



The Center for  
Health and Health  
Care in Schools

# **The Impact of School-Connected Behavioral and Emotional Health Interventions on Student Academic Performance**

An Annotated Bibliography of  
Research Literature

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## PURPOSE

Over the past decade, interest in behavioral health promotion and early intervention programs has increased and support to include schools as settings for behavioral and emotional health activities has expanded. This annotated bibliography identifies recent empirical studies and reviews linking behavioral health promotion and prevention interventions with student academic outcomes.

## METHODOLOGY

The annotated bibliography provides a systematic review of current literature published between 2001 and 2013 and summarizes findings on the relationship between prevention-focused behavioral health interventions, such as social and emotional learning programs, and their impact on academic outcomes.

An initial version of the bibliography featured 12 publications that highlighted the association between interventions that strengthen social and emotional development and academic outcomes. These initial articles were rerun through EBSCO, ERIC, Google Scholar, MEDLINE, PubMed, and Scopus electronic databases in order to identify appropriate search terms and key words for novel searches. Search terms are presented in **Table 1**.

**Table 1**

### Search Terms & Keywords

<b>Population</b>	Youth, Child, Student
<b>Setting</b>	School, Classroom, Educational Setting
<b>Domain</b>	Behavioral Health, Social Behavior, Social Emotional Learning, Character Development, Emotional Intelligence, Prevention, Positive Youth Development, Social Responsibility
<b>Aim</b>	Evaluation, Intervention, Analysis, Academic Achievement, Academic Outcomes, Academic Success, Grade Improvement

Novel searches using the terms and keywords in **Table 1** were run through the same electronic databases. Limits were set so that searches included studies published between 2001 and 2013 and were available in English. Search results were compiled from the multiple databases, resulting in 157 new publications for consideration. Abstracts for the 157 publications were downloaded and reviewed based on the inclusion and exclusion criteria outlined in **Table 2**.

**Table 2**

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"><li>• Published in peer-reviewed journal or by reputable source (i.e. government report, nonpartisan research organization)</li><li>• Experimental or quasi-experimental study design</li><li>• N &gt; 100 study participants</li><li>• An evaluation or report on a universal school-based behavioral health intervention or mental health promotion or prevention program</li><li>• Change measured in at least one academic outcome*</li></ul>	<ul style="list-style-type: none"><li>• Not published in a peer-reviewed journal or by a reputable source</li><li>• Not an experimental or quasi-experimental study design</li><li>• N &lt; 100 study participants</li><li>• Evaluates or reports on a school-based behavioral health or mental health treatment program or clinical service</li><li>• Does not measure change in at least one academic outcome*</li><li>• An intervention is used that combines an educational component with the behavioral health component or mental health program</li><li>• Interventions or programs that are only implemented in early childhood education settings (i.e. Head Start, pre-kindergarten)</li><li>• Interventions conducted outside of the United States</li></ul>

\*Academic outcome was defined as a measure of academic achievement (i.e. test scores, grade point average) as well as indicators less proximal but still related to academic success (i.e. absenteeism, suspensions).

A team of three reviewers was trained on the inclusion and exclusion criteria and how to code abstracts. All 157 abstracts were reviewed independently and coded based on the exclusion criteria. Coding results were compared for inter-rater reliability and any discrepancies were resolved through discussion among the reviewers until consensus was reached. This process identified 18 new publications for inclusion in the updated version of the annotated bibliography. The more stringent inclusion criteria resulted in exclusion of two of the previously identified studies from the first version of the bibliography. The revised bibliography now features a total of 28 empirical studies or reviews.

## FINDINGS

A review of the existing literature published between 2001 and 2013 demonstrates that effective behavioral health interventions are associated with improved academic outcomes. For the purpose of this review, an academic outcome was defined both as a measure of academic achievement (i.e. test scores, grade point average), as well as indicators that were less proximal but still related to academic success (i.e. absenteeism, suspensions).

Universal school-based behavioral health interventions were shown not only to be associated with improved academic achievement, but also to be linked to improvements in related behaviors known to influence academic success. Improved academic achievement was demonstrated by increases in school grades, standardized test scores, grade point averages, and teacher-rated academic competence. Improvement in related areas included increased on-task learning behavior, better time management, strengthened goal setting and problem solving skills, and decreased rates of absenteeism and suspensions.

Students who received a behavioral health intervention showed greater resilience and emotional functioning as evidenced by increased academic motivation, self-efficacy, commitment to school, and stability during grade-level transitions. At the school level, intervention sites reported less violence, bullying, and other problem-behaviors among students.

In general, longer program duration for behavioral health interventions was associated with improved outcomes. Several longitudinal studies – those that implemented an intervention for more than one academic year and/or tracked outcomes over time – found that positive program effects were sustained, with the strongest effects observed immediately following the intervention, and among students with early or prolonged exposure to a program.

In summary, this systematic review continues to demonstrate the importance of evaluating the effects and impact of behavioral health preventive interventions and academic outcomes. With the body of evidence continuing to expand, a more nuanced understanding of the most effective interventions and implementation strategies is likely to result in more supportive learning environments and to improved student outcomes.

## EMPIRICAL STUDIES OR REVIEWS

**Battistich, V., Schaps, E., & Wilson, N. (2004). Effects of an elementary school intervention on students' "connectedness" to school and social adjustment during middle school. *Journal of Primary Prevention, 24*(3), 243-262.**

An empirical study of 1,246 students in six intervention and six matched comparison elementary schools found that students participating in the Child Development Project, a program designed to reduce risk of problem behavior (such as drug use and violence) and promote resilience among youth, demonstrated greater engagement and commitment to school. The intervention yielded higher academic performance among participating middle school students, as measured by grade point average (GPA) in core subjects and scores on district-administered achievement tests. The program is a whole-school intervention that emphasizes the promotion of positive youth development, with intensive classroom programming (including collaborative learning, language arts curriculum, and development of self-control and personal responsibility), as well as a family component.

**Bavarian, N., Lewis, K. M., DuBois, D. L., Acock, A., Vuchinich, S., Silverthorn, N., Snyder, F. J., Day, J., Ji, P., & Flay, B. R. (2013). Using social-emotional and character development to improve academic outcomes: A matched-pair, cluster-randomized controlled trial in low-income, urban schools. *Journal of School Health, 83*(11), 771-779.**

A longitudinal study following 1170 students from grades 3 through 8 in low-income, urban schools found that students participating in the Positive Action (PA) program, a school-based social-emotional and character development program, demonstrated significant growth in academic motivation, were absent less frequently, and showed improvement in math performance. The program emphasizes the ability of positive feelings, thoughts, and actions to reduce negative behaviors. The classroom curriculum consists of age appropriate lessons of approximately 20 minutes in length that are taught 2-4 days per week, depending on grade level. Teacher, counselor, family, and community training and school climate development are also implemented to further promote positive actions among students.

**Benninga, J. S., Berkowitz, M. W., Kuehn, P., & Smith, K. (2003). The relationship of character education implementation and academic achievement in elementary schools. *Journal of Research in Character Education, 1*(1), 19-32.**

Of the 681 elementary schools that applied for the California School Recognition Program (CSRP), 120 applications were randomly selected from this population. The selected sample schools were reviewed and scored for their implementation of character education interventions using a rubric and scoring scale that evaluated key criteria and indicators of character education. Several individual indicators as well as a composite score for the character education interventions were analyzed and the authors found that schools implementing character education had higher scores on academic measures for the year prior, year of, and two years subsequent to their application for the CSRP recognition than the control schools.

**Berkowitz, M. W., & Bier, M. C. (2007). What works in character education. *Journal of Research in Character Education, 5*(1), 29-48.**

A review of existing research on 33 effective character education programs (including 64 empirical studies and 5 meta-analyses and literature reviews) aimed to identify common effects of the interventions as well as common shared practices. The authors found that character education programs with the greatest efficacy included social and emotional learning curriculum, an explicit focus on character and ethics, professional development for implementation, modeling of character, and community service or service learning. Among the most commonly found significant outcomes were improved school behavior and academic achievement; including grades, test scores, and promotion to the next grade.

**Brackett, M. A., Rivers, S. E., Reyes, M. R., & Salovey, P. (2012). Enhancing academic performance and social and emotional competence with the RULER feeling words curriculum. *Learning and Individual Differences, 22(2), 218-224.***

A quasi-experimental study of 273 fifth and sixth grade students found that students receiving the RULER Feeling Words social and emotional learning curriculum demonstrated higher grades and greater social and emotional competence compared to a control group of students. The intervention consists of 30 weeks of incorporating emotion-related vocabulary into standard curricula (such as language arts), with a regular introduction of new vocabulary approximately every two weeks. Teachers rated student outcomes at the end of classroom implementation. The study offers preliminary evidence that social and emotional learning programs positively impact student academic outcomes.

**Bradshaw, C. P., Waasdorp, T. E. & Leaf, P. J. (2012). Effects of school-wide positive behavioral interventions and supports on child behavior problems. *Pediatrics, 130(5), e1136-e1145.***

A randomized control trial of 12,344 elementary school students from 37 schools found that implementation of school-wide positive behavioral interventions and supports (SWPBIS) reduced students' behavior and concentration problems, reduced students' likelihood of receiving an office discipline referral, and increased social-emotional functioning and pro-social behavior. The SWPBIS intervention is a widely used universal prevention strategy in which schools establish a set of school-wide expectations of student behavior that are taught to staff (through multiple training sessions) and students. Measures were collected five times over the course of four years, and the effects were strongest among children who were first exposed to SWPBIS in kindergarten.

**Catalano, R. F., Mazza, J. J., Harachi, T. W., Abbott, R. D., Haggerty, K. P., & Fleming, C. B. (2003). Raising healthy children through enhancing social development in elementary school: Results after 1.5 years. *Journal of School Psychology, 41(2), 143-164.***

An empirical study of 938 elementary students from either first or second grade, five intervention and five control schools in the Pacific Northwest, found that those that were randomly assigned to the Raising Healthy Children (RHC) intervention had significantly higher teacher- and parent-reported improvements in academic performance. The RHC intervention consisted of teacher training on topics such as cooperative learning methods, strategies to enhance student motivation, and interpersonal skills. The intervention also included training for parents on family management and helping their child succeed in school, plus summer camps and in-home services to students referred for academic or behavior problems. The academic performance measure was based on two questions pertaining to commitment to school ("student tries hard in school" and "student wants to do well in school"), as well as a scale rating students' performance in reading, language arts, and math compared to their peers.

**Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45(3-4), 294-309.***

A meta-analysis of 69 different after-school programs that aim to enhance the personal and social skills of children and adolescents ranging from ages 5 to 18 years concluded that relative to control groups, students who participated in a skills-building program demonstrated significant increases in positive social behaviors. Improvement in school grades and academic achievement were also found, as measured by standardized school achievement testing. Participants also demonstrated significant reductions in problem behaviors such as aggression and disciplinary referrals. To be included in the meta-analysis, programs needed to include both a control group and follow-up data. The index of effect compared across studies was a standardized mean difference calculated per study for each analysis.

**Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Shellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405-432.**

A meta-analysis of 213 school-based, universal social and emotional learning (SEL) programs involving 270,034 K-12 students revealed that, compared to controls, SEL participants demonstrated significantly improved academic and behavioral outcomes. Program outcomes examined in the analysis included social and emotional skills, attitudes, behavior, and academic performance as measured by standardized or math achievement test scores, GPA, or grades in specific subjects.

**Elias, M. J., & Haynes, N. M. (2008). Social competence, social support, and academic achievement in minority, low-income, urban elementary school children. *School Psychology Quarterly, 23*(4), 474.**

An empirical study of 282 students in third grade from six different elementary schools in a Northwestern urban community found that social-emotional competence and teacher support positively influenced academic outcomes over a period of nine months, particularly among African American students. Data collected prior to this study resulted in curriculum tailored for preventing violence and promoting social-emotional competence among urban elementary school students. Pre- and post- assessments were administered and academic, as well as nonacademic, information was obtained from student report cards after the intervention.

**Farahmand, F. K., Grant, K. E., Polo, A. J., & Duffy, S. N. (2011). School-based mental health and behavioral programs for low-income, urban youth: A systematic and meta-analytic review. *Clinical Psychology: Science and Practice, 18*(4), 372-390.**

A meta-analytic review of 29 school-based mental health programs for low-income, urban youth yielded 5 programs classified as effective, 8 programs classified as mixed, and 16 classified as ineffective. The programs selected for the review were ones that provided school-based mental health services, included a control group and standardized outcome measures, with outcomes assessed at baseline and at least one post-intervention time point. The resulting analysis failed to indicate effects of the typical program on primary outcomes related to the target of the program (for example, substance use outcomes for substance use programs, social skills and academic outcomes for broad mental or behavioral health programs, etc.). However, effectiveness was evident for universal programs that targeted internalizing problems or had a broader social and emotional learning focus.

**Flay, B. R., & Allred, C. G. (2003). Long-term effects of the Positive Action program. *American Journal of Health Behavior, 27* (supplement 1), S6-S21.**

An empirical study using archival school-level data from 129 elementary, middle and high schools in one large southeastern school district during the 1997-1998 school year, found that students in schools that implemented the Positive Action (PA) program scored better on standardized tests compared to students in matched control schools without the PA program. Students exposed to the PA program were also less likely to be suspended or absent, and less likely to drop out in high school. The PA program was teacher-implemented, consisted of daily 15-20 minute scripted lessons nearly every day, and included topics such as: positive actions for one's mind and body, social/emotional positive actions for managing oneself responsibly, how to get along with others, being honest with oneself and others, the basics of self-conception, and continually improving oneself.

**Flay, B. R., Allred, C. G., & Ordway, N. (2001). Effects of the Positive Action program on achievement and discipline: Two matched-control comparisons. *Prevention Science, 2*, 71–89.**

In an empirical study of 12 schools in Nevada and eight schools in Hawaii that had implemented the Positive Action (PA) intervention for three or more years, the authors found that when compared to the matched control schools (N = 40), the intervention schools performed better on standardized math and reading tests, and had lower reports of in-school violence. The PA intervention was implemented as described in the Flay 2003 study.

**Hanson, T., Dietsch, B., & Zheng, H. (2012). Lessons in character impact evaluation. Final Report. NCEE 2012-4004. National Center for Education Evaluation and Regional Assistance.**

An empirical study of 4,683 elementary students in grades 4 and 5 in California participating in the Lessons in Character (LIC) program examined whether students receiving the character education intervention impacted student academic achievement, social competence, and problem behaviors in comparison to students who do not. The LIC intervention, and English language-arts based character education program, required teachers to incorporate 19-25 supplementary positive character development lessons (each 20 minutes in length) into classroom instruction each year over a period of two academic years. The analyses found that the LIC did not impact student academic achievement, social competence, or problem behaviors on any of the analyzed measures, which included English language arts standardized testing, aggression, delinquent behavior, and academic competence. The authors conclude that the failure to detect program impacts on student outcomes could be due to weak implementation of the program, ineffective intervention design, or methodology limitations of the study.

**Hennessey, B. A. (2007). Promoting social competence in school-aged children: The effects of the Open Circle program. *Journal of School Psychology, 45*(3), 349-360.**

An empirical study of 154 fourth grade students in four schools participating in the Open Circle Program (OCP) intervention for one school year found that students in classrooms receiving the OCP social competence curriculum demonstrated more teacher-reported improvements in social skills and fewer problem behaviors, than did the students in control groups. The OCP intervention consists of twice-weekly gatherings of the students and teacher in the classroom to work on one of 35 lessons that support a cooperative classroom environment, self-esteem, respectful communication, and building positive relationships. Two of the schools were located in middle to upper-middle class suburban areas and two schools served more diverse, urban populations of students. The intervention proved more effective for those students in urban settings.

**Hoagwood, K. E., Olin, S. S., Kerker, B. D., Kratochwill, T. R., Crowe, M., & Saka, N. (2007). Empirically based school interventions targeted at academic and mental health functioning. *Journal of Emotional and Behavioral Disorders, 15*, 66-92.**

A review of more than 2,000 published articles between 1990 and June 2006 found that only 24 studies examined the impact of school-based mental health interventions on both mental health and educational outcomes. Fifteen of the studied interventions demonstrated a positive impact on both education and mental health outcomes, such as measures of social competence, aggression, and problem behaviors. The mental health interventions varied considerably, with four being shorter term (a semester or less) and primarily researcher implemented, and eleven targeting children at risk for antisocial behaviors with intensive programming across multiple levels (i.e. home, classroom, and/or school). Education outcomes included at least one of the following: reading, writing and math grades, standardized test scores, teacher and parent reported academic improvement, age-appropriate classes, academic engaged time, and school attendance.



**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.***

A school-randomized, experimental design study that followed 1,118 children from 18 elementary schools for two years reported on the development of students whose classrooms incorporated school-based, social-emotional learning and literacy interventions. The 4Rs (Reading, Writing, Respect, and Resolution) intervention integrates social and emotional development into language arts curriculum through a comprehensive, 7 unit, 21-35 lesson plan and ongoing teacher training. Those students in classrooms that received the intervention showed positive improvements in self-reports of hostile attributional bias, improved strategies for aggressive interpersonal negotiations, and improvements in depression. Teachers also reported that students in the intervention had improved attention skills and socially competent behaviors, as well as fewer aggressive interactions.

**Lewis, K.M., Schure, M.B., Bavarian, N., DuBois, D.L., Day, J., Ji, P., Silverthorn, N., Acock, A., Vuchinich, S., & Flay, B.R. (2013). Problem behavior and urban, low-income youth a randomized controlled trial of Positive Action in Chicago. *American Journal of Preventive Medicine, 44(6), 622-630.***

A matched-pair, cluster randomized control trial of 1170 students from grades 3 through 8 in low-income, urban Chicago schools found that participants in the Positive Action (PA) school-based social and emotional learning program were less likely to engage in bullying, violence-related and disruptive behaviors. The PA program was implemented as described in the Bavarian 2013 study. The intervention effects were corroborated by parent ratings and school-level disciplinary referrals and suspensions.

**Linares, L. O., Rosbruch, N., Stern, M. B., Edwards, M. E., Walker, G., Abikoff, H. B., & Alvir, J. M. J. (2005). Developing cognitive-social-emotional competencies to enhance academic learning. *Psychology in the Schools, 42, 405-417.***

A two-year time series study of 119 fourth grade students in two diverse New York City schools found that students in the intervention school exposed to the Unique Minds School Program (UMSP) showed gains in student self-efficacy, problem solving, social-emotional competencies, and math grades as measured by official student report cards. While there was a significant difference in math grades between the intervention and comparison group, there was no significant difference in reading or reading grades and math standardized test scores. The UMSP consisted of weekly, 30-minute sessions delivered by classroom teachers on uniqueness, problem solving and personal responsibility, feelings, stress and coping, character and kindness.

**Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pacham, M. (2008). The positive impact of social and emotional learning (SEL) for kindergarten to eighth-grade students: Findings from three scientific reviews. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.**

Three reviews of studies involving 1) universal SEL interventions 2) indicated SEL interventions and 3) after-school SEL interventions, for a total of 317 studies, involving 324,303 elementary- and middle-school students, found that SEL interventions led to positive effects on social-emotional skills, attitudes towards self, school, and others, social behavior, conduct problems, emotional distress, and academic performance as measured by standardized test scores or grades. Studies that collected data at follow-up indicated that these effects remained over time, although they were not as strong as the results at the end of the intervention.

**Rimm-Kaufman, S. E., Fan, X., Chiu, Y., & You, W. (2007). The contribution of the Responsive Classroom Approach on children's academic achievement: Results from a three-year longitudinal study. *Journal of School Psychology, 45*, 401-421.**

An empirical study of 2,790 second through fourth grade students from six schools in the Northeast found that the Responsive Classroom Approach (RCA) contributed to significant gains in standardized reading and math test scores in the intervention group, compared to the control group. RCA is a teacher-implemented intervention focusing on student social interaction, cooperation, responsibility, empathy, and self-control. The intervention also emphasizes teachers knowing their students individually, culturally, and developmentally.

**Rosenblatt, J. L., & Elias, M. J. (2008). Dosage effects of a preventive social-emotional learning intervention on achievement loss associated with middle school transition. *The Journal of Primary Prevention, 29*(6), 535-555.**

An empirical study of 154 students in grades 5 through 6 in an urban, low socio-economic school district found that students receiving a social-emotional learning intervention, Talking with TJ, across the transition to middle school demonstrated a significantly smaller drop in GPA than their peers who did not receive the intervention. The intervention is a video-based, social-emotional learning curriculum that consists of 43 lessons, divided into five thematic units that include a variety of activities, such as family projects and workbook exercises. The authors present promising findings around the ability for a school transition program to prevent a decline in academic achievement during students' transition from elementary to middle or junior high school.

**Shapiro, J. P., Burgoon, J. D., Welker, C. J., & Clough, J. B. (2002). Evaluation of the Peacemakers Program: School-based violence prevention for students in grades four through eight. *Psychology in the Schools, 39*(1), 87-100.**

An empirical study of students from four elementary schools and four middle schools in a large Midwestern, urban public school system found that students participating in The Peacemakers Program, a school-based violence prevention program, demonstrated positive program effects including lower self- and teacher-reported aggression and a reduction in suspensions for violent behavior. The intervention consists of a 17-lesson (45 minutes per lesson), teacher-delivered curriculum as well as a remedial component implemented by school psychologists and counselors for referred students. The program was implemented in three elementary and three middle schools, and with one elementary and one middle school serving as the control. The sample consisted of 1,822 self-reported pretest and 1,567 posttest questionnaires.

**Sinclair, M. F., Christenson, S. L., & Thurlow, M. L. (2005). Promoting school completion of urban secondary youth with emotional or behavioral disabilities. *Council for Exceptional Children, 71*, 465-482.**

A five-year longitudinal study of 144 ninth grade students who received special education services for an emotional or behavioral disability in a diverse, urban school district, found that students randomly assigned to receive the Check & Connect intervention (N=71) attended school with greater consistency and were significantly less likely to drop out of high school than the control group (N= 73). The Check & Connect engagement program emphasizes the role of a caring adult, referred to as the "monitor", who provides at least one hour per week of academic motivation, conflict resolution skills training, encouragement to participate in school-related activities, and family outreach. A goal of the intervention is "to foster school completion with academic and social competence" throughout the entire year, including the summer.

**Sklad, M., Diekstra, R., Ritter, M. D., Ben, J., & Gravesteyn, C. (2012). Effectiveness of school-based universal social, emotional, and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? *Psychology in the Schools, 49(9), 892-909.***

A meta-analysis of 75 recently published studies examined the effects of universal school-based social and emotional learning (SEL) and/or behavioral programs. Researchers noted that although the interventions analyzed various intended outcomes, the studies most often reported students' increase in social skills and decrease in antisocial behavior. The analysis also demonstrated that academic achievement (indicated by GPA, reading achievement scores, California Achievement Test scores, or teacher-rated academic competence) was one among several re-occurring categories of overall beneficial effects mentioned in the reviewed studies.

**Snyder, F., Flay, B., Vuchinich, S., Acock, A., Washburn, I., Beets, M., & Li, K. K. (2010). Impact of a social-emotional and character development program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster-randomized, controlled trial. *Journal of Research on Educational Effectiveness, 3(1), 26-55.***

A matched-pair, cluster randomized, controlled trial of 544 students in 20 elementary schools located in Hawaii over a period of three academic years found that schools receiving the Positive Action (PA) intervention demonstrated better performance on reading and math testing, lower absenteeism, and fewer suspensions. The PA program is a comprehensive intervention, addressing self-concept, communication, and appreciation of school. All students in the participating school are involved in the intervention, as well as teachers and staff, parents, and the community.

**Snyder, F. J., Acock, A. C., Vuchinich, S., Beets, M. W., Washburn, I. J., & Flay, B. R. (2013). Preventing negative behaviors among elementary-school students through enhancing students' social-emotional and character development. *American Journal of Health Promotion, 28(1), 50-58.***

A matched-pair, cluster randomized, controlled trial of 1784 fifth grade students in 20 elementary schools located in Hawaii found that students who participated in the Positive Action (PA) program intervention self-reported significantly better academic behavior; including goal-setting, time management, problem solving, and perception of working hard. The PA program was implemented as described in the Snyder 2010 study. Teacher reports substantiated these results.

**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, 707-720.***

An empirical study of 226 kindergarten through third grade students from two schools with behavioral, social-emotional, and/or on-task learning behaviors (as determined from teacher ratings), found that a classroom-based intervention that focused on emotional self-monitoring and maintaining control led to reduced problems with teachers, reduced discipline and suspension rates, and increased on-task learning behavior and peer social skills compared with the control group. The intervention, the Rochester Resilience Project, was implemented by four female paraprofessionals employed by the school district who were trained to deliver the intervention individually to children in 25-minute weekly lessons, over 14 weeks.

## ABOUT US



The Center for  
Health and Health Care in Schools

The Center for Health and Health Care in Schools (CHHCS) is a nonpartisan policy, resource and technical assistance center with a 25-year history of developing school-connected strategies for better health and education outcomes for children. CHHCS partners with foundations, government health and education agencies, school districts, and providers across the country to support their school-connected initiatives.

Located at the Milken Institute School of Public Health at the George Washington University, CHHCS applies its expertise in children's health and education policy to build and sustain services and programs grounded in evidence of what works. This expertise is anchored in more than 80 years of combined staff experience in managing school-connected programs and developing supportive policies and practices.

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