessed. However, these effects vary greatly across interventions, with some having large positive effects in particular areas and others being non-significant (see Appendix C for a breakdown of findings by intervention). The outcome domain with the most consistent medium to large positive effect was stress, although a relatively small number of studies assessed this. Positive change in the domain of stress is encouraging given the large numbers of participants living in adversity or who might be considered “at-risk”.

Figure 22. Child Outcomes: Elementary-Aged Children



Parent and Teacher Outcomes: Elementary-Aged Children

Parent outcomes for this age group, depicted in Figure 23, reflect small to medium effects on co-regulation, parenting skills, and attitudes/beliefs. What is notable, however, is how infrequently parent outcomes are targeted and measured (approximately one-third of studies). Similarly, in Figure 24, there is evidence that classroom climate can improve when targeted, although only 10% of studies included teacher-directed interventions.

Figure 23. Parent Outcomes: Elementary-Aged Children

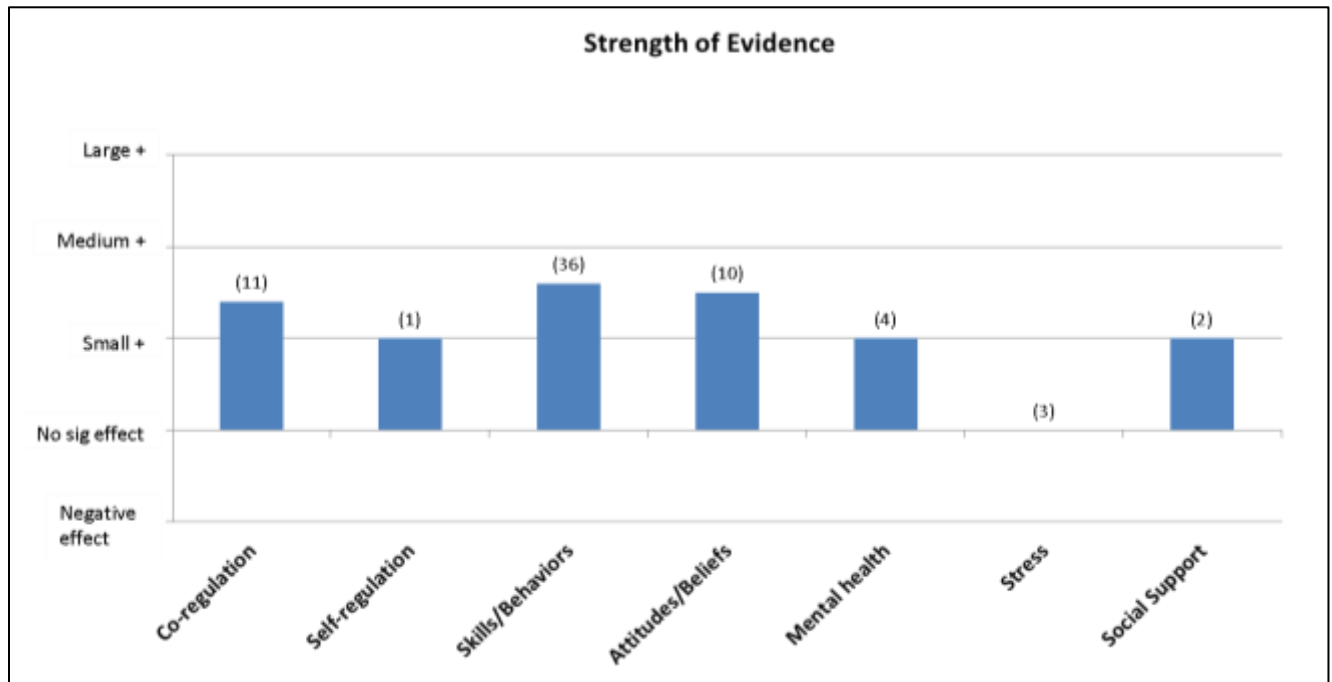
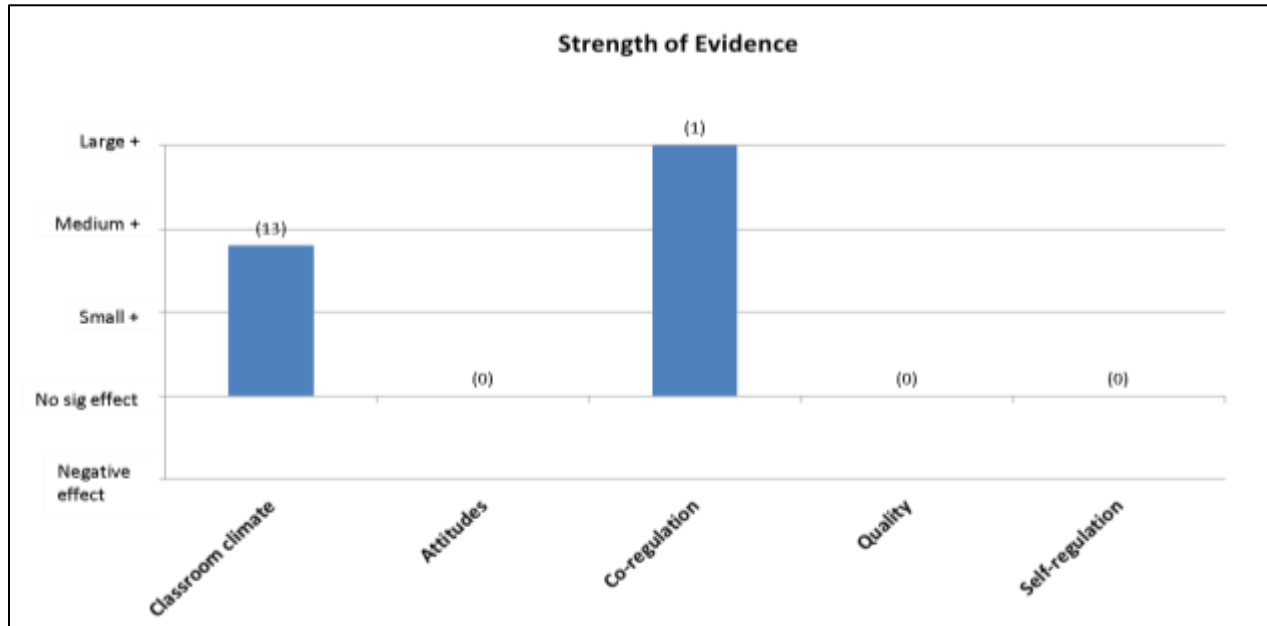


Figure 24. Teacher Outcomes: Elementary-Aged Children



Conclusions and Limitations: Elementary-Aged Children

Broad, yet relatively small changes are obtained with interventions that are primarily child skill focused, with little parent or teacher involvement in interventions. However, these average findings mask the tremendous variability seen across different interventions, with some having medium to large effects and others being non-significant. Averaging across studies, small to medium effects are also seen on parent outcomes, reflecting less benefit than for younger children, possibly because parents are less intensively targeted. Small positive effects are noted on classroom climate (measured in a relatively small number of studies). A major limitation for this age group, as with others, is that few interventions include a co-regulation approach.

Box 9. Summary of Results for Elementary-Aged Children

Results:

- There is broad positive (albeit relatively small and highly variable) impact overall across a number of core and functional domains, including cognitive, emotional, and behavioral self-regulation, stress, delinquent behavior, interpersonal relationships, and mental health
- Parenting outcomes are more variable at this age compared to early childhood (only 50% show positive results)
- When teachers are taught positive behavior management skills and ways to build relationships with students, classroom climate improves measurably

Strengths: Large numbers of studies have examined several different types of outcomes; over 60% of the outcome measures were direct assessments of child skills/behavior

Limitations: Lack of interventions targeting parents and teachers; tremendous variability in effects across interventions

Middle-School Outcomes (≈11-13 years)

To provide context for understanding outcomes for middle-school-aged children, important study and intervention characteristics for the reviewed literature are summarized in Box 10:

Box 10. Key Features of Studies and Intervention Characteristics for Middle-School-Aged Children

Study Characteristics:

- Large number of studies ($n = 78$), the majority of which are universal (73%)
- Slightly fewer than half (40%) target youth living in adversity or those who are at-risk, primarily through work in high poverty schools
- 53% of participants were from a minority background (35% African-American and 18% Hispanic)

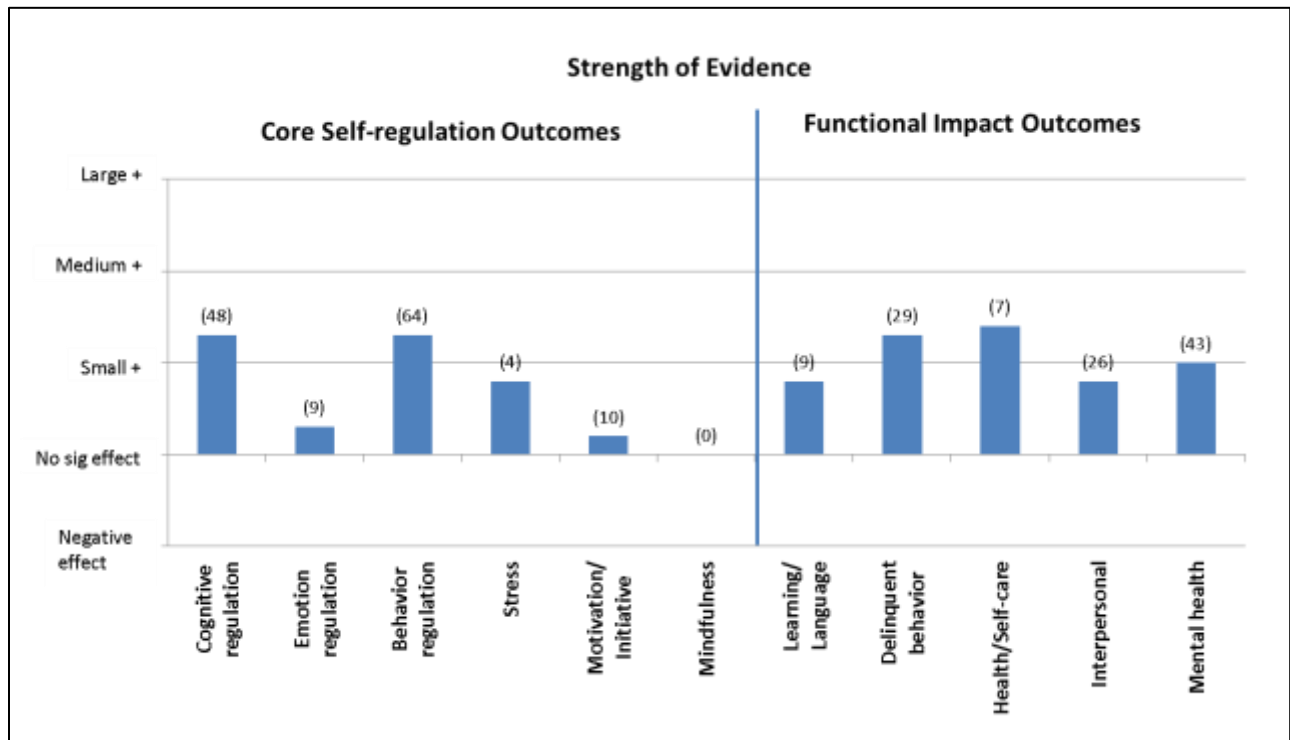
Intervention Characteristics:

- Almost 80% of interventions were implemented in schools
- The most typical length of interventions was 6-12 sessions, representing about 50% of studies
- Few target parents (20%) or teachers (10%) with co-regulation interventions, although caregiver involvement was more likely for youth targeted due to living in foster care or with substance-using or divorced parents
- Very few (14%) include skills instruction AND co-regulation approaches
- A variety of programs were evaluated for this age group, including: Coping Power, Multisite Violence Prevention, SEAL (Going for GOAL), Family Check-Up and a variety of other coping, life skills, problem-solving, conflict-resolution and youth development programs; some mindfulness programs and a few self-regulated learning interventions were also included

Youth Outcomes: Middle-School-Aged

As indicated in Figure 25 below, the most commonly assessed outcomes for this developmental group are cognitive and behavioral regulation and mental health. Effects also appear to be strongest in these areas, in addition to delinquency and health/self-care. However, these effects are generally small when averaged across studies. Around half of the studies reviewed for each outcome domain failed to find any significant effects, while others found medium or large effects. Of concern is that effects on emotion regulation and motivation/initiative appear quite limited. Indeed, interventions for this developmental group appear to give limited attention to these target areas, despite their particular relevance for the early adolescent developmental period.

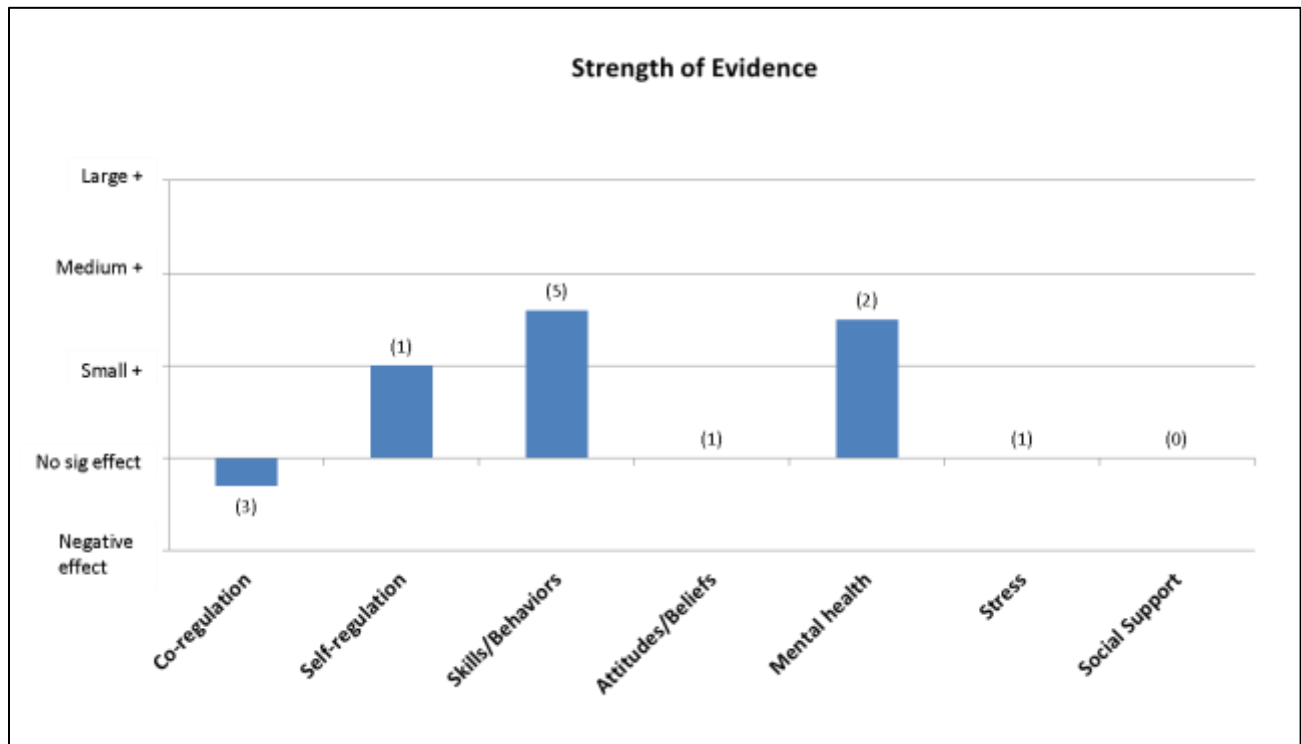
Figure 25. Youth Outcomes: Middle-School-Aged



Parent Outcomes: Middle-School-Aged Youth

Figure 26 depicts parent outcomes for this age group. Small to medium effects are seen on parenting skills and mental health, with notably lower effects than for younger children. A few studies also suggest a negative effect for parent co-regulation (warmth and responsivity), which is difficult to interpret given differences in measures of this construct for adolescents vs. younger children. Overall, very few studies assessed outcomes for parents, likely because few interventions targeted caregiver skills. Only one study in this developmental group measured outcomes specifically for teachers and an effect size could not be calculated with information provided in the article, so no evidence is available to address impact of interventions on classroom climate.

Figure 26. Parent Outcomes: Middle-School-Aged Youth



Conclusions and Limitations: Middle-School-Aged Youth

Overall, intervention effects for this developmental group appear somewhat smaller than for younger children, although there is measurable improvement in cognitive and behavioral regulation as well as in functional outcomes like health and delinquency. These conclusions must be considered in light of the significant variability in findings across studies and limitations in the interventions being evaluated. First, interventions for this developmental group are more diverse and diffuse than those seen for younger children. In addition, there is little focus on emotion regulation in interventions for this developmental group, which appears to be a significant gap area given the developmental needs of young adolescents. There are also very few interventions that target parent or teacher skills and behaviors. Finally, the majority of studies assess youth outcomes based on self-report only.

Box 11. Summary of Results for Middle-School-Aged Youth

Results:

- Primarily small overall effects on child self-regulation and functional domains, although this reflects considerable variability across different programs, with many finding no significant effects
- Positive effects on parenting skills and parents' mental health when targeted
- Most promising benefits are seen for cognitive and behavioral regulation and delinquent behavior; this is consistent with the targeted goals of typical middle-school interventions
- Limited impact on emotion regulation, despite the developmental need at this age; this may be due to lack of intervention focus on this domain

Strengths: Relatively large number of studies assessing a variety of outcomes; caregivers are fairly consistently involved for those youth in foster care, or whose parents are divorced or substance-using

Limitations: Relatively few interventions target parents or teachers, even though teachers are commonly providing curricula in a universal approach; studies often assess outcomes based upon youth report or direct assessment, excluding parent/teacher reports



High-School Outcomes (≈ 14-18 years if in school)

To provide context for understanding outcomes for high-school-aged children, important study and intervention characteristics for the reviewed literature are summarized in Box 12:

Box 12. Key Features of Study and Intervention Characteristics for High-School-Aged Youth

Study Characteristics:

- Few studies ($n = 36$) were identified for this age group, the majority (72%) of which were universal
- 39% included samples living “in adversity” or considered “at-risk”; most of these were for students with risk characteristics
- About 60% of participants were from a minority background (45% African-American and 14% Hispanic)

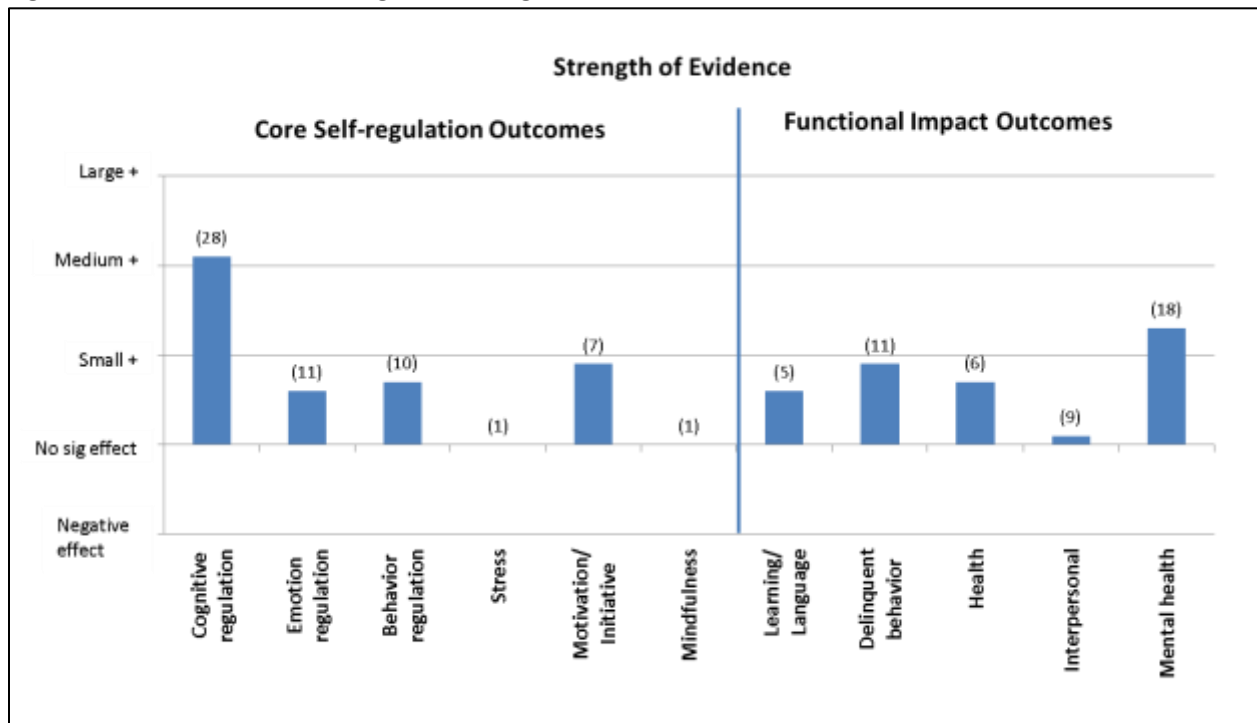
Intervention Characteristics:

- Over 80% of interventions were implemented in schools
- Only 2 studies used a co-regulation approach (in combination with skills instruction) and none targeted teachers; over 90% used direct skill instruction alone
- More than half of the interventions were 12 sessions or fewer
- Almost 40% of the interventions were implemented by teachers; most of the others were delivered by clinicians, university staff, or other trained staff
- A wide range of programs were evaluated for this age group including: life skills, leadership, problem-solving, conflict-resolution and several mind-body interventions; several interventions are also computer-administered

Youth Outcomes: High-School-Aged

As indicated in Figure 27 below, the strongest intervention effects are seen for cognitive regulation, which is the most commonly assessed outcome domain and consistent with the focus of many interventions for this age group. Mental health is the only other domain that has average effects that are more than small. Relatively consistent albeit small effects were also seen for delinquent behavior, which may be meaningful given low base rates of such behaviors and significant consequences for their occurrence. Of concern is the limited impact on social-emotional outcomes (emotion regulation and interpersonal), although the number of studies evaluating for this is relatively small.

Figure 27. Youth Outcomes: High-School-Aged



No conclusions can be made regarding the effects of interventions on parents and teachers as only three relevant findings were obtained, each with non-significant results. Theoretically, involving parents and teachers in co-regulation support activities may provide greater benefit for youth outcomes than focusing on direct skills instructions with teens alone.

Conclusions and Limitations: High-School-Aged Youth

Many interventions evaluated for this developmental group appear rather diffuse in nature (e.g., coping with stress, “life skills”, empowerment), without well-developed theoretical frameworks. There was a strong focus on cognitive regulation (with good outcomes), but perhaps overlooking the emotional regulation needed for successful relationships and social-emotional adjustment, as well as for empathic connections that support prosocial decision-making. Although schools are often a site for interventions, teachers are rarely taught to support students’ self-regulation. Similarly, parents are not generally being involved in co-regulation activities, which theoretically could enhance outcomes for this developmental group.

Box 13. Summary of Results for High-School-Aged Youth

Results:

- Moderate and relatively consistent effects on cognitive self-regulation
- Small effects on youth mental health (although outcomes vary considerably across studies) and delinquency; this latter small effect may translate to meaningful improvements for higher-risk youth
- Minimal overall effects on a variety of other self-regulation and functional domains assessed
- Some programs are considerably more effective than others, which may reflect differences in intervention approaches

Strengths: Youth from minority backgrounds are well-represented in studies for this age group

Limitations: Studies are less rigorous than those seen at younger ages, with fewer RCTs and less implementation support; caregivers are not being included to support self-regulation skill development

Young Adult Outcomes (≈ 18-25 years)

To provide context for understanding outcomes for young adults, important study and intervention characteristics for the reviewed literature are summarized in Box 14.

Box 14. Key Features of Study and Intervention Characteristics for Young Adults

Study Characteristics:

- Relatively few studies ($n = 23$) were identified for this age group
- The large majority (87%) were universal interventions, many of which were implemented in college settings with undergraduate or graduate students
- 17% included samples considered “at-risk”; none included youth living “in adversity”
- 33% of participants were from a minority background (22% African-American and 11% Hispanic)

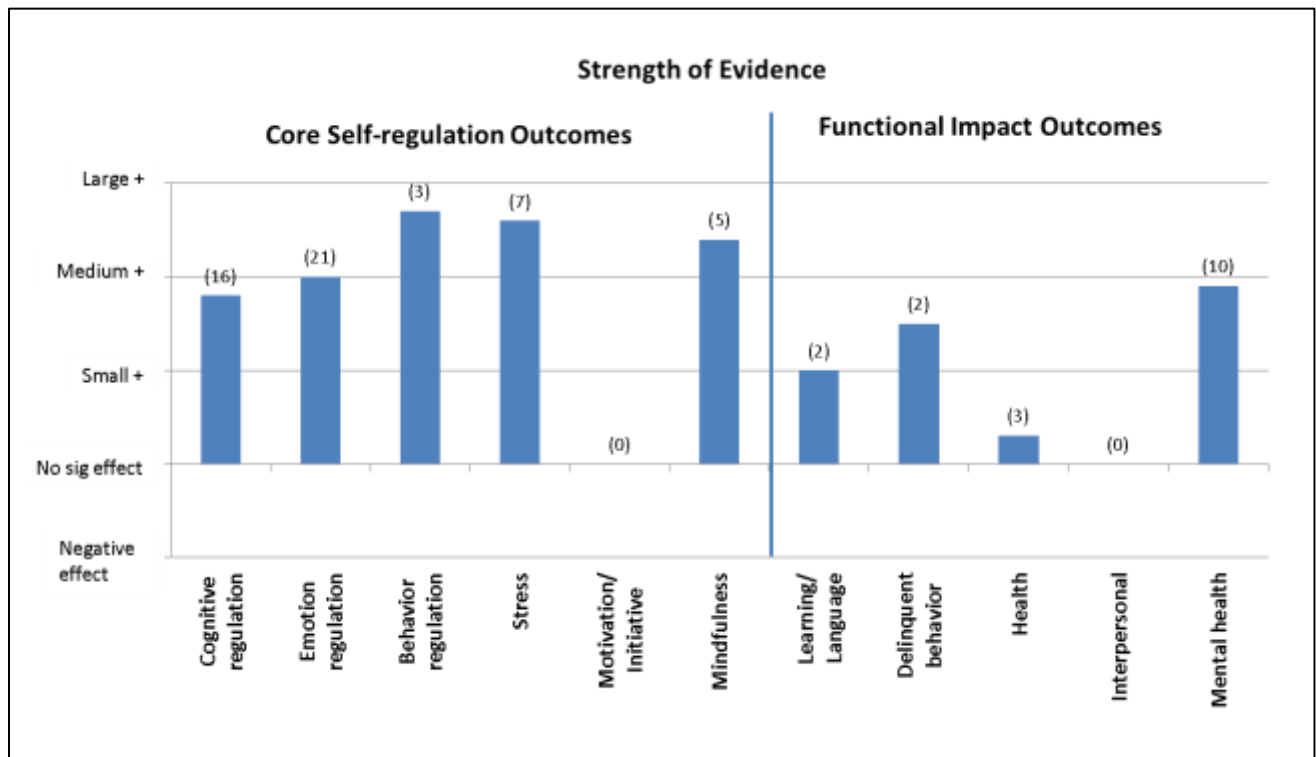
Intervention Characteristics:

- Almost half the interventions were implemented in a research laboratory; about 1/4th were implemented in a more general college setting
- No studies used interventions with a co-regulation approach or involved the youth’s parents as participants
- Over half the interventions were five sessions or less
- Interventions were implemented (in relatively equal numbers) by clinicians, university staff, other trained staff, or computers (22%)
- Interventions evaluated for this age group included a relatively large number of mind-body interventions; they also focused on stress management and resilience, cognitive modification, and life skills

Young Adult Outcomes

As can be seen in Figure 28, there are a number of medium to large effects across self-regulation domains including stress and mindfulness, as well as in the area of mental health. Cognitive and emotional regulation were most commonly assessed in the studies reviewed, and both show clear impact. This positive impact on emotion regulation at this age (unlike for younger adolescents) may reflect the inclusion of several mind-body interventions for this age group. There are nonetheless some studies that do not find significant effects in different domains, reflecting the variability in outcomes we have seen for other developmental groups.

Figure 28. Youth Outcomes: Young Adult



Conclusions and Limitations: Young Adults

Using almost exclusively direct skills instruction, with many computer-administered interventions, substantive positive effects on self-regulation are seen across a number of areas. Interventions in this age group were more focused than those in the earlier adolescent age groups, with outcomes that appeared highly aligned with interventions, perhaps contributing to the positive outcomes. However, there are areas where important impacts have not been assessed (and for which we did not identify any studies measuring outcomes), including motivation/initiative and interpersonal outcomes. Also, for this older population, the critical life skill of job performance has not been addressed at all in the self-regulation literature. The encouraging findings that have been identified must be interpreted within the context of the small number of studies for this developmental group and narrow sample characteristics, i.e., no youth living in adversity and relatively low rates of minority participants. Thus, the generalizability of these data to other samples, such as those served by ACF programs, is questionable.

Box 15. Summary of Results for Young Adults

Results:

- Medium to large effects in a number of core self-regulation domains including emotion regulation, stress, and mindfulness
- Small to medium effects are seen on broader functional domains including learning, delinquency, and mental health
- These encouraging effects must be interpreted within the context of the narrow sample characteristics and measures which appear to be highly aligned with interventions (especially for cognitive outcomes)

Strengths: Outcomes include cognitive performance tasks and biological stress reactivity measures in addition to youth self-report.

Limitations: Samples do not include any youth at this age living in adversity and have relatively few minority participants, restricting the generalizability of results; small number of studies; no interventions involved parents; no studies assessed motivation/initiative or interpersonal outcomes; measures appear to be highly aligned with interventions (especially for cognitive outcomes)

Study Characteristics Related to Intervention Outcomes

Given the large variability in study findings, even for the same types of outcomes within developmental groups, we looked at a number of possible predictors that might explain this variability. These exploratory analyses were conducted separately for younger children (Birth through Elementary) and older youth (Middle and High School) in order to have an adequate sample size. Young adults were not included in these analyses because they were so different from the other youth samples and interventions (e.g., higher income, low-minority college student samples with short, highly-targeted interventions). Within the two broader groups examined, analyses controlled for developmental group and type of outcome so that we could more clearly identify and interpret predictor effects.

Regarding the specific analytic approach, general linear models were used to predict effect size strength. Variables examined as predictors included: type of intervention (skills instruction, co-regulation, or both); risk level of the sample (in adversity, at risk, or general population); targeted versus universal approach; duration of the intervention; outcome type (e.g., parent rating, observation, direct assessment, self-report); and intervention delivery agent (e.g., teacher, clinician, university staff). We hoped to learn more about the types of samples and interventions achieving the largest effects within the studies reviewed.

Specific findings that emerged within younger and older age groups are described next.

Younger Children (Birth through Elementary School)

Table 5 describes the significant predictors of outcomes for programs aimed at children birth through elementary school. There were several factors related to stronger outcome effects identified in our analyses. Most of these are readily interpretable, such as obtaining larger effects when interventions

are longer, and better outcomes for parents or teachers when co-regulation is a specific target of the intervention. Also of significant interest are the findings that younger children living in poverty appear to respond best to interventions that include child skills instruction whereas children who are living in adversity because of caregiver risk factors respond best when their caregivers are provided support through co-regulation interventions. Other findings may require additional hypothesis testing to accurately interpret. For instance, it may be that stronger parent outcomes are seen in universal approaches because these samples include families with fewer risk factors, or it may be that a universal approach supports parent change through culture shift or enhanced social support. Likewise, parent outcomes may be stronger following university-based programs because these have stronger monitoring and fidelity. Again, though, these are hypotheses that would require additional evaluation to verify. Although these results should be considered exploratory, they suggest possible directions for future research as well as potential selection of interventions for different populations and to achieve effects on different types of measures.

Table 5. Significant Predictors of Outcomes for Younger Children

If you are Interested In	You may get Stronger Effects When
Children living in poverty	Child skills instruction is included in interventions
Children living in adversity for other reasons (e.g., divorced or substance-using parents)	Co-regulation approaches are included in interventions
Seeing improvements on parent-report measures about children (i.e., improving parent perceptions of child functioning)	Co-regulation interventions for parents are used
Seeing improvements in teacher outcomes	Co-regulation interventions for teachers are used
Seeing improvements on direct assessments of child skills, observations, or teacher reports	Direct skills instruction interventions are used
Seeing improvements on parent outcomes	<ul style="list-style-type: none"> • Universal approaches are used instead of targeted approaches • Interventions are delivered through a university
Seeing positive effects overall	Interventions are longer than 5 sessions

Older Youth (Middle and High School)

For middle and high school youth, there were fewer identified predictors of positive effects (see Table 6). One encouraging finding was that youth with at-risk behaviors or other health or well-being risks showed stronger intervention effects, likely because they had more room for improvement. However, youth living in poverty were less likely to respond to interventions. This concerning finding must be considered in the context that there were actually a very small number of studies targeting such youth, and it is certainly possible that other study, sample, or intervention characteristics (such as short duration or lack of co-regulation components) contributed to this effect. Also of potential concern is that interventions delivered by teachers (which is the most common approach seen for middle and high school youth) appeared to be the least effective. This suggests a potential method for enhancing

outcomes by providing more co-regulation training to teachers and/or involving other staff (e.g., school counselors) in the delivery of school-based interventions.

Table 6. Significant Predictors and Outcomes for Older Children and Youth

If you are Interested In	You may get Stronger Effects When
Seeing positive effects overall	<ul style="list-style-type: none"> • At-risk youth are targeted (e.g., those with individual risk factors such as behavioral, mental health, or health concerns) • Youth who are NOT living in poverty are targeted (e.g., intervention is universal in a general population) • Interventions are delivered by agents other than teachers (e.g., school counselors or university staff)

Surprisingly, there was no specific advantage for type of intervention approach (e.g., skills instruction, co-regulation, or the combination) for either younger children or older youth.


Conclusions

Despite the variability in self-regulation intervention approaches and measures both across and within developmental groups, our literature review identified positive and meaningful impact on both core self-regulation as well as functional domains. Importantly, however, some interventions resulted in consistent and strong effects, whereas others found few or no significant effects. The following take-home points are helpful in summarizing our findings. **Regarding gaps in existing interventions:**

- After preschool, relatively few interventions focus on enhancing parent or teacher skills to support co-regulation, which we believe is critical at all ages.
- Few interventions focus on increasing caregiver self-regulation, which may enhance parents’ and teachers’ abilities to provide co-regulation supports and teach self-regulation effectively.
- Many school-based interventions involve curricula delivered by teachers or other school staff, yet those interventions do not seem to focus on enhancing their ability to provide co-regulation.
- Interventions for adolescents are more diffuse and briefer than those for younger children.
- There is a lack of attention to emotion regulation in middle and high school.
- There are no strategic approaches to building self-regulation skills developmentally over time similar to the way schools teach literacy, with skills instruction increasing in complexity as more basic skills are mastered.

Regarding the findings of our intervention review:

- More comprehensive and longer interventions appear to have broader effects across a number of domains. Programs that are more targeted in focus may yield larger effects on measures that are well-aligned with the interventions, but these appear less likely to generalize across domains and into functional areas.


- 
- Outcomes differ between younger children and older youth. There is also some indication that intervention outcomes may vary based upon whether children are living in poverty or are at-risk, although the direction of these effects are not consistent. Thus, these findings should be considered exploratory at this point, with more specific focused research needed.
 - Surprisingly, there are no clear benefits from any one type of intervention approach. This is encouraging in that it suggests multiple avenues for effective interventions and opportunities for combining approaches to maximize results. At the same time, new approaches that are theoretically-based and comprehensive are needed.

Given the profound impacts that self-regulation can have across areas of functioning into adulthood, and given that no single intervention is likely to achieve lifelong self-regulation goals, we suggest that comprehensive interventions 1) include both universal as well as targeted interventions, 2) be implemented across development and settings, and 3) combine explicit and intentional self-regulation skills instruction to children and youth with co-regulation interventions targeting parents and teachers. More specifically regarding each of these points:

- 1) Universal interventions embedded in settings such as schools are likely to shift self-regulation development in the overall population. This can provide a cultural shift in accepted behaviors and increased peer support for self-regulation. Targeted interventions for those needing more intensive assistance can supplement universal instruction, much as reading specialists provide supplemental intervention for students who struggle with literacy.
- 2) Ideally, self-regulation development supports would be provided strategically and systematically at different ages as children grow, develop skills, and face new challenges. If strong supports are provided when children are younger, it is possible that only shorter “booster” interventions would be needed at older ages for most children to deepen developmentally-relevant skills. For youth living in poverty, early interventions appear critical.
- 3) Although our current data analyses were not able to determine this, we predict that combining direct skills instruction with co-regulation interventions over time will yield the strongest benefits to children and youth. This approach would give children the knowledge and skills they need for self-regulation, but would enlist caregivers to support actual implementation of these skills in complex, emotionally-charged, real-world situations.

Limitations

Limitations of this work vary across age groups and have been previously specified. In general, many studies have small sample sizes, which may decrease power for detecting significant effects. In addition, measurement of self-regulation constructs is not typically well-specified, at least after early childhood. Therefore, weaker intervention effects could be related in part to a lack of good measures for older youth, particularly with regard to co-regulation. There is also an over-reliance on self-report measures in older adolescents and young adults and frequent use of computerized measures, which may have limited validity for daily functioning. Very few studies are assessing stress during adolescence, which



would seem important to attend to, especially for in-adversity populations. Also, few studies of young adult interventions include minority, at-risk, or in-adversity populations. Finally, fidelity of intervention delivery is assessed in less than a third of the studies, raising questions about whether interventions were delivered as intended and if this could be a reason for the lack of efficacy of some approaches.


Age Group Take-Homes

For children from birth through age two, early interventions with parents and caregivers of young children from high risk backgrounds are clearly effective in building caregiver co-regulation, which is foundational for supporting children's self-regulation development. It is particularly noteworthy that parenting behaviors change in meaningful and measurable ways given that the samples studied include many young children at risk for maltreatment and exposed to domestic violence. Young children also benefit in important ways from these parenting interventions, with greater results expected to accumulate over time.

For preschool-aged children, broad, substantive changes in self-regulation can be obtained with comprehensive interventions during the preschool years, with programs that typically last for several months. A variety of intervention approaches appear effective, including those that focus on direct skills instruction with children and those that focus on caregiver co-regulation. The critical component is that interventions be focused and intentional in targeting self-regulation development, with strategies such as scaffolding and coaching that involve both parents and teachers. Teachers in particular are often overlooked for their role in creating a positive classroom climate and providing co-regulation.

For elementary-aged children, a large number of studies indicate small to medium effects across a range of self-regulation domains using a primarily direct skills approach. These effects are overall smaller than at younger ages, which could reflect limited involvement of parents and teachers or the increased diversity of intervention approaches and outcomes assessed. Smaller parenting effects could be related to the lack of a clear intervention approach for building co-regulation (not simply behavior management) for this age. Given how often teachers are delivering interventions, the lack of attention to enhancing their skills appears to be a significant gap. Thus, more frequent focus on co-regulation approaches for caregivers may result in more powerful self-regulation effects for elementary school-aged children.

For middle-school-aged youth, effects are generally small when averaged across studies, with interventions being more diverse and diffuse than at younger ages. This also reflects that about half of the studies reviewed for each outcome domain failed to find any significant effects. It is certainly also possible that intervention effectiveness at this age is limited by the developmental demands upon self-regulation. Although parenting interventions at this age also appear somewhat less effective than for younger children, this may be related to the lack of a comprehensive intervention approach for building co-regulation during early adolescence. Most interventions for this age group are school-based, which holds promise for enhancing school climate, decreasing environmental stressors, and setting prosocial norms within peer groups. However, this promise is unfulfilled with the lack of attention on supporting teachers and other school staff in their work with self-regulation for youth.



For high-school-aged youth, existing self-regulation interventions have relatively narrow effects (primarily in the cognitive regulation domain) and weaker social-emotional outcomes than for younger children. Small impacts on mental health and delinquency may nonetheless be meaningful, particularly at the population level. Limited effects may be due to the broader, more diffuse approach to interventions, the lack of attention to emotion regulation, or the lack of involvement of caregivers in providing co-regulation support. More effective interventions need to be developed for this age group and more rigorous evaluations conducted. Intervention development is needed to more intentionally focus on self-regulation skills, particularly emotion regulation, and to include caregivers in providing co-regulation.

For young adults, substantive positive effects on self-regulation are seen across a number of areas. However, there are areas where important impacts have not been assessed, including motivation/initiative, interpersonal outcomes, and job performance. Also, the encouraging findings must be interpreted within the context of the narrow sample characteristics, i.e., primarily college samples, no youth living in adversity and relatively low rates of minority participants. It is nonetheless encouraging that emotion regulation improves at this age, in contrast to findings for younger adolescents, perhaps because of the inclusion of a large number of mindfulness-related interventions. Finally, an important take-home is that young adulthood is not too late to teach self-regulation skills and in fact may be ideal for improving outcomes in some domains.

An extensive list of recommendations for each developmental group and relevant programs supported by ACF is available in the final report in this series, entitled *Self-Regulation and Toxic Stress: Implications for Programs and Practice*, which can be found at [INSERT LINK](#).

APPENDIX A: SEARCH TERMS AND CRITERIA


Search terms are shown below. All articles in the review included at least one element from List 1 (intervention-related) and one element from List 2 (self-regulation-related). Note: “*” denotes a Boolean wildcard character.

List 1: Use of intervention

- Intervention
- Program
- Curriculum
- Prevention
- Training

List 2: Self-regulation

- Direct References
 - Self-regulat*
 - Self-regulated learning
- Cognitive Regulation
 - Executive functioning
 - Effortful control
 - Attention**
 - Cognitive flexibility
 - Problem solv*
 - Theory of mind
 - Perspective taking
- Emotional Regulation
 - Feelings identification
 - Soc*-emot*
 - Emotion regulat*
- Behavior Regulation
 - Inhibitory control
 - Delay* gratif*
 - Impulsivity
 - Impulse control
 - Self-control
- Stress-related references
 - Stress reactivity
 - Trauma informed
 - Resilience
 - Toxic stress***
- Program specific references
 - Life Skills
 - Soft Skills
 - Mindfulness



** in article title only

*** used in supplemental search with self-reg* and list 1


Interventions Identified A-priori as Potentially Relevant

- Chicago School Readiness Project (CSRP)
- CSEFEL Pyramid Model
- Tools of the Mind
- Incredible Years (IY)
- Promoting Alternative Thinking Strategies (PATHS)
- Research-based Developmentally informed Program for Head Start (REDI)
- I Can Problem-Solve
- Coping Power
- Good Behavior Game
- Bucharest Early Intervention Project
- Attachment and Biobehavioral Catch-Up (ABC)
- Child First
- ParentCorps
- Cultivating Awareness and Resilience in Education (CARE)
- Positive Action
- Positive Behavior (Intervention) Support
- PeaceBuilders
- Triple P
- Nurse Family Partnership
- Second Step

Inclusion Criteria

Either 1 or 2:

- 1) Evaluates an intervention targeting a theoretical mechanism of self-regulation development (either warm, responsive caregiving or skills instruction in any self-regulation domain – cognitive, emotional, or behavioral)
 - 2) Measures cognitive or emotional self-regulation outcomes
-
- Interventions may target parents or teachers so long as relevant child outcomes are assessed
 - Interventions may target depression, anxiety, substance use, and anger (if not defined as a specific clinical disorder).
 - Interventions may target physical outcomes such as sleep or eating behavior unless limited to clinical populations, i.e., those with eating disorders or obesity.
 - Job interventions were included if they had to do with managing difficult situations on the job or targeted “life skills” necessary to keep or maintain a job, especially jobs that are common for young adults like in the service industry, health care, or the military.

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- Age of subjects – prenatal through age 25 (or “young adulthood”). Studies including older adults were included, so long as young adults were included as well.
 - Available in English
 - Published between 1989 and November, 2013

Exclusion Criteria

- Outcomes limited to indirect measures of self-regulation mechanisms (unless the study described a theoretical self-regulation mechanism of change). Examples of this by domain are as follows:
 - Cognitive – School readiness, general attributional style or depressive thinking
 - Emotional – Social-emotional competence
 - Behavioral – Aggression, defiance, engagement in risk behaviors, and psychopathology
- Clinical samples (i.e., medical illness, obesity, serious developmental delay, any psychiatric disorders including schizophrenia, Social Phobia, GAD, ADHD, autism etc.) as well as incarcerated youth. Although ADHD and PTSD involve clear deficits in self-regulation, these populations are not specifically targeted by ACF programs and were thus excluded.
- Interventions which occur in highly restrictive settings or require mental health clinicians to implement them were excluded.
- Studies of medication, where behavioral intervention cannot be evaluated separately
- Interventions targeting concerns specific to an older adult population (e.g., menopause, cancer)
- Interventions targeting specific concerns unlikely to be targeted in ACF programs (e.g., occupation specific, college/medical students, academic outcomes only), or applicable only to a narrowly defined population
- Qualitative outcomes only
- Case studies with less than 5 subjects
- Dissertations

APPENDIX B: CRITERIA FOR EVALUATING STUDY QUALITY

Overview: As described in the report, trained research assistants entered data reflecting a number of study characteristics using a checklist based on guidelines developed by the Coalition for Evidence-Based Policy for quasi-experimental design studies and randomized controlled trials (Coalition for Evidence-Based Policy, 2010, 2014). As specified below, data included indicators of study quality including the adequacy of sample size, the equivalence of comparison groups, nature of randomization procedures, reliability and validity of outcome measures, extent of attrition and any group cross-over or contamination, and statistical reporting. Each quality indicator was coded as present or absent. These variables were then examined descriptively, and those with sufficient variability were included in analyses as predictors of the strength of study findings. The final list of variables included can be found in Table 4.

For RCTs only

Random assignment was conducted at the appropriate level – either groups (e.g., classrooms, clinics), or individuals (e.g., students), or both.

If the study asked sample members to consent to study participation, they provided such consent *before* learning whether they were assigned to the intervention versus control group.

For Other Comparison Group Studies only

Participants in both groups were selected from the same population.

Members of the two groups were likely to be similar in motivation (and volunteer status).

Groups were chosen prospectively (before the program was administered)


For RCTs AND Other Comparison Group Studies

The intervention and control/comparison groups were highly similar in key characteristics prior to the intervention (e.g., demographics, self-regulation skills, behavior).

Appropriate statistical methods were used to adjust for any pre-program differences between groups (i.e., propensity score analysis, regression adjustment, difference in differences). If Group Differences were present, describe extent of differences: Minor Moderate Significant

Few or no control/comparison group members participated in the intervention or otherwise benefited from it (i.e., there was minimal “cross-over” or “contamination” of controls).

The study collected outcome data in the same way, and at the same time, from intervention and control/comparison group members.



Sample participants kept in original group assignment (intervention or comparison), i.e., intent-to-treat analyses used to estimate intervention effects. Subjects who move are not dropped from the sample.

For All Studies

The study had an adequate sample size – one large enough to detect meaningful effects of the intervention.

Low sample attrition and if applicable, attrition was equivalent between groups

The study used “valid” outcome measures – i.e., outcome measures that are highly correlated with the true outcomes that the intervention seeks to affect.

The study used measures with acceptable reliability*


Where appropriate, the members of the study team who collected outcome data were “blinded” – i.e., kept unaware of who was in the intervention and control groups.

If the study claims that the intervention has an effect on outcomes, it reports (i) the size of the effect, and (ii) tests showing the effect is statistically significant (i.e., unlikely to be due to chance).

The study reports the intervention’s effects on all the outcomes that the study measured, not just those for which there is a positive effect.

References

- Blair, C., & Raver, C. C. (2014). Closing the achievement gap through modification of neurocognitive and neuroendocrine function: Results from a cluster randomized controlled trial of an innovative approach to the education of children in kindergarten.
- Bradshaw, C. P., Goldweber, A., Fishbein, D., & Greenberg, M. T. (2012). Infusing developmental neuroscience into school-based preventive interventions: Implications and future directions. *Journal of Adolescent Health, 51*(2), S41-S47. doi: 10.1016/j.jadohealth.2012.04.020
- Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2009). Self-Regulation and Its Relations to Adaptive Functioning in Low Income Youths. *American Journal of Orthopsychiatry, 79*(1), 19-30.
- Coalition for Evidence-Based Policy. (2010). *Checklist for reviewing a randomized controlled trial of a social program or project, to assess whether it produced valid evidence*. Retrieved from <http://coalition4evidence.org/wp-content/uploads/2010/02/Checklist-For-Reviewing-a-RCT-Jan10.pdf>
- Coalition for Evidence-Based Policy. (2014). *Which comparison-group ("Quasi-Experimental") study designs are most likely to produce valid estimates of a program's impact?* Retrieved from <http://coalition4evidence.org/wp-content/uploads/2014/01/Validity-of-comparison-group-designs-updated-January-2014.pdf>
- Diamond, A. (2012). Activities and Programs That Improve Children's Executive Functions. *Current Directions in Psychological Science, 21*(5), 335-341.
- Dishion, T. J., & Connell, A. (2006). Adolescents' resilience as a self-regulatory process: promising themes for linking intervention with developmental science. *Annals of the New York Academy of Sciences, 1094*, 125-138. doi: 10.1196/annals.1376.012
- Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: the adverse childhood experiences study. *Pediatrics, 111*(3), 564-572.
- Francis, L. A., & Susman, E. J. (2009). Self-regulation and rapid weight gain in children from age 3 to 12 years. *Archives of Pediatrics & Adolescent Medicine, 163*(4), 297-302. doi: 10.1001/archpediatrics.2008.579; 10.1001/archpediatrics.2008.579
- Garland, E. L., Boettiger, C. A., & Howard, M. O. (2011). Targeting cognitive-affective risk mechanisms in stress-precipitated alcohol dependence: An integrated, biopsychosocial model of automaticity, allostasis, and addiction. *Medical hypotheses, 76*(5), 745-754.
- Giedd, J., Blumenthal, J., Jeffries, N., Castellanos, F., Hong, L., Zijdenbos, A., & al, e. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience, 2*, 861-863.
- Greenberg, M. (2006). Promoting resilience in children and youth: Preventive interventions and their interface with neuroscience (Vol. 1094, pp. 139-150).
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., . . . Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America, 108*(7), 2693-2698.
- Piquero, A. R., Jennings, W. G., & Farrington, D. P. (2010). On the malleability of self-control: Theoretical and policy implications regarding a general theory of crime. *Justice Quarterly, 27*(6), 803-834.
- Raver, C. C., McCoy, D. C., Lowenstein, A. E., & Pess, R. (2013). Predicting individual differences in low-income children's executive control from early to middle childhood. *Developmental Science, 16*(3), 394-408. doi: 10.1111/desc.12027
- Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., . . . Wood, D. L. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232-e246.

- 
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1), 1-19.
- Tamir, M., & Mauss, I. B. (2011). Social cognitive factors in emotion regulation: Implications for well-being *Emotion regulation and well-being* (pp. 31-47): Springer.

References for Studies Reviewed

- Almas, A. N., Degnan, K. A., Radulescu, A., Nelson III, C. A., Zeanah, C. H., & Fox, N. A. (2012). Effects of early intervention and the moderating effects of brain activity on institutionalized children's social skills at age 8. *Proceedings of the National Academy of Sciences of the United States of America*, *109*(SUPPL.2), 17228-17231. Retrieved from SCOPUS database.
- Ando, M., Asakura, T., Ando, S., & Simons-Morton, B. (2007). A psychoeducational program to prevent aggressive behavior among Japanese early adolescents. *Health Education & Behavior*, *34*(5), 765-776. doi:10.1177/1090198106291965
- Annesi, J. J. (2007). Relations of age with changes in self-efficacy and physical self-concept in preadolescents participating in a physical activity intervention during afterschool care. *Perceptual and Motor Skills*, *105*(1), 221-226. doi:10.2466/PMS.105.5.221-226
- Arch, J. J., & Craske, M. G. (2006). Mechanisms of mindfulness: Emotion regulation following a focused breathing induction. *Behaviour Research and Therapy*, *44*(12), 1849-1858. doi:10.1016/j.brat.2005.12.007
- Arda, T. B., & Ocak, S. (2012). Social competence and promoting alternative thinking Strategies—PATHS preschool curriculum. *Kuram Ve Uygulamada Egitim Bilimleri*, *12*(4), 2691-2698. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2013-18631-020&site=ehost-live&scope=site>
- Artman-Meeker, K. M., & Hemmeter, M. L. (2013). Effects of training and feedback on teachers' use of classroom preventive practices. *Topics in Early Childhood Special Education*, *33*(2), 112-123. Retrieved from SCOPUS database.
- Ashdown, D. M., & Bernard, M. E. (2012). Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? *Early Childhood Education Journal*, *39*(6), 397-405. doi: 10.1007/s10643-011-0481-x
- Astin, J. A. (1997). Stress reduction through mindfulness meditation: Effects on psychological symptomatology, sense of control, and spiritual experiences. *Psychotherapy and Psychosomatics*, *66*(2), 97-106. Retrieved from SCOPUS database.
- August, G. J., Realmuto, G. M., Hektner, J. M., & Bloomquist, M. L. (2001). An integrated components preventive intervention for aggressive elementary school children: The early risers program. *Journal of Consulting and Clinical Psychology*, *69*(4), 614-626. doi:10.1037/0022-006X.69.4.614
- Bakermans-Kranenburg, M. J., Van Ijzendoorn, M. H., Mesman, J., Alink, L. R., & Juffer, F. (2008). Effects of an attachment-based intervention on daily cortisol moderated by dopamine receptor D4: A randomized control trial on 1- to 3-year-olds screened for externalizing behavior. *Development and Psychopathology*, *20*(3), 805-820. doi: 10.1017/S0954579408000382; 10.1017/S0954579408000382
- Banks, R., Hogue, A., Timberlake, T., & Liddle, H. (1996). An Afrocentric approach to group social skills training with inner-city African American adolescents. *Journal of Negro Education*, *65*(4), 414-423. Retrieved from SCOPUS database.
- Barkley, R. A., Shelton, T. L., Crosswait, C., Moorehouse, M., Fletcher, K., Barrett, S., et al. (2000). Multi-method psycho-educational intervention for preschool children with disruptive behavior: Preliminary results at post-treatment. *Journal of Child Psychology and Psychiatry*, *41*(3), 319-332. doi:10.1111/1469-7610.00616
- Barnett, W. S., Jung, K., Yarosz, D. J., Thomas, J., Hornbeck, A., Stechuk, R., et al. (2008). Educational effects of the tools of the mind curriculum: A randomized trial. *Early Childhood Research Quarterly*, *23*(3), 299-313. doi:10.1016/j.ecresq.2008.03.001
- Battistich, V., Solomon, D., Watson, M., Solomon, J., & Schaps, E. (1989). Effects of an elementary school program to enhance prosocial behavior on children's cognitive-social problem-solving skills and

- strategies. *Journal of Applied Developmental Psychology*, 10(2), 147-169. doi: 10.1016/0193-3973(89)90002-6
- Bell, B. S., & Kozlowski, S. W. J. (2008). Active learning: Effects of core training design elements on self-regulatory processes, learning, and adaptability. *Journal of Applied Psychology*, 93(2), 296-316. doi:10.1037/0021-9010.93.2.296
- Bidgood, B., Wilkie, H., & Katchaluba, A. (2010). Releasing the steam: An evaluation of the supporting tempers, emotions, and anger management (STEAM) program for elementary and adolescent-age children. *Social Work in Groups*, 33, 160-174.
- Bierman, K. L., Coie, J. D., Dodge, K. A., Greenberg, M. T., Lochman, J. E., McMahon, R. J., et al. (2002). Evaluation of the first 3 years of the fast track prevention trial with children at high risk for adolescent conduct problems. *Journal of Abnormal Child Psychology*, 30(1), 19-35. Retrieved from SCOPUS database.
- Bierman, K. L., Domitrovich, C. E., Nix, R. L., Gest, S. D., Welsh, J. A., Greenberg, M. T., et al. (2008). Promoting academic and social-emotional school readiness: The head start REDI program. *Child Development*, 79(6), 1802-1817. Retrieved from SCOPUS database.
- Bierman, K. L., Coie, J. D., Dodge, K. A., Greenberg, M. T., Lochman, J. E., McMahon, R. J., et al. (2010). The effects of a multiyear universal social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology*, 78(2), 156-168. doi: 10.1037/a0018607
- Bierman, K. L., Nix, R. L., Greenberg, M. T., Blair, C., & Domitrovich, C. E. (2008). Executive functions and school readiness intervention: Impact, moderation, and mediation in the head start REDI program. *Development and Psychopathology*, 20(03), 821-843. doi: 10.1017/S0954579408000394
- Black, D. S., & Fernando, R. (2013). Mindfulness training and classroom behavior among lower-income and ethnic minority elementary school children. *Journal of Child and Family Studies*, 1-5. Retrieved from SCOPUS database. doi: 10.1007/s10826-013-9784-4
- Bornas, X., & Servera, M. (1992). Cognitive training programs to reduce impulsivity-related achievement problems: The need of in-classroom interventions. *Learning and Instruction*, 2(2), 89-100. Retrieved from SCOPUS database.
- Bosworth, K., Espelage, D., & DuBay, T. (1998). A computer-based violence prevention intervention for young adolescents: Pilot study. *Adolescence*, 33(132), 785-795. Retrieved from SCOPUS database.
- Bosworth, K., Espelage, D., DuBay, T., Daytner, G., & Karageorge, K. (2000). Preliminary evaluation of a multimedia violence prevention program for adolescents. *American Journal of Health Behavior*, 24(4), 268-280. Retrieved from SCOPUS database.
- Boyle, D., & Hassett-Walker, C. (2008). Reducing overt and relational aggression among young children: The results from a two-year outcome evaluation. *Journal of School Violence*, 7(1), 27-42. doi: 10.1300/J202v07n01_03
- Bradley, R. T., McCraty, R., Atkinson, M., Tomasino, D., Daugherty, A., & Arguelles, L. (2010). Emotion self-regulation, psychophysiological coherence, and test anxiety: Results from an experiment using electrophysiological measures. *Applied Psychophysiology and Biofeedback*, 35(4), 261-283. doi: 10.1007/s10484-010-9134-x
- Braswell, L., August, G. J., Bloomquist, M. L., Realmuto, G. M., Skare, S. S., & Crosby, R. D. (1997). School-based secondary prevention for children with disruptive behavior: Initial outcomes. *Journal of Abnormal Child Psychology*, 25(3), 197-208.
- Bretherton, D., Collins, L., & Ferretti, C. (1993). Dealing with conflict: Assessment of a course for secondary school students. *Australian Psychologist*, 28(2), 105-111. doi: 10.1080/00050069308258884

- Brody, G. H., Chen, Y. F., Kogan, S. M., Yu, T., Molgaard, V. K., DiClemente, R. J., et al. (2012). Family-centered program deters substance use, conduct problems, and depressive symptoms in black adolescents. *Pediatrics*, *129*(1), 108-115. doi: 10.1542/peds.2011-0623; 10.1542/peds.2011-0623
- Brody, G. H., McBride Murry, V., McNair, L., Chen, Y., Gibbons, F. X., Gerrard, M., et al. (2005). Linking changes in parenting to parent-child relationship quality and youth self-control: The strong African American families program. *Journal of Research on Adolescence*, *15*(1), 47-69. doi:10.1111/j.1532-7795.2005.00086.x
- Brotman L, Gouley K, Huang K, Kamboukos D, Fratto C, Pine DS. (2007). Effects of a psychosocial family-based preventive intervention on cortisol response to a social challenge in preschoolers at high risk for antisocial behavior. *Archives of General Psychiatry*, *64*(10), 1172-1179. doi:10.1001/archpsyc.64.10.1172
- Brotman, L. M., Dawson-McClure, S., Calzada, E. J., Huang, K. Y., Kamboukos, D., Palamar, J. J., et al. (2013). Cluster (school) RCT of ParentCorps: Impact on kindergarten academic achievement. *Pediatrics*, *131*(5), e1521-9. doi:10.1542/peds.2012-2632; 10.1542/peds.2012-2632
- Brotman, L. M., Gouley, K. K., Chesir-Teran, D., Dennis, T., Klein, R. G., & Shrout, P. (2005). Prevention for preschoolers at high risk for conduct problems: Immediate outcomes on parenting practices and child social competence. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, *34*(4), 724-734. doi: 10.1207/s15374424jccp3404_14
- Brotman, L. M., Calzada, E., Huang, K., Kingston, S., Dawson-McClure, S., Kamboukos, D., et al. (2011). Promoting effective parenting practices and preventing child behavior problems in school among ethnically diverse families from underserved, urban communities. *Child Development*, *82*(1), 258-276. doi: 10.1111/j.1467-8624.2010.01554.x
- Brown, E. D., & Sax, K. L. (2013). Arts enrichment and preschool emotions for low-income children at risk. *Early Childhood Research Quarterly*, *28*(2), 337-346. doi:10.1016/j.ecresq.2012.08.002
- Bugental, D. B., Schwartz, A., & Lynch, C. (2010). Effects of an early family intervention on children's memory: The mediating effects of cortisol levels. *Mind, Brain, and Education*, *4*(4), 159-170. doi: 10.1111/j.1751-228X.2010.01095.x
- Buhler, A., Schroder, E., & Silbereisen, R. K. (2008). The role of life skills promotion in substance abuse prevention: A mediation analysis. *Health Education Research*, *23*(4), 621-632. doi: 10.1093/her/cym039
- Burton, N. W., Pakenham, K. I., & Brown, W. J. (2009). Evaluating the effectiveness of psychosocial resilience training for heart health, and the added value of promoting physical activity: A cluster randomized trial of the READY program. *BMC Public Health*, *9*. Retrieved from SCOPUS database.
- Burton, N. W., Pakenham, K. I., & Brown, W. J. (2010). Feasibility and effectiveness of psychosocial resilience training: A pilot study of the READY program. *Psychology, Health and Medicine*, *15*(3), 266-277. Retrieved from SCOPUS database.
- Caldarella, P., Christensen, L., Kramer, T. J., & Kronmiller, K. (2009). Promoting social and emotional learning in second grade students: A study of the strong start curriculum. *Early Childhood Education Journal*, *37*(1), 51-56. doi: 10.1007/s10643-009-0321-4
- Caldwell, K., Emery, L., Harrison, M., & Greeson, J. (2011). Changes in mindfulness, well-being, and sleep quality in college students through Taijiquan courses: A cohort control study. *Journal of Alternative and Complementary Medicine (New York, N.Y.)*, *17*(10), 931-938. doi: 10.1089/acm.2010.0645; 10.1089/acm.2010.0645
- Caplan, M., Weissberg, R. P., Grober, J. S., Sivo, P. J., Grady, K., & Jacoby, C. (1992). Social competence promotion with inner-city and suburban young adolescents: Effects on social adjustment and alcohol use. *Journal of Consulting and Clinical Psychology*, *60*(1), 56-63. doi: 10.1037/0022-006X.60.1.56

- Cappella, E., & Weinstein, R. (2006). The prevention of social aggression among girls. *Social Development, 15*(3), 434-462. doi: 10.1111/j.1467-9507.2006.00350.x
- Cardemil, E. V., Reivich, K. J., Beevers, C. G., Seligman, M. E., & James, J. (2007). The prevention of depressive symptoms in low-income, minority children: Two-year follow-up. *Behaviour Research and Therapy, 45*(2), 313-327. doi: 10.1016/j.brat.2006.03.010
- Cartier, S. C., Butler, D. L., & Bouchard, N. (2010). Teachers working together to foster self-regulated learning through reading by students in an elementary school located in a disadvantaged area. *Psychological Test and Assessment Modeling, 52*(4), 382-418. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-02815-004&site=ehost-live&scope=site>
- Chan, D. W. (2003). Leadership skills training for Chinese secondary students in Hong Kong: Does training make a difference? *Journal of Secondary Gifted Education, 14*(3), 166-174. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2003-01917-003&site=ehost-live&scope=site>
- Cicchetti, D., Rogosch, F. A., Toth, S. L., & Sturge-Apple, M. L. (2011). Normalizing the development of cortisol regulation in maltreated infants through preventive interventions. *Development and Psychopathology, 23*(3), 789-800. doi: 10.1017/S0954579411000307; 10.1017/S0954579411000307
- Clarke, G. N., Hawkins, W., Murphy, M., Sheeber, L. B., Lewinsohn, P. M., & Seeley, J. R. (1995). Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: A randomized trial of a group cognitive intervention. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*(3), 312-321. Retrieved from SCOPUS database.
- Cleary, T. J., Platten, P., & Nelson, A. (2008). Effectiveness of the self-regulation empowerment program with urban high school students. *Journal of Advanced Academics, 20*(1), 70-107. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-08068-004&site=ehost-live&scope=site>
- Coholic, D., Eys, M., & Lougheed, S. (2012). Investigating the effectiveness of an arts-based and mindfulness-based group program for the improvement of resilience in children in need. *Journal of Child and Family Studies, 21*(5), 833-844. Retrieved from SCOPUS database.
- Compas, B. E., Champion, J. E., Forehand, R., Cole, D. A., Reeslund, K. L., Fear, J., et al. (2010). Coping and parenting: Mediators of 12-month outcomes of a family group cognitive-behavioral preventive intervention with families of depressed parents. *Journal of Consulting and Clinical Psychology, 78*(5), 623-634. doi: 10.1037/a0020459
- Compas, B. E., Forehand, R., Keller, G., Champion, J. E., Rakow, A., Reeslund, K. L., et al. (2009). Randomized controlled trial of a family cognitive-behavioral preventive intervention for children of depressed parents. *Journal of Consulting and Clinical Psychology, 77*(6), 1007-1020. doi: 10.1037/a0016930
- Conduct Problems Prevention Research Group. (2010). The effects of a multiyear universal social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology, 78*(2), 156-168. Retrieved from SCOPUS database.
- Conner, N. W., & Fraser, M. W. (2011). Preschool social-emotional skills training: A controlled pilot test of the making choices and strong families programs. *Research on Social Work Practice, 21*(6), 699-711. Retrieved from SCOPUS database.
- Connor, C. M., Ponitz, C. C., Phillips, B. M., Travis, Q. M., Glasney, S., & Morrison, F. J. (2010). First graders' literacy and self-regulation gains: The effect of individualizing student instruction. *Journal of School Psychology, 48*(5), 433-455. Retrieved from SCOPUS database.
- Conrod, P. J., O'Leary-Barrett, M., Newton, N., Topper, L., Castellanos-Ryan, N., Mackie, C., et al. (2013). Effectiveness of a selective, personality-targeted prevention program for adolescent alcohol use

- and misuse: A cluster randomized controlled trial. *JAMA Psychiatry (Chicago, Ill.)*, 70(3), 334-342. doi: 10.1001/jamapsychiatry.2013.651; 10.1001/jamapsychiatry.2013.651
- Crean, H. F., & Johnson, D. B. (2013). Promoting alternative thinking strategies (PATHS) and elementary school aged children's aggression: Results from a cluster randomized trial. *American Journal of Community Psychology*, 52(1-2), 56-72. doi: 10.1007/s10464-013-9576-4; 10.1007/s10464-013-9576-4
- Curtis, C., & Norgate, R. (2007). An evaluation of the promoting alternative thinking strategies curriculum at key stage 1. *Educational Psychology in Practice*, 23(1), 33-44. doi: 10.1080/02667360601154717
- Dadds, M. R., & Roth, J. H. (2008). Prevention of anxiety disorders: Results of a universal trial with young children. *Journal of Child and Family Studies*, 17(3), 320-335. Retrieved from SCOPUS database.
- Daunic, A. P., Smith, S. W., Brank, E. M., & Penfield, R. D. (2006). Classroom-based cognitive-behavioral intervention to prevent aggression: Efficacy and social validity. *Journal of School Psychology*, 44(2), 123-139. Retrieved from SCOPUS database.
- Daunic, A. P., Smith, S. W., Garvan, C. W., Barber, B. R., Becker, M. K., Peters, C. D., et al. (2012). Reducing developmental risk for emotional/behavioral problems: A randomized controlled trial examining the tools for getting along curriculum. *Journal of School Psychology*, 50(2), 149-166. Retrieved from SCOPUS database.
- Deffenbacher, J. L., Lynch, R. S., Oetting, E. R., & Kemper, C. C. (1996). Anger reduction in early adolescents. *Journal of Counseling Psychology*, 43(2), 149-157. doi: 10.1037/0022-0167.43.2.149
- DeGarmo, D. S., & Forgatch, M. S. (2005). Early development of delinquency within divorced families: Evaluating a randomized preventive intervention trial. *Developmental Science*, 8(3), 229-239. Retrieved from SCOPUS database.
- Denham, S. A., & Burton, R. (1996). A social-emotional intervention for at-risk 4-year-olds. *Journal of School Psychology*, 34(3), 225-245. Retrieved from SCOPUS database.
- Dereli, E. (2009). Examining the permanence of the effect of a social skills training program for the acquisition of social problem-solving skills. *Social Behavior and Personality*, 37(10), 1419-1428. doi: 10.2224/sbp.2009.37.10.1419
- Diamond, A., Barnett, W. S., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science*, 318(5855), 1387-1388. Retrieved from <http://www.jstor.org/stable/20051686>
- Domitrovich, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving young children's social and emotional competence: A randomized trial of the preschool "PATHS" curriculum. *Journal of Primary Prevention*, 28(2), 67-91. Retrieved from SCOPUS database.
- Dozier, M., Peloso, E., Lewis, E., Laurenceau, J. P., & Levine, S. (2008). Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care. *Development and Psychopathology*, 20(3), 845-859. doi: 10.1017/S0954579408000400; 10.1017/S0954579408000400
- Dozier, M., Peloso, E., Lindhiem, O., Gordon, M. K., Manni, M., Sepulveda, S., et al. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. *Journal of Social Issues*, 62, 767-785.
- Drollette, E. S., Shishido, T., Pontifex, M. B., & Hillman, C. H. (2012). Maintenance of cognitive control during and after walking in preadolescent children. *Medicine and Science in Sports and Exercise*, 44(10), 2017-2024. doi: 10.1249/MSS.0b013e318258bcd5; 10.1249/MSS.0b013e318258bcd5
- Duckworth, A. L., Grant, H., Loew, B., Oettingen, G., & Gollwitzer, P. M. (2011). Self-regulation strategies improve self-discipline in adolescents: Benefits of mental contrasting and implementation intentions. *Educational Psychology*, 31(1), 17-26. doi: 10.1080/01443410.2010.506003

- Dupper, D. R., & Krishef, C. H. (1993). School-based social-cognitive skills training for middle school students with school behavior problems. *Children and Youth Services Review, 15*(2), 131-142. doi: 10.1016/0190-7409(93)90040-G
- Eacott, C., & Frydenberg, E. (2008). At-risk students in a rural context: Benefits and gains from a coping skills program. *Australian Journal of Guidance and Counselling, 18*(2), 160-181. doi: 10.1375/ajgc.18.2.160
- Edwards, D., Hunt, M. H., Meyers, J., Grogg, K. R., & Jarrett, O. (2005). Acceptability and student outcomes of a violence prevention curriculum. *The Journal of Primary Prevention, 26*(5), 401-418. doi: 10.1007/s10935-005-0002-z
- Eisen, M., Zellman, G. L., & Murray, D. M. (2003). Evaluating the Lions-Quest "Skills for adolescence" drug education program: Second-year behavior outcomes. *Addictive Behaviors, 28*(5), 883-897. doi: [http://dx.doi.org/10.1016/S0306-4603\(01\)00292-1](http://dx.doi.org/10.1016/S0306-4603(01)00292-1)
- Eisner, M., Nagin, D., Ribeaud, D., & Malti, T. (2012). Effects of a universal parenting program for highly adherent parents: A propensity score matching approach. *Prevention Science: The Official Journal of the Society for Prevention Research, 13*(3), 252-266. doi: 10.1007/s11121-011-0266-x; 10.1007/s11121-011-0266-x
- Elias, M. J., Gara, M. A., Schuyler, T. F., Branden-Muller, L., & Sayette, M. A. (1991). The promotion of social competence: Longitudinal study of a preventive school-based program. *American Journal of Orthopsychiatry, 61*(3), 409-417. doi: 10.1037/h0079277
- Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2013). The impact of a middle school program to reduce aggression, victimization, and sexual violence. *Journal of Adolescent Health, 53*(2), 180-186. doi: 10.1016/j.jadohealth.2013.02.021
- Feinberg, M. E., Kan, M. L., & Goslin, M. C. (2009). Enhancing coparenting, parenting, and child self-regulation: Effects of family foundations 1 year after birth. *Prevention Science, 10*, 276-285.
- Feinberg, M. E., Jones, D. E., Kan, M. L., & Goslin, M. C. (2010). Effects of family foundations on parents and children: 3.5 years after baseline. *Journal of Family Psychology: JFP: Journal of the Division of Family Psychology of the American Psychological Association (Division 43), 24*(5), 532-542. doi: 10.1037/a0020837; 10.1037/a0020837
- Feinberg, M. E., & Kan, M. L. (2008). Establishing family foundations: Intervention effects on coparenting, parent/infant well-being, and parent-child relations. *Journal of Family Psychology: JFP: Journal of the Division of Family Psychology of the American Psychological Association (Division 43), 22*(2), 253-263. doi: 10.1037/0893-3200.22.2.253; 10.1037/0893-3200.22.2.253
- Feinberg, M. E., Solmeyer, A. R., Hostetler, M. L., Sakuma, K. -, Jones, D., & McHale, S. M. (2013). Siblings are special: Initial test of a new approach for preventing youth behavior problems. *Journal of Adolescent Health, 53*(2), 166-173. Retrieved from SCOPUS database.
- Fernald, L. C. H., & Gunnar, M. R. (2009). Poverty-alleviation program participation and salivary cortisol in very low-income children. *Social Science & Medicine, 68*(12), 2180-2189. doi: <http://dx.doi.org/10.1016/j.socscimed.2009.03.032>
- Fisher, P. A., Gunnar, M. R., Charmerlain, P., & Reid, J. B. (2000). Preventive intervention for maltreated preschool children: Impact on children's behavior, neuroendocrine activity, and foster parent functioning. *Journal of the American Academy of Child & Adolescent Psychiatry, 39*(11), 1356-1364. doi: <http://dx.doi.org/10.1097/00004583-200011000-00009>
- Fisher, P. A., Stoolmiller, M., Gunnar, M. R., & Burraston, B. O. (2007). Effects of a therapeutic intervention for foster preschoolers on diurnal cortisol activity. *Psychoneuroendocrinology, 32*(8-10), 892-905. doi: <http://dx.doi.org/10.1016/j.psyneuen.2007.06.008>
- Fisher, P. A., Van Ryzin, M. J., & Gunnar, M. R. (2011). Mitigating HPA axis dysregulation associated with placement changes in foster care. *Psychoneuroendocrinology, 36*(4), 531-539. doi: <http://dx.doi.org/10.1016/j.psyneuen.2010.08.007>

- Flannery, D. J., Vazsonyi, A. T., Liau, A. K., Guo, S., Powell, K. E., Atha, H., et al. (2003). Initial behavior outcomes for the peacebuilders universal school-based violence prevention program. *Developmental Psychology, 39*(2), 292-308.
- Flook, L., Smalley, S. L., Kitil, M. J., Galla, B. M., Kaiser-Greenland, S., Locke, J., et al. (2010). Effects of mindful awareness practices on executive functions in elementary school children. *Journal of Applied School Psychology, 26*(1), 70-95. doi: 10.1080/15377900903379125
- Ford, R. M., McDougall, S. J., & Evans, D. (2009). Parent-delivered compensatory education for children at risk of educational failure: Improving the academic and self-regulatory skills of a sure start preschool sample. *British Journal of Psychology (London, England: 1953), 100*(Pt 4), 773-797. doi: 10.1348/000712609X406762; 10.1348/000712609X406762
- Forgatch, M. S., Patterson, G. R., Degarmo, D. S., & Beldavs, Z. G. (2009). Testing the oregon delinquency model with 9-year follow-up of the oregon divorce study. *Development and Psychopathology, 21*(2), 637-660. doi: 10.1017/S0954579409000340; 10.1017/S0954579409000340
- Forman, S. G., Linney, J. A., & Brondino, M. J. (1990). Effects of coping skills training on adolescents at risk for substance use. *Psychology of Addictive Behaviors, 4*(2), 67-76. doi: 10.1037/h0080585
- Fosco, G. M., Frank, J. L., Stormshak, E. A., & Dishion, T. J. (2013). Opening the "Black box": Family check-up intervention effects on self-regulation that prevents growth in problem behavior and substance use. *Journal of School Psychology, 51*(4), 455-468. doi: 10.1016/j.jsp.2013.02.001
- Fraser, M. W., Day, H. D., Galinsky, M. J., Hodges, V. G., & Smokowski, P. R. (2004). Conduct problems and peer rejection in childhood: A randomized trial of the making choices and strong families programs. *Research on Social Work Practice, 14*, 313-324.
- Fraser, M. W., Galinsky, M. J., Smokowski, P. R., Day, S. H., Terzian, M. A., Rose, R. A., et al. (2005). Social information-processing skills training to promote social competence and prevent aggressive behavior in the third grade. *Journal of Consulting and Clinical Psychology, 73*(6), 1045-1055. Retrieved from SCOPUS database.
- Frey, K. S., Nolen, S. B., Van Schoiack Edstrom, L., & Hirschstein, M. K. (2005). Effects of a school-based social-emotional competence program: Linking children's goals, attributions, and behavior. *Journal of Applied Developmental Psychology, 26*(2), 171-200. doi: <http://dx.doi.org/10.1016/j.appdev.2004.12.002>
- Frydenberg, E., Lewis, R., Bugalski, K., Cotta, A., McCarthy, C., Luscombe-Smith, N., et al. (2004). Prevention is better than cure: Coping skills training for adolescents at school. *Educational Psychology in Practice, 20*(2), 117-134. doi: 10.1080/02667360410001691053
- Ghahremani, D. G., Oh, E. Y., Dean, A. C., Mouzakis, K., Wilson, K. D., & London, E. D. (2013). Effects of the youth empowerment seminar on impulsive behavior in adolescents. *Journal of Adolescent Health, 53*(1), 139-141. Retrieved from SCOPUS database.
- Ghera, M. M., Marshall, P. J., Fox, N. A., Zeanah, C. H., Nelson, C. A., Smyke, A. T., et al. (2009). The effects of foster care intervention on socially deprived institutionalized children's attention and positive affect: Results from the BEIP study. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 50*(3), 246-253. doi: 10.1111/j.1469-7610.2008.01954.x
- Goldsworthy, R., Schwartz, N., Barab, S., & Landa, A. (2007). Evaluation of a collaborative multimedia conflict resolution curriculum. *Educational Technology Research and Development, 55*(6), 597-625. doi: 10.1007/s11423-006-9006-5
- Gollwitzer, M., Banse, R., Eisenbach, K., & Naumann, A. (2007). Effectiveness of the Vienna social competence training on explicit and implicit aggression: Evidence from an aggressiveness-IAT. *European Journal of Psychological Assessment, 23*(3), 150-156. doi: 10.1027/1015-5759.23.3.150
- Gollwitzer, M., Eisenbach, K., Atria, M., Strohmeier, D., & Banse, R. (2006). Evaluation of aggression-reducing effects of the "Viennese social competence training". *Swiss Journal of*

- Psychology/Schweizerische Zeitschrift für Psychologie/Revue Suisse De Psychologie*, 65(2), 125-135. doi: 10.1024/1421-0185.65.2.125
- Gormley Jr., W. T., Phillips, D. A., Newmark, K., Welti, K., & Adelstein, S. (2011). Social-emotional effects of early childhood education programs in Tulsa. *Child Development*, 82(6), 2095-2109. Retrieved from SCOPUS database.
- Gottfredson, D., Kumpfer, K., Polizzi-Fox, D., Wilson, D., Puryear, V., Beatty, P., et al. (2006). The strengthening Washington D.C. families project: A randomized effectiveness trial of family-based prevention. *Prevention Science: The Official Journal of the Society for Prevention Research*, 7(1), 57-74. doi: 10.1007/s11121-005-0017-y
- Goudas, M., Dermitzaki, I., Leondari, A., & Danish, S. (2006). The effectiveness of teaching a life skills program in a physical education context. *European Journal of Psychology of Education*, 21(4), 429-438. doi: 10.1007/BF03173512
- Gould, L. F., Dariotis, J. K., Mendelson, T., & Greenberg, M. T. (2012). A school-based mindfulness intervention for urban youth: Exploring moderators of intervention effects. *Journal of Community Psychology*, 40(8), 968-982. Retrieved from SCOPUS database.
- Graham, A. M., Yockelson, M., Kim, H. K., Bruce, J., Pears, K. C., & Fisher, P. A. (2012). Effects of maltreatment and early intervention on diurnal cortisol slope across the start of school: A pilot study. *Child Abuse & Neglect*, 36(9), 666-670. doi: <http://dx.doi.org/10.1016/j.chiabu.2012.07.006>
- Graves, K. N., Frabutt, J. M., & Vigliano, D. (2007). Teaching conflict resolution skills to middle and high school students through interactive drama and role play. *Journal of School Violence*, 6(4), 57-79. doi: 10.1300/J202v06n04_04
- Greene, R. W., & Ollendick, T. H. (1993). Evaluation of a multidimensional program for sixth-graders in transition from elementary to middle school. *Journal of Community Psychology*, 21(2), 162-176. doi: 10.1002/1520-6629(199304)21:2<162::AID-JCOP2290210208>3.0.CO;2-D
- Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W., & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. *Journal of Consulting and Clinical Psychology*, 71(2), 261-278.
- Grossman, D. C., Neckerman, H. J., Koepsell, T. D., Liu, P-Y., Asher, K. N., Beland, K., et al. (1997). Effectiveness of a violence prevention curriculum among children in elementary school: A randomized controlled trial. *Journal of the American Medical Association*, 277(20), 1605-1611. Retrieved from SCOPUS database.
- Grunewaldt, K. H., Lohaugen, G. C., Austeng, D., Brubakk, A. M., & Skranes, J. (2013). Working memory training improves cognitive function in VLBW preschoolers. *Pediatrics*, 131(3), e747-54. doi: 10.1542/peds.2012-1965; 10.1542/peds.2012-1965
- Gueldner, B., & Merrell, K. (2011). Evaluation of a social-emotional learning program in conjunction with the exploratory application of performance feedback incorporating motivational interviewing techniques. *Journal of Educational and Psychological Consultation*, 21(1), 1-27. Retrieved from SCOPUS database.
- Hahlweg, K., Heinrichs, N., Kuschel, A., Bertram, H., & Naumann, S. (2010). Long-term outcome of a randomized controlled universal prevention trial through a positive parenting program: Is it worth the effort? *Child and Adolescent Psychiatry and Mental Health*, 4, 1-14.
- Hains, A. A. (1992). A stress inoculation training program for adolescents in a high school setting: A multiple baseline approach. *Journal of Adolescence*, 15(2), 163-175. doi: 10.1016/0140-1971(92)90045-7
- Hains, A. A., & Szyjakowski, M. (1990). A cognitive stress-reduction intervention program for adolescents. *Journal of Counseling Psychology*, 37(1), 79-84. doi:10.1037/0022-0167.37.1.79

- Haji, T. M., Mohammadkhani, S., & Hahtami, M. (2011). The effectiveness of life skills training on happiness, quality of life and emotion regulation. *Procedia-Social and Behavioral Sciences*, 30, 407-411. Retrieved from SCOPUS database.
- Hall, B. W., & Bacon, T. P. (2006). Building a foundation against violence. *Journal of School Violence*, 4(4), 63-83.
- Hammond, A., Westhues, A., & Hanbidge, A. S. (2009). Assessing the impact of an emotion regulation booster program for elementary school-aged children. *The Journal of Primary Prevention*, 30(5), 569-586. doi: 10.1007/s10935-009-0188-6
- Hamre, B. K., Pianta, R. C., Mashburn, A. J., & Downer, J. T. (2012). Promoting young children's social competence through the preschool PATHS curriculum and MyTeachingPartner professional development resources. *Early Education and Development*, 23(6), 809-832. doi: 10.1080/10409289.2011.607360
- Han, S. S., Catron, T., Weiss, B., & Marciel, K. K. (2005). A teacher-consultation approach to social skills training for pre-kindergarten children: Treatment model and short-term outcome effects. *Journal of Abnormal Child Psychology*, 33(6), 681-693. doi: 10.1007/s10802-005-7647-1
- Havighurst, S. S., Wilson, K. R., Harley, A. E., & Prior, M. R. (2009). Tuning in to kids: An emotion-focused parenting program-initial findings from a community trial. *Journal of Community Psychology*, 37(8), 1008-1023. Retrieved from SCOPUS database.
- Havighurst, S. S., Wilson, K. R., Harley, A. E., Prior, M. R., & Kehoe, C. (2010). Tuning in to kids: Improving emotion socialization practices in parents of preschool children-findings from a community trial. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 51(12), 1342-1350. Retrieved from SCOPUS database.
- Hawkins, JD, Catalano, RF, Kosterman, R, Abbott, R, Hill, KG. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. *JAMA Pediatrics*, 153(3), 226-234.
- Hawkins, J., Kosterman, R., Catalano, R., Hill, K., & Abbott, R. (2005). Promoting positive adult functioning through social development intervention in childhood: Long-term effects from the Seattle social development project. *JAMA Pediatrics*, 159(1), 25-31.
- Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., & Abbott, R. D. (2008). Effects of social development intervention in childhood 15 years later. *Archives of Pediatrics & Adolescent Medicine*, 162(12), 1133-1141. doi:10.1001/archpedi.162.12.1133; 10.1001/archpedi.162.12.1133
- Hay, I., Byrne, M., & Butler, C. (2000). Evaluation of a conflict-resolution and problem-solving programme to enhance adolescents' self-concept. *British Journal of Guidance & Counselling*, 28(1), 101-113. doi: 10.1080/030698800109646
- Heinicke, C. M., Fineman, N. R., Ruth, G., Recchia, S. L., Guthrie, D., & Rodning, C. (1999). Relationship-based intervention with at-risk mothers: Outcome in the first year of life. *Infant Mental Health Journal*, 20(4), 349-374. doi: 10.1002/(SICI)1097-0355(199924)20:4<349::AID-IMHJ1>3.0.CO;2-X
- Herman, K. C., Borden, L. A., Reinke, W. M., & Webster-Stratton, C. (2011). The impact of the Incredible Years parent, child, and teacher training programs on children's co-occurring internalizing symptoms. *School Psychology Quarterly*, 26(3), 189-201. Retrieved from SCOPUS database.
- Heydenberk, R. A., & Heydenberk, W. R. (2005). Increasing meta-cognitive competence through conflict resolution. *Education and Urban Society*, 37(4), 431-452. Retrieved from SCOPUS database.
- Heydenberk, W., & Heydenberk, R. (2007). More than manners: Conflict resolution in primary level classrooms. *Early Childhood Education Journal*, 35(2), 119-126. Retrieved from SCOPUS database.
- Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., et al. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research - Neuroimaging*, 191(1), 36-43. Retrieved from SCOPUS database.

- Horn, A. B., Possel, P., & Hautzinger, M. (2011). Promoting adaptive emotion regulation and coping in adolescence: A school-based programme. *Journal of Health Psychology, 16*(2), 258-273. doi: 10.1177/1359105310372814; 10.1177/1359105310372814
- Hudley, C., & Graham, S. (1993). An attributional intervention to reduce peer-directed aggression among African-American boys. *Child Development, 64*(1), 124-138.
- Humphrey, N., Kalambouka, A., Wigelsworth, M., & Lendrum, A. (2010). Going for goals: An evaluation of a short, social-emotional intervention for primary school children. *School Psychology International, 31*(3), 250-270. Retrieved from SCOPUS database.
- Hutchings, J., Lane, E., Owen, R. E., & Gwyn, R. (2004). The introduction of the Webster-Stratton Incredible Years classroom dinosaur school programme in Gwynedd, North Wales: A pilot study. *Educational and Child Psychology, 21*(4), 4-15. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2005-01044-001&site=ehost-live&scope=site>
- Izard, C. E., King, K. A., Trentacosta, C. J., Morgan, J. K., Laurenceau, J. P., Krauthamer-Ewing, E. S., et al. (2008). Accelerating the development of emotion competence in head start children: Effects on adaptive and maladaptive behavior. *Development and Psychopathology, 20*(1), 369-397. doi: 10.1017/S0954579408000175; 10.1017/S0954579408000175
- Jensen, C. G., Vangkilde, S., Frokjaer, V., & Hasselbalch, S. G. (2012). Mindfulness training affects attention—Or is it attentional effort? *Journal of Experimental Psychology: General, 141*(1), 106-123. doi: 10.1037/a0024931
- Jones, S. M., Brown, J. L., Høglund, W. L. G., & Aber, J. L. (2010). A school-randomized clinical trial of an integrated social-emotional learning and literacy intervention: Impacts after 1 school year. *Journal of Consulting and Clinical Psychology, 78*(6), 829-842. doi: 10.1037/a0021383
- Jones, S. M., Brown, J. L., & Lawrence Aber, J. (2011). Two-year impacts of a universal school-based social-emotional and literacy intervention: An experiment in translational developmental research. *Child Development, 82*(2), 533-554. doi: 10.1111/j.1467-8624.2010.01560.x
- Kaminski, J. W., Perou, R., Visser, S. N., Scott, K. G., Beckwith, L., Howard, J., et al. (2013). Behavioral and socioemotional outcomes through age 5 years of the legacy for children public health approach to improving developmental outcomes among children born into poverty. *American Journal of Public Health, 103*(6), 1058-1066. doi: 10.2105/AJPH.2012.300996; 10.2105/AJPH.2012.300996
- Kaminski, R. A., Stormshak, E. A., Good III, R. H., & Goodman, M. (2002). Prevention of substance abuse with rural head start children and families: Results of project STAR. *Psychology of Addictive Behaviors, 16*(SUPPL. 14), S11-S26. Retrieved from SCOPUS database.
- Keefe, M. R., Barbosa, G. A., Froese-Fretz, A., Kotzer, A. M., & Lobo, M. (2005). An intervention program for families with irritable infants. *MCN. The American Journal of Maternal Child Nursing, 30*(4), 230-236.
- Kelly, A. C., Zuroff, D. C., Foa, C. L., & Gilbert, P. (2010). Who benefits from training in self-compassionate self-regulation? A study of smoking reduction. *Journal of Social and Clinical Psychology, 29*(7), 727-755. doi: 10.1521/jscp.2010.29.7.727
- Keogh, E., Bond, F. W., & Flaxman, P. E. (2006). Improving academic performance and mental health through a stress management intervention: Outcomes and mediators of change. *Behaviour Research and Therapy, 44*(3), 339-357. doi: 10.1016/j.brat.2005.03.002
- Kimber, B., Sandell, R., & Bremberg, S. (2008). Social and emotional training in Swedish classrooms for the promotion of mental health: Results from an effectiveness study in Sweden. *Health Promotion International, 23*(2), 134-143. Retrieved from SCOPUS database.
- Kjtbli, J., & Ogdén, T. (2012). A randomized effectiveness trial of brief parent training in primary care settings. *Prevention Science: The Official Journal of the Society for Prevention Research, 13*(6), 616-626. doi: 10.1007/s11121-012-0289-y; 10.1007/s11121-012-0289-y

- Knox, L., Guerra, N. G., Williams, K. R., & Toro, R. (2011). Preventing children's aggression in immigrant Latino families: A mixed methods evaluation of the families and schools together program. *American Journal of Community Psychology, 48*(1-2), 65-76. doi: 10.1007/s10464-010-9411-0; 10.1007/s10464-010-9411-0
- Kochanska, G., Kim, S., Boldt, L. J., & Nordling, J. K. (2013). Promoting toddlers' positive social-emotional outcomes in low-income families: A play-based experimental study. *Journal of Clinical Child and Adolescent Psychology, 42*(5), 700-712. Retrieved from SCOPUS database.
- Koglin, U., & Petermann, F. (2011). The effectiveness of the behavioural training for preschool children. *European Early Childhood Education Research Journal, 19*(1), 97-111. Retrieved from SCOPUS database.
- Komosa-Hawkins, K. (2012). The impact of school-based mentoring on adolescents' social-emotional health. *Mentoring & Tutoring: Partnership in Learning, 20*(3), 393-408. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2012-20164-007&site=ehost-live&scope=site>
- Koning, I. M., Verdurmen, J. E. E., Engels, R. C. M. E., van, d. E., & Vollebergh, W. A. M. (2012). Differential impact of a Dutch alcohol prevention program targeting adolescents and parents separately and simultaneously: Low self-control and lenient parenting at baseline predict effectiveness. *Prevention Science, 13*(3), 278-287. doi: 10.1007/s11121-011-0267-9
- Koring, M., Richert, J., Parschau, L., Ernsting, A., Lippke, S., & Schwarzer, R. (2012). A combined planning and self-efficacy intervention to promote physical activity: A multiple mediation analysis. *Psychology, Health & Medicine, 17*(4), 488-498. doi: 10.1080/13548506.2011.608809; 10.1080/13548506.2011.608809
- Koshland, L., & Wittaker, J. W. B. (2004). PEACE through dance/movement: Evaluating a violence prevention program. *American Journal of Dance Therapy, 26*(2), 69-90. Retrieved from SCOPUS database.
- Kraag, G., Van Breukelen, Gerard J. P., Kok, G., & Hosman, C. (2009). 'Learn young, learn fair', a stress management program for fifth and sixth graders: Longitudinal results from an experimental study. *Journal of Child Psychology and Psychiatry, 50*(9), 1185-1195. doi: 10.1111/j.1469-7610.2009.02088.x
- Kramer, T., Caldarella, P., Christensen, L., & Shatzer, R. (2010). Social and emotional learning in the kindergarten classroom: Evaluation of the strong start curriculum. *Early Childhood Education Journal, 37*(4), 303-309. doi: 10.1007/s10643-009-0354-8
- Kubesch, S., Walk, L., Spitzer, M., Kammer, T., Lainburg, A., Heim, R., et al. (2009). A 30-minute physical education program improves students' executive attention. *Mind, Brain, and Education, 3*(4), 235-242. doi: 10.1111/j.1751-228X.2009.01076.x
- Kumpfer, K. L., Alvarado, R., Tait, C., & Turner, C. (2002). Effectiveness of school-based family and children's skills training for substance abuse prevention among 6-8-year-old rural children. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors, 16*(4 Suppl), S65-71.
- Kuriyama, K., Mishima, K., Suzuki, H., Aritake, S., & Uchiyama, M. (2008). Sleep accelerates the improvement in working memory performance. *The Journal of Neuroscience, 28*(40), 10145-10150. doi: 10.1523/JNEUROSCI.2039-08.2008
- Laberge, S., Bush, P. L., & Chagnon, M. (2012). Effects of a culturally tailored physical activity promotion program on selected self-regulation skills and attitudes in adolescents of an underserved, multiethnic milieu. *American Journal of Health Promotion: AJHP, 26*(4), e105-15. doi: 10.4278/ajhp.090625-QUAN-202; 10.4278/ajhp.090625-QUAN-202
- Lakes, K. D., & Hoyt, W. T. (2004). Promoting self-regulation through school-based martial arts training. *Journal of Applied Developmental Psychology, 25*(3), 283-302. doi: 10.1016/j.appdev.2004.04.002

- Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Responsive parenting: Establishing early foundations for social, communication, and independent problem-solving skills. *Developmental Psychology, 42*(4), 627-642. doi: 10.1037/0012-1649.42.4.627
- Langeveld, J. H., Gundersen, K. K., & Svartdal, F. (2012). Social competence as a mediating factor in reduction of behavioral problems. *Scandinavian Journal of Educational Research, 56*(4), 381-399. Retrieved from SCOPUS database.
- Larson, J. D. (1992). Anger and aggression management techniques through the think first curriculum. *Journal of Offender Rehabilitation, 18*(1-2), 101-117. doi: 10.1300/J076v18n01_04
- Lemberger, M. E., & Clemens, E. V. (2012). Connectedness and self-regulation as constructs of the student success skills program in inner-city African American elementary school students. *Journal of Counseling & Development, 90*(4), 450-458. doi: 10.1002/j.1556-6676.2012.00056.x
- Letarte, M., Normandeau, S., & Allard, J. (2010). Effectiveness of a parent training program "Incredible Years" in a child protection service. *Child Abuse & Neglect, 34*(4), 253-261. doi: 10.1016/j.chiabu.2009.06.003
- Letourneau, N., Stewart, M., Dennis, C., Hegadoren, K., Duffett-Leger, L., & Watson, B. (2011). Effect of home-based peer support on maternal-infant interactions among women with postpartum depression: A randomized, controlled trial. *International Journal of Mental Health Nursing, 20*(5), 345-357. doi: 10.1111/j.1447-0349.2010.00736.x
- Lewis-Morrarty, E., Dozier, M., Bernard, K., Terracciano, S. M., & Moore, S. V. (2012). Cognitive flexibility and theory of mind outcomes among foster children: Preschool follow-up results of a randomized clinical trial. *Journal of Adolescent Health, 51*(2 SUPPL.), S17-S22. Retrieved from SCOPUS database.
- Lillard, A. S. (2012). Preschool children's development in classic Montessori, supplemented Montessori, and conventional programs. *Journal of School Psychology, 50*(3), 379-401. Retrieved from SCOPUS database.
- Linares, L. O., Rosbruch, N., Stern, M. B., Edwards, M. E., Walker, G., Abikoff, H. B., et al. (2005). Developing cognitive-social-emotional competencies to enhance academic learning. *Psychology in the Schools, 42*(4), 405-417. Retrieved from SCOPUS database.
- Lindblad, F., Hogmark, Å., & Theorell, T. (2007). Music intervention for 5th and 6th graders—effects on development and cortisol secretion. *Stress & Health: Journal of the International Society for the Investigation of Stress, 23*(1), 9-14. doi: 10.1002/smi.1109
- Little, M., Berry, V., Morpeth, L., Blower, S., Axford, N., Taylor, R., et al. (2012). The impact of three evidence-based programmes delivered in public systems in Birmingham, UK. *International Journal of Conflict and Violence, 6*(2), 260-272. Retrieved from SCOPUS database.
- Lochman, J. E., & Wells, K. C. (2002). The coping power program at the middle-school transition: Universal and indicated prevention effects. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors, 16*(4 Suppl), S40-54.
- Lochman, J. E., & Wells, K. C. (2004). The coping power program for preadolescent aggressive boys and their parents: Outcome effects at the 1-year follow-up. *Journal of Consulting and Clinical Psychology, 72*(4), 571-578. doi: 10.1037/0022-006X.72.4.571
- Lochman, J. E., & Wells, K. C. (2002). Contextual social-cognitive mediators and child outcome: A test of the theoretical model in the coping power program. *Development and Psychopathology, 14*(4), 945-967. doi: 10.1017/S0954579402004157
- Lösel, F., & Stemmler, M. (2012). Preventing child behavior problems in the Erlangen-Nuremberg development and prevention study: Results from preschool to secondary school age. *International Journal of Conflict and Violence, 6*(2), 214-224. Retrieved from SCOPUS database.
- Lowell, D. I., Carter, A. S., Godoy, L., Paulicin, B., & Briggs-Gowan, M. (2011). A randomized controlled trial of child FIRST: A comprehensive home-based intervention translating research into early childhood practice. *Child Development, 82*(1), 193-208. doi: 10.1111/j.1467-8624.2010.01550.x

- Luczynski, K. C., & Hanley, G. P. (2013). Prevention of problem behavior by teaching functional communication and self-control skills to preschoolers. *Journal of Applied Behavior Analysis, 46*(2), 355-368. doi: 10.1002/jaba.44
- Lufi, D., Tzischinsky, O., & Hadar, S. (2011). Delaying school starting time by one hour: Some effects on attention levels in adolescents. *Journal of Clinical Sleep Medicine: JCSM: Official Publication of the American Academy of Sleep Medicine, 7*(2), 137-143.
- Lunkenheimer, E. S., Dishion, T. J., Shaw, D. S., Connell, A. M., Gardner, F., Wilson, M. N., et al. (2008). Collateral benefits of the family check-up on early childhood school readiness: Indirect effects of parents' positive behavior support. *Developmental Psychology, 44*(6), 1737-1752. doi: 10.1037/a0013858; 10.1037/a0013858
- Lynch, K. B., Geller, S. R., & Schmidt, M. G. (2004). Multi-year evaluation of the effectiveness of a resilience-based prevention program for young children. *Journal of Primary Prevention, 24*(3), 335-353. Retrieved from SCOPUS database.
- Mahar, M. T., Murphy, S. K., Rowe, D. A., Golden, J., Shields, A. T., & Raedeke, T. D. (2006). Effects of a classroom-based program on physical activity and on-task behavior. *Medicine and Science in Sports and Exercise, 38*(12), 2086-2094. doi: 10.1249/01.mss.0000235359.16685.a3
- Malti, T., Ribeaud, D., & Eisner, M. P. (2011). The effectiveness of two universal preventive interventions in reducing children's externalizing behavior: A cluster randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 40*(5), 677-692. doi: 10.1080/15374416.2011.597084; 10.1080/15374416.2011.597084
- McClain, D. B., Wolchik, S. A., Winslow, E., Tein, J. Y., Sandler, I. N., & Millsap, R. E. (2010). Developmental cascade effects of the new beginnings program on adolescent adaptation outcomes. *Development and Psychopathology, 22*(4), 771-784. doi: 10.1017/S0954579410000453; 10.1017/S0954579410000453
- McConaughy, S. H., Kay, P. J., & Fitzgerald, M. (1999). The achieving, behaving, caring project for preventing ED: Two-year outcomes. *Journal of Emotional and Behavioral Disorders, 7*(4), 224-239. Retrieved from SCOPUS database.
- McCraty, R., Atkinson, M., Tomasino, D., Goelitz, J., & Mayrovitz, H. N. (1999). The impact of an emotional self-management skills course on psychosocial functioning and autonomic recovery to stress in middle school children. *Integrative Physiological and Behavioral Science: The Official Journal of the Pavlovian Society, 34*(4), 246-268.
- McCrorry, P., Cobley, S., & Marchant, P. (2013). The effect of psychological skills training (PST) on self-regulation behavior, self-efficacy, and psychological skill use in military pilot-trainees. *Military Psychology, 25*(2), 136-147. doi: 10.1037/h0094955
- McLaughlin, K. A., Zeanah, C. H., Fox, N. A., & Nelson, C. A. (2012). Attachment security as a mechanism linking foster care placement to improved mental health outcomes in previously institutionalized children. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 53*(1), 46-55. Retrieved from SCOPUS database.
- McMahon, R. J. (1999). Initial impact of the fast track prevention trial for conduct problems: I. the high-risk sample. *Journal of Consulting and Clinical Psychology, 67*(5), 631-647. Retrieved from SCOPUS database.
- McMahon, R. J. (1999). Initial impact of the fast track prevention trial for conduct problems: II. Classroom effects. *Journal of Consulting and Clinical Psychology, 67*(5), 648-657. Retrieved from SCOPUS database.
- McMahon, S. D., & Washburn, J. J. (2003). Violence prevention: An evaluation of program effects with urban African American students. *Journal of Primary Prevention, 24*(1), 43-62. Retrieved from SCOPUS database.

- McMahon, S. D., Washburn, J., Felix, E. D., Yakin, J., & Childrey, G. (2000). Violence prevention: Program effects on urban preschool and kindergarten children. *Applied and Preventive Psychology, 9*(4), 271-281. doi: [http://dx.doi.org/10.1016/S0962-1849\(00\)80004-9](http://dx.doi.org/10.1016/S0962-1849(00)80004-9)
- Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth. *Journal of Abnormal Child Psychology, 38*(7), 985-994. Retrieved from SCOPUS database.
- Merrell, K. W., Juskelis, M. P., Tran, O. K., & Buchanan, R. (2008). Social and emotional learning in the classroom: Evaluation of strong kids and strong teens on students' social-emotional knowledge and symptoms. *Journal of Applied School Psychology, 24*(2), 209-224. doi: 10.1080/15377900802089981
- Metz, S. M., Frank, J. L., Reibel, D., Cantrell, T., Sanders, R., & Broderick, P. C. (2013). The effectiveness of the learning to BREATHE program on adolescent emotion regulation. *Research in Human Development, 10*(3), 252-272. Retrieved from SCOPUS database.
- Mishara, B. L., & Ystgaard, M. (2006). Effectiveness of a mental health promotion program to improve coping skills in young children: Zippy's friends. *Early Childhood Research Quarterly, 21*(1), 110-123. Retrieved from SCOPUS database.
- Morawska, A., Haslam, D., Milne, D., & Sanders, M. R. (2011). Evaluation of a brief parenting discussion group for parents of young children. *Journal of Developmental and Behavioral Pediatrics: JDBP, 32*(2), 136-145. doi: 10.1097/DBP.0b013e3181f17a28; 10.1097/DBP.0b013e3181f17a28
- Morawska, A., & Sanders, M. R. (2006). Self-administered behavioral family intervention for parents of toddlers: Part I. efficacy. *Journal of Consulting and Clinical Psychology, 74*(1), 10-19. doi: 10.1037/0022-006X.74.1.10
- Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsky, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. *Development and Psychopathology, 23*(1), 195-210. doi: 10.1017/S0954579410000738; 10.1017/S0954579410000738
- Multisite Violence Prevention Project. (2008). The multisite violence prevention project: Impact of a universal school-based violence prevention program on social-cognitive outcomes. *Prevention Science: The Official Journal of the Society for Prevention Research, 9*(4), 231-244. doi: 10.1007/s11121-008-0101-1; 10.1007/s11121-008-0101-1
- Nash, J. K., Fraser, M. W., Galinsky, M. J., & Kupper, L. L. (2003). Early development and pilot testing of a problem-solving skills-training program for children. *Research on Social Work Practice, 13*(4), 432-450. doi: 10.1177/1049731503013004002
- Nelson III, C. A., Zeanah, C. H., Fox, N. A., Marshall, P. J., Smyke, A. T., & Guthrie, D. (2007). Cognitive recovery in socially deprived young children: The Bucharest early intervention project. *Science, 318*(5858), 1937-1940. doi: 10.1126/science.1143921
- Neu, M., & Robinson, J. (2010). Maternal holding of preterm infants during the early weeks after birth and dyad interaction at six months. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN / NAACOG, 39*(4), 401-414. doi: 10.1111/j.1552-6909.2010.01152.x; 10.1111/j.1552-6909.2010.01152.x
- Neville, H. J., Stevens, C., Pakulak, E., Bell, T. A., Fanning, J., Klein, S., et al. (2013). Family-based training program improves brain function, cognition, and behavior in lower socioeconomic status preschoolers. *Proceedings of the National Academy of Sciences of the United States of America, 110*(29), 12138-12143. doi: 10.1073/pnas.1304437110; 10.1073/pnas.1304437110
- Nilsen, W. (2007). Fostering futures: A preventive intervention program for school-age children in foster care. *Clinical Child Psychology and Psychiatry, 12*(1), 45-63. doi: 10.1177/1359104507071055

- Nix, R. L., Bierman, K. L., Domitrovich, C. E., & Gill, S. (2013). Promoting children's social-emotional skills in preschool can enhance academic and behavioral functioning in kindergarten: Findings from head start REDI. *Early Education and Development, 24*(7), 1000-1019. Retrieved from SCOPUS database.
- Noggle, J. J., Steiner, N. J., Minami, T., & Khalsa, S. B. S. (2012). Benefits of yoga for psychosocial well-being in a US high school curriculum: A preliminary randomized controlled trial. *Journal of Developmental and Behavioral Pediatrics, 33*(3), 193-201. doi: 10.1097/DBP.0b013e31824afdc4
- Núñez, J. C., Rosário, P., Vallejo, G., & González-Pienda, J. A. (2013). A longitudinal assessment of the effectiveness of a school-based mentoring program in middle school. *Contemporary Educational Psychology, 38*(1), 11-21. doi: 10.1016/j.cedpsych.2012.10.002
- O'Hearn, T. C., & Gatz, M. (1999). Evaluating a psychosocial competence program for urban adolescents. *The Journal of Primary Prevention, 20*(2), 119-144. doi: 10.1023/A:1021489932127
- O'Hearn, T., & Gatz, M. (2002). Going for the goal: Improving youths' problem-solving skills through a school-based intervention. *Journal of Community Psychology, 30*(3), 281-303. doi: 10.1002/jcop.10009
- Olafsen, K. S., Kaaresen, P. I., Handegard, B. H., Ulvund, S. E., Dahl, L. B., & Ronning, J. A. (2008). Maternal ratings of infant regulatory competence from 6 to 12 months: Influence of perceived stress, birth-weight, and intervention: A randomized controlled trial. *Infant Behavior & Development, 31*(3), 408-421. doi: 10.1016/j.infbeh.2007.12.005; 10.1016/j.infbeh.2007.12.005
- O'Leary-Barrett, M., MacKie, C. J., Castellanos-Ryan, N., Al-Khudhairy, N., & Conrod, P. J. (2010). Personality-targeted interventions delay uptake of drinking and decrease risk of alcohol-related problems when delivered by teachers. *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(9), 954-963.e1. Retrieved from SCOPUS database.
- O'Neill, J. M., Clark, J. K., & Jones, J. A. (2011). Promoting mental health and preventing substance abuse and violence in elementary students: A randomized control study of the Michigan model for health. *The Journal of School Health, 81*(6), 320-330. doi: 10.1111/j.1746-1561.2011.00597.x; 10.1111/j.1746-1561.2011.00597.x
- Opre, A., & Buzgar, R. (2012). The efficacy of SELF KIT program in developing socioemotional competencies of kindergarten children. *Procedia – Social and Behavioral Sciences, 33*, 964-968. Retrieved from SCOPUS database.
- Opre, A., Buzgar, R., Ghimbulut, O., & Calbaza-Ormenisan, M. (2011). SELF KIT program: Strategies for improving children' socio-emotional competencies *Procedia – Social and Behavioral Sciences, 29*, 678-683. Retrieved from SCOPUS database.
- Pears, K. C., Fisher, P. A., & Bronz, K. D. (2007). An intervention to promote social emotional school readiness in foster children: Preliminary outcomes from a pilot study. *School Psychology Review, 36*(4), 665-673. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-00698-011&site=ehost-live&scope=site>
- Pears, K. C., Fisher, P. A., Kim, H. K., Bruce, J., Healey, C. V., & Yoerger, K. (2013). Immediate effects of a school readiness intervention for children in foster care. *Early Education and Development, 24*(6), 771-791. doi: 10.1080/10409289.2013.736037
- Pears, K. C., Kim, H. K., & Fisher, P. A. (2012). Effects of a school readiness intervention for children in foster care on oppositional and aggressive behaviors in kindergarten. *Children and Youth Services Review, 34*(12), 2361-2366. doi: 10.1016/j.childyouth.2012.08.015
- Pepler, D. J., King, G., Craig, W., Byrd, B., & Bream, L. (1995). The development and evaluation of a multisystem social skills group training program for aggressive children. *Child & Youth Care Forum, 24*(5), 297-313. Retrieved from SCOPUS database.
- Perels, F., Merget-Kullmann, M., Wende, M., Schmitz, B., & Buchbinder, C. (2009). Improving self-regulated learning of preschool children: Evaluation of training for kindergarten teachers. *The*

- British Journal of Educational Psychology*, 79(Pt 2), 311-327. doi: 10.1348/000709908X322875; 10.1348/000709908X322875
- Perels, F., Otto, B., Landmann, M., Hertel, S., & Schmitz, B. (2007). Self-regulation from a process perspective. *Zeitschrift für Psychologie/Journal of Psychology*, 215(3), 194-204. doi: 10.1027/0044-3409.215.3.194
- Pickens, J. (2009). Socio-emotional programme promotes positive behaviour in preschoolers. *Child Care in Practice*, 15(4), 261-278. Retrieved from SCOPUS database.
- Quinn, M. M. (2002). Changing antisocial behavior patterns in young boys: A structured cooperative learning approach. *Education & Treatment of Children*, 25(4), 380-395. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psych&AN=2003-07473-002&site=ehost-live&scope=site>
- Rapp-Paglicci, L., Stewart, C., & Rowe, W. (2011). Can a self-regulation skills and cultural arts program promote positive outcomes in mental health symptoms and academic achievement for at-risk youth? *Journal of Social Service Research*, 37(3), 309-319. Retrieved from SCOPUS database.
- Rausch, S. M., Gramling, S. E., & Auerbach, S. M. (2006). Effects of a single session of large-group meditation and progressive muscle relaxation training on stress reduction, reactivity, and recovery. *International Journal of Stress Management*, 13(3), 273-290. doi: 10.1037/1072-5245.13.3.273
- Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Bub, K., & Pressler, E. (2011). CSR's impact on low-income preschoolers' preacademic skills: Self-regulation as a mediating mechanism. *Child Development*, 82(1), 362-378. Retrieved from SCOPUS database.
- Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Metzger, M. W., & Solomon, B. (2009). Targeting children's behavior problems in preschool classrooms: A cluster-randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 77(2), 302-316. doi: 10.1037/a0015302
- Reddy, S. D., Negi, L. T., Dodson-Lavelle, B., Ozawa-de Silva, B., Pace, T. W. W., Cole, S. P., et al. (2013). Cognitive-based compassion training: A promising prevention strategy for at-risk adolescents. *Journal of Child and Family Studies*, 22(2), 219-230. Retrieved from <http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ998656>
- Reedtz, C., Handegard, B. H., & Morch, W. T. (2011). Promoting positive parenting practices in primary care: Outcomes and mechanisms of change in a randomized controlled risk reduction trial. *Scandinavian Journal of Psychology*, 52(2), 131-137. doi: 10.1111/j.1467-9450.2010.00854.x; 10.1111/j.1467-9450.2010.00854.x
- Reid, M. J., Webster-Stratton, C., & Hammond, M. (2007). Enhancing a classroom social competence and problem-solving curriculum by offering parent training to families of moderate- to high-risk elementary school children. *Journal of Clinical Child and Adolescent Psychology*, 36(4), 605-620. Retrieved from SCOPUS database.
- Reynes, E., & Lorant, J. (2004). Competitive martial arts and aggressiveness: A 2-yr. longitudinal study among young boys. *Perceptual and Motor Skills*, 98(1), 103-115. doi: 10.2466/PMS.98.1.103-115
- Riggs, N. R., Greenberg, M. T., Kusché, C. A., & Pentz, M. A. (2006). The mediational role of neurocognition in the behavioral outcomes of a social-emotional prevention program in elementary school students: Effects of the PATHS curriculum. *Prevention Science*, 7(1), 91-102. Retrieved from SCOPUS database.
- Roberts, C., Kane, R., Thomson, H., Bishop, B., & Hart, B. (2003). The prevention of depressive symptoms in rural school children: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 71(3), 622-628.
- Rose, R. D., Buckley, J. C., Zbozinek, T. D., Motivala, S. J., Glenn, D. E., Cartreine, J. A., et al. (2013). A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. *Behaviour Research and Therapy*, 51(2), 106-112. Retrieved from SCOPUS database.


- Röthlisberger, M., Neuenschwander, R., Cimeli, P., Michel, E., & Roebbers, C. M. (2012). Improving executive functions in 5- and 6-year-olds: Evaluation of a small group intervention in prekindergarten and kindergarten children. *Infant and Child Development, 21*(4), 411-429. doi: 10.1002/icd.752
- Rueda, M. R., Checa, P., & Cómbita, L. M. (2012). Enhanced efficiency of the executive attention network after training in preschool children: Immediate changes and effects after two months. *Developmental Cognitive Neuroscience, 2*, S192-S204. doi: 10.1016/j.dcn.2011.09.004
- Ruini, C., Belaise, C., Brombin, C., Caffo, E., & Fava, G. A. (2006). Well-being therapy in school settings: A pilot study. *Psychotherapy and Psychosomatics, 75*(6), 331-336. Retrieved from SCOPUS database.
- Sandy, S. V., & Boardman, S. K. (2000). The peaceful kids conflict resolution program. *International Journal of Conflict Management, 11*(4), 337-357. doi: 10.1108/eb022845
- Sanz de Acedo Lizarraga, M. L., & Iriarte Iriarte, M. D. (2001). Enhancement of cognitive functioning and self-regulation of learning in adolescents. *The Spanish Journal of Psychology, 4*(1), 55-64.
- Sanz de Acedo Lizarraga, M. L., Ugarte, M. D., Cardelle-Elawar, M., Iriarte, M. D., & Sanz de Acedo Baquedano, M. T. (2003). Enhancement of self-regulation, assertiveness, and empathy. *Learning and Instruction, 13*(4), 423-439. Retrieved from SCOPUS database.
- Schartau, P. E. S., Dalglish, T., & Dunn, B. D. (2009). Seeing the bigger picture: Training in perspective broadening reduces self-reported affect and psychophysiological response to distressing films and autobiographical memories. *Journal of Abnormal Psychology, 118*(1), 15-27. doi: 10.1037/a0012906
- Schick, A., & Cierpka, M. (2005). Faustlos: Evaluation of a curriculum to prevent violence in elementary schools. *Applied and Preventive Psychology, 11*(3), 157-165. Retrieved from SCOPUS database.
- Schinke, S. P., Fang, L., & Cole, K. C. (2009). Preventing substance use among adolescent girls: 1-year outcomes of a computerized, mother-daughter program. *Addictive Behaviors, 34*(12), 1060-1064. doi: 10.1016/j.addbeh.2009.06.007; 10.1016/j.addbeh.2009.06.007
- Schiraldi, G. R., Jackson, T. K., Brown, S. L., & Jordan, J. B. (2010). Resilience training for functioning adults: Program description and preliminary findings from a pilot investigation. *International Journal of Emergency Mental Health, 12*(2), 117-130. Retrieved from SCOPUS database.
- Schmitt, S. A., Flay, B. R., & Lewis, K. (2014). A pilot evaluation of the positive action prekindergarten lessons. *Early Child Development and Care,*
- Schonert-Reichl, K. A., & Lawlor, M. S. (2010). The effects of a mindfulness-based education program on pre- and early adolescents' well-being and social and emotional competence. *Mindfulness, 1*(3), 137-151. Retrieved from SCOPUS database.
- Schultz, B. L., Richardson, R. C., Barber, C. R., & Wilcox, D. (2011). A preschool pilot study of connecting with others: Lessons for teaching social and emotional competence. *Early Childhood Education Journal, 39*(2), 143-148. doi: 10.1007/s10643-011-0450-4
- Schweizer, S., Grahn, J., Hampshire, A., Mobbs, D., & Dalglish, T. (2013). Training the emotional brain: Improving affective control through emotional working memory training. *The Journal of Neuroscience : The Official Journal of the Society for Neuroscience, 33*(12), 5301-5311. doi: 10.1523/JNEUROSCI.2593-12.2013; 10.1523/JNEUROSCI.2593-12.2013
- Searle, B. J. (2008). Does personal initiative training work as a stress management intervention? *Journal of Occupational Health Psychology, 13*(3), 259-270. doi: 10.1037/1076-8998.13.3.259
- Semeniuk, Y., Brown, R. L., Riesch, S. K., Zywicki, M., Hopper, J., & Henriques, J. B. (2010). The strengthening families program 10-14: Influence on parent and youth problem-solving skill. *Journal of Psychiatric and Mental Health Nursing, 17*(5), 392-402. doi: 10.1111/j.1365-2850.2009.01534.x; 10.1111/j.1365-2850.2009.01534.x
- Sample, R. J., Lee, J., Rosa, D., & Miller, L. F. (2010). A randomized trial of mindfulness-based cognitive therapy for children: Promoting mindful attention to enhance social-emotional resiliency in children. *Journal of Child and Family Studies, 19*(2), 218-229. Retrieved from SCOPUS database.

- Serna, L., Nielsen, E., Lambros, K., & Forness, S. (2000). Primary prevention with children at risk for emotional or behavioral disorders: Data on a universal intervention for head start classrooms. *Behavioral Disorders, 26*(1), 70-84. Retrieved from SCOPUS database.
- Sharma, M., Petosa, R., & Heaney, C. A. (1999). Evaluation of a brief intervention based on social cognitive theory to develop problem-solving skills among sixth-grade children. *Health Education & Behavior: The Official Publication of the Society for Public Health Education, 26*(4), 465-477.
- Sheard, M. K., Ross, S., & Cheung, A. (2012). Educational effectiveness of an intervention programme for social-emotional learning. *International Journal of Multiple Research Approaches, 6*(3), 264-284. Retrieved from SCOPUS database.
- Shek, D. T., & Yu, L. (2012). Longitudinal impact of the project PATHS on adolescent risk behavior: What happened after five years? *The scientific World Journal, 2012*, 316029. doi: 10.1100/2012/316029; 10.1100/2012/316029
- Shelleby, E. C., Shaw, D. S., Cheong, J., Chang, H., Gardner, F., Dishion, T. J., et al. (2012). Behavioral control in at-risk toddlers: The influence of the family check-up. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 41*(3), 288-301. doi: 10.1080/15374416.2012.664814; 10.1080/15374416.2012.664814
- Sheridan, B. A., MacDonald, D. A., Donlon, M., Kuhn, B., McGovern, K., & Friedman, H. (2011). Evaluation of a social skills program based on social learning theory, implemented in a school setting. *Psychological Reports, 108*(2), 420-436. Retrieved from SCOPUS database.
- Sheridan, S. M., Knoche, L. L., Edwards, C. P., Bovaird, J. A., & Kupzyk, K. A. (2010). Parent engagement and school readiness: Effects of the getting ready intervention on preschool children's social-emotional competencies. *Early Education and Development, 21*(1), 125-156. doi: 10.1080/10409280902783517
- Sheridan, S. M., Marvin, C. A., Knoche, L. L., & Edwards, C. P. (2008). Getting ready: Promoting school readiness through a relationship-based partnership model. *Early Childhood Services: An Interdisciplinary Journal of Effectiveness, 2*(3), 149-172. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-06940-003&site=ehost-live&scope=site>
- Shokoohi-Yekta, M., Parand, A., & Ahmadi, A. (2011). Effects of teaching problem solving strategies to parents of pre-teens: A study of family relationship. *Procedia – Social and Behavioral Sciences, 15*, 957-960. Retrieved from SCOPUS database.
- Shure, M. B. (1993). I can problem solve (ICPS): Interpersonal cognitive problem solving for young children. *Early Child Development and Care, 96*, 49-64. doi: 10.1080/0300443930960106
- Sibinga, E. M. S., Kerrigan, D., Stewart, M., Johnson, K., Magyari, T., & Ellen, J. M. (2011). Mindfulness-based stress reduction for urban youth. *Journal of Alternative and Complementary Medicine, 17*(3), 213-218. Retrieved from SCOPUS database.
- Sibinga, E. M. S., Perry-Parrish, C., Chung, S-e., Johnson, S. B., Smith, M., & Ellen, J. M. (2013). *School-based mindfulness instruction for urban male youth: A small randomized controlled trial* Retrieved from SCOPUS database.
- Simon, T. R., Ikeda, R. M., Smith, E. P., Reese, L. E., Rabiner, D. L., Miller-Johnson, S., et al. (2008). The multisite violence prevention project: Impact of a universal school-based violence prevention program on social-cognitive outcomes. *Prevention Science, 9*(4), 231-244. doi: 10.1007/s11121-008-0101-1
- Smith, E. A., Swisher, J. D., Vicary, J. R., Bechtel, L. J., & et al. (2004). Evaluation of life skills training and infused-life skills training in a rural setting: Outcomes at two years. *Journal of Alcohol and Drug Education, 48*(1), 51-70. Retrieved from <http://search.proquest.com.proxy.lib.duke.edu/docview/217432467?accountid=10598>

- Smokowski, P. R., Fraser, M. W., Day, S. H., Galinsky, M. J., & Bacallao, M. L. (2004). School-based skills training to prevent aggressive behavior and peer rejection in childhood: Evaluating the making choices program. *Journal of Primary Prevention, 25*(2), 233-251. Retrieved from SCOPUS database.
- Smolkowski, K., Biglan, A., Barrera, M., Taylor, T., Black, C., & Blair, J. (2005). Schools and homes in partnership (SHIP): Long-term effects of a preventive intervention focused on social behavior and reading skill in early elementary school. *Prevention Science: The Official Journal of the Society for Prevention Research, 6*(2), 113-125.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2010). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development, 81*(1), 212-223. doi: 10.1111/j.1467-8624.2009.01390.x
- Soper, A. C., Wolchik, S. A., Tein, J. Y., & Sandler, I. N. (2010). Mediation of a preventive intervention's 6-year effects on health risk behaviors. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors, 24*(2), 300-310. doi: 10.1037/a0019014; 10.1037/a0019014
- Spence, S. H., Sheffield, J. K., & Donovan, C. L. (2005). Long-term outcome of a school-based, universal approach to prevention of depression in adolescents. *Journal of Consulting and Clinical Psychology, 73*(1), 160-167. doi: 10.1037/0022-006X.73.1.160
- Spence, S. H., Sheffield, J. K., & Donovan, C. L. (2003). Preventing adolescent depression: An evaluation of the problem solving for life program. *Journal of Consulting and Clinical Psychology, 71*(1), 3-13. doi: 10.1037/0022-006X.71.1.3
- Spieker, S. J., Oxford, M. L., Kelly, J. F., Nelson, E. M., & Fleming, C. B. (2012). Promoting first relationships: Randomized trial of a relationship-based intervention for toddlers in child welfare. *Child Maltreatment, 17*(4), 271-286. doi: 10.1177/1077559512458176
- Spoth, R. L., Redmond, C., & Shin, C. (2000). Reducing adolescents' aggressive and hostile behaviors: Randomized trial effects of a brief family intervention 4 years past baseline. *Archives of Pediatrics & Adolescent Medicine, 154*(12), 1248-1257.
- Spoth, R. L., Redmond, C., Trudeau, L., & Shin, C. (2002). Longitudinal substance initiation outcomes for a universal preventive intervention combining family and school programs. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors, 16*(2), 129-134.
- Stallard, P., & Buck, R. (2013). Preventing depression and promoting resilience: Feasibility study of a school-based cognitive-behavioural intervention. *The British Journal of Psychiatry. Supplement, 54*, s18-23. doi: 10.1192/bjp.bp.112.119172; 10.1192/bjp.bp.112.119172
- Stefan, C. A. (2012). Social-emotional prevention program for preschool children: An analysis of a high risk sample. *Cognition, Brain, Behavior, 16*(3), 319-356. Retrieved from SCOPUS database.
- Ştefan, C. A., & Miclea, M. (2013). Effects of a multifocused prevention program on preschool children's competencies and behavior problems. *Psychology in the Schools, 50*(4), 382-402. Retrieved from SCOPUS database.
- Steinhardt, M., & Dolbier, C. (2008). Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. *Journal of American College Health, 56*(4), 445-453. Retrieved from SCOPUS database.
- Stevahn, L., Johnson, D. W., Johnson, R. T., Oberle, K., & Wahl, L. (2000). Effects of conflict resolution training integrated into a kindergarten curriculum. *Child Development, 71*(3), 772-784. Retrieved from SCOPUS database.
- Stevahn, L., Johnson, D. W., Johnson, R. T., & Schultz, R. (2002). Effects of conflict resolution training integrated into a high school social studies curriculum. *Journal of Social Psychology, 142*(3), 305-331. Retrieved from SCOPUS database.
- Stoiber, K. C., & Gettinger, M. (2011). Functional assessment and positive support strategies for promoting resilience: Effects on teachers and high-risk children. *Psychology in the Schools, 48*(7), 686-706. Retrieved from SCOPUS database.

- Stormshak, E. A., Fosco, G. M., & Dishion, T. J. (2010). Implementing interventions with families in schools to increase youth school engagement: The family check-up model. *School Mental Health, 2*(2), 82-92. doi: 10.1007/s12310-009-9025-6
- Swisher, J. D., Smith, E. A., Vicary, J. R., Bechtel, L. J., & Hopkins, A. M. (2004). A cost-effectiveness comparison of two approaches to life skills training. *Journal of Alcohol and Drug Education, 48*(1), 71-87. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2004-18283-006&site=ehost-live&scope=site>
- Tang, Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., et al. (2007). Short-term meditation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences of the United States of America, 104*(43), 17152-17156. Retrieved from SCOPUS database.
- Taylor, C. A., Liang, B., Tracy, A. J., Williams, L. M., & Seigle, P. (2002). Gender differences in middle school adjustment, physical fighting, and social skills: Evaluation of a social competency program. *The Journal of Primary Prevention, 23*(2), 259-272. doi: 10.1023/A:1019976617776
- Thurston, L. P. (2002). Practical partnerships: Analysis and results of a cooperative life skills program for at-risk rural youth. *Journal of Education for Students Placed at Risk, 7*(3), 313-326. doi: 10.1207/S15327671ESPR0703_2
- Tominey, S. L., & McClelland, M. M. (2011). Red light, purple light: Findings from a randomized trial using circle time games to improve behavioral self-regulation in preschool. *Early Education and Development, 22*(3), 489-519. Retrieved from SCOPUS database.
- Tremblay, R. E., Pagani-Kurtz, L., MÃcsse, L. C., Vitaro, F., & Pihl, R. O. (1995). A bimodal preventive intervention for disruptive kindergarten boys: Its impact through mid-adolescence. *Journal of Consulting and Clinical Psychology, 63*(4), 560-568. doi: 10.1037/0022-006X.63.4.560
- Tuttle, J., Campbell-Heider, N., & David, T. M. (2006). Positive adolescent life skills training for high-risk teens: Results of a group intervention study. *Journal of Pediatric Health Care: Official Publication of National Association of Pediatric Nurse Associates & Practitioners, 20*(3), 184-191. doi: 10.1016/j.pedhc.2005.10.011
- Twemlow, S. W., Biggs, B. K., Nelson, T. D., Vernberg, E. M., Fonagy, P., & Twemlow, S. W. (2008). Effects of participation in a martial arts-based antibullying program in elementary schools. *Psychology in the Schools, 45*(10), 947-959. Retrieved from SCOPUS database.
- Upshur, C., Wenz-Gross, M., & Reed, G. (2013). A pilot study of a primary prevention curriculum to address preschool behavior problems. *Journal of Primary Prevention, 34*(5), 309-327. Retrieved from SCOPUS database.
- Urizar Jr., G. G., & MuÃoz, R. F. (2011). Impact of a prenatal cognitive-behavioral stress management intervention on salivary cortisol levels in low-income mothers and their infants. *Psychoneuroendocrinology, 36*(10), 1480-1494. doi:<http://dx.doi.org/10.1016/j.psyneuen.2011.04.002>
- Van Zeijl, J., Mesman, J., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F., Stolk, M. N., et al. (2006). Attachment-based intervention for enhancing sensitive discipline in mothers of 1- to 3-year-old children at risk for externalizing behavior problems: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 74*(6), 994-1005. doi: 10.1037/0022-006X.74.6.994
- Vandeveld, S., Van Keer, H., & De Wever, B. (2011). Exploring the impact of student tutoring on at-risk fifth and sixth graders' self-regulated learning. *Learning and Individual Differences, 21*(4), 419-425. doi: 10.1016/j.lindif.2011.01.006
- Walkup, J. T., Barlow, A., Mullany, B. C., Pan, W., Goklish, N., Hasting, R., et al. (2009). Randomized controlled trial of a paraprofessional-delivered in-home intervention for young reservation-based American Indian mothers. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*(6), 591-601. Retrieved from SCOPUS database.

- Washburn, I. J., Acock, A., Vuchinich, S., Snyder, F., Li, K., Ji, P., et al. (2011). Effects of a social-emotional and character development program on the trajectory of behaviors associated with social-emotional and character development: Findings from three randomized trials. *Prevention Science, 12*(3), 314-323. doi: 10.1007/s11121-011-0230-9
- Webster-Stratton, C., Jamila Reid, M., & Stoolmiller, M. (2008). Preventing conduct problems and improving school readiness: Evaluation of the Incredible Years teacher and child training programs in high-risk schools. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 49*(5), 471-488. Retrieved from SCOPUS database.
- Weiss, B., Harris, V., Catron, T., & Han, S. S. (2003). Efficacy of the RECAP intervention program for children with concurrent internalizing and externalizing problems. *Journal of Consulting and Clinical Psychology, 71*(2), 364-374. doi:10.1037/0022-006X.71.2.364
- Westhues, A., Hanbidge, A. S., Gebotys, R., & Hammond, A. (2009). Comparing the effectiveness of school-based and community-based delivery of an emotional regulation skills program for children. *School Social Work Journal, 34*(1), 74-96. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psych&AN=2009-17819-006&site=ehost-live&scope=site>
- White, L. S. (2012). Reducing stress in school-age girls through mindful yoga. *Journal of Pediatric Health Care, 26*(1), 45-56. Retrieved from SCOPUS database.
- White-Traut, R. C., Schwertz, D., McFarlin, B., & Kogan, J. (2009). Salivary cortisol and behavioral state responses of healthy newborn infants to tactile-only and multisensory interventions. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN / NAACOG, 38*(1), 22-34. doi:10.1111/j.1552-6909.2008.00307.x; 10.1111/j.1552-6909.2008.00307.x
- Wiggins, T. L., Sofronoff, K., & Sanders, M. R. (2009). Pathways triple P-positive parenting program: Effects on parent-child relationships and child behavior problems. *Family Process, 48*(4), 517-530. doi: 10.1111/j.1545-5300.2009.01299.x; 10.1111/j.1545-5300.2009.01299.x
- Willert, M. V., Thulstrup, A. M., Hertz, J., & Bonde, J. P. (2010). Sleep and cognitive failures improved by a three-month stress management intervention. *International Journal of Stress Management, 17*(3), 193-213. doi: 10.1037/a0019612
- Wilson, K. R., Havighurst, S. S., & Harley, A. E. (2012). Tuning in to kids: An effectiveness trial of a parenting program targeting emotion socialization of preschoolers. *Journal of Family Psychology: JFP: Journal of the Division of Family Psychology of the American Psychological Association (Division 43), 26*(1), 56-65. doi: 10.1037/a0026480; 10.1037/a0026480
- Winsler, A., Ducenne, L., & Koury, A. (2011). Singing one's way to self-regulation: The role of early music and movement curricula and private speech. *Early Education and Development, 22*(2), 274-304. Retrieved from SCOPUS database.
- Wolfe, D. E., & Noguchi, L. K. (2009). The use of music with young children to improve sustained attention during a vigilance task in the presence of auditory distractions. *Journal of Music Therapy, 46*(1), 69-82.
- Work, W. C., & Olsen, K. H. (1990). Evaluation of a revised fourth grade social problem solving curriculum: Empathy as a moderator of adjustive gain. *The Journal of Primary Prevention, 11*(2), 143-157. doi: 10.1007/BF01325280
- Woud, M. L., Holmes, E. A., Postma, P., Dalgleish, T., & Mackintosh, B. (2012). Ameliorating intrusive memories of distressing experiences using computerized reappraisal training. *Emotion, 12*(4), 778-784. doi: 10.1037/a0024992
- Wyman, P. A., Cross, W., Brown, C. H., Yu, Q., Tu, X., & Eberly, S. (2010). Intervention to strengthen emotional self-regulation in children with emerging mental health problems: Proximal impact on school behavior. *Journal of Abnormal Child Psychology, 38*(5), 707-720. Retrieved from SCOPUS database.

- 
- Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and Cognition, 19*(2), 597-605. Retrieved from SCOPUS database.
- Zubernis, L. S., Cassidy, K. W., Gillham, J. E., Reivich, K. J., & Jaycox, L. H. (1999). Prevention of depressive symptoms in preadolescent children of divorce. *Journal of Divorce & Remarriage, 30*(1-2), 11-36. doi: 10.1300/J087v30n01_02
- Zubrick, S. R., Ward, K. A., Silburn, S. R., Lawrence, D., Williams, A. A., Blair, E., et al. (2005). Prevention of child behavior problems through universal implementation of a group behavioral family intervention. *Prevention Science: The Official Journal of the Society for Prevention Research, 6*(4), 287-304. doi: 10.1007/s11121-005-0013-2