

Boston After School & Beyond

Resources on Social- Emotional Learning

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The Importance of Social-Emotional Learning

The evidence that social-emotional learning (SEL) is important for students is extensive.

A meta-analysis of 68 studies on SEL-focused after school programs (**Durlak, Weissberg, and Pachan, 2010**) found significant improvements in students' social-emotional skills and academic achievement. The average effect size across several domains was 0.31, equivalent to a 12% increase in performance. Effects were particularly large in child self-perceptions, positive social behaviors, reduction of problem behaviors, and achievement test scores.

Payton et al. (2008) summarize findings from three reviews of social-emotional learning programs that were universal and in school, targeted at at-risk youth, and after school, respectively. Between the three reviews, there was an average gain of 11-17 percentage points on achievement test scores. Gains were made in social-emotional skills, positive attitudes, positive social behaviors, school bonding, conduct problems, emotional distress, and academic performance, with effect sizes ranging from 0.10 to 0.80 across all three types of programs.

Zins et al. (2004) provide an overview of the research on SEL as it relates to academic success. Some benefits of effective SEL include: a stronger sense of community; more academic motivation and higher aspirations; more prosocial behavior; fewer absences; more classroom participation; reductions in aggression and disruptions; on-time graduation; fewer suspensions; better transitions between schools; higher achievement in math, language arts, and social studies; higher achievement test scores and/or grades; better problem solving and planning; use of higher-level reasoning strategies; and improved nonverbal reasoning.

The economic value of SEL is also well-documented. **Belfield et al. (2015)** conducted a benefit-cost analysis of six types of SEL programs, expressing their results in terms of dollars saved per 100 students. Savings ranged from \$279,000 to \$1,148,000. Although these are, of course, estimates, investments in SEL are clearly worthwhile.

However, **Duckworth and Yeager (2015)** discuss some difficulties with researching SEL. SEL is very difficult to measure, especially because terminology regarding SEL has not been adequately defined – nor is there a consensus on existing terminology.

Cultivating Social-Emotional Skills

Several other researchers have studied the quality of various SEL programs, identifying commonalities between the most effective interventions. **Durlak, Weissberg, and Pachan (2010)** found that social-emotional and academic improvements were largest when programs were sequenced, active, focused, and explicit (SAFE).

Catalano et al. (2004), in a literature review of studies about youth development programs in the United States, evaluated common characteristics of the most successful programs. In particular, successful programs:

- Address a large number (5-10) of youth development constructs,

- Measure both positive and problem outcomes,
- Have a structured curriculum,
- Have a long duration and/or high frequency, and
- Have a high fidelity of program implementation.

Similarly, **Greenberg et al. (2003)** review meta-analyses on SEL prevention programming. The researchers found that strategies that characterize effective programs include:

- Teaching children to apply SE skills in life through interactive learning and self-led activities,
- Fostering respectful relationships, and
- Supporting positive behavior through school-family-community systematic approaches.

Results also included the finding that multi-year, multi-component programs are most effective at producing enduring benefits.

Additionally, **Elias (2006)** discusses the relationship between SEL and academic learning, finding that eight elements of SEL generate its ability to help students succeed:

- Linking social-emotional instruction to other school services,
- Using goal setting to focus instruction,
- Using differentiated instructional procedures,
- Promoting community service to build empathy,
- Involving parents,
- Building SE skills gradually and systematically,
- Preparing and supporting staff well, and
- Evaluating program practices.

The **National Research Council (2012)** found that instruction geared towards SEL should:

- Use multiple and varied representations of concepts and tasks,
- Encourage elaboration, questioning, and explanation,
- Engage learners in challenging tasks,
- Teach with examples,
- Prime student motivation by relating to students' personal lives and interests, and
- Use formative assessments which monitor students' progress and provide feedback to teachers.

Zins et al. (2004) determined that the essential traits of effective programs are that they:

- Are carefully planned,
- Are theory and research based,
- Teach social-emotional skills for application to daily life,
- Address affective and social dimensions of learning,
- Lead to coordinated, integrated, and unified programming linked to academic outcomes,
- Address factors affecting implementation,
- Involve family and community partnerships, and
- Include continuous improvement, outcome evaluation, and dissemination.

It is apparent that several of these recommendations are similar across studies. The following table summarizes strategies that are recommended by multiple researchers:

	Durlak, Weissberg, and Pachan (2010)	Catalano et al. (2004)	Greenberg et al. (2003)	Elias (2006)	National Research Council (2012)	Zins et al. (2004)
Curricula are sequenced or ordered	X	X		X		X
Activities are engaging and experiential	X		X		X	
Outcomes are measured or evaluated		X		X	X	X
Youth receive high program dosage		X	X			
Implementation fidelity is addressed		X		X		X
Activities are relevant to students' lives			X	X	X	X
Programs involve parents and community			X	X		X

Table 1: Researchers agree on strategies to promote SEL

Teachers' Social-Emotional Competencies

Research also suggests the importance of teachers' social-emotional skills. **Jennings and Greenberg (2009)** review research on the importance of teachers' social-emotional competencies for student outcomes and the classroom environment. They found that teachers' social-emotional competence and emotional stress was important for preventing teacher burnout, and that teachers affect student and classroom outcomes, including teacher-student relationships, effective SEL program implementation, and classroom management. They also suggested that emotional intelligence training, mindfulness-based interventions, programs designed to enhance teachers' commitment to teaching, and training in student SEL are effective ways to enhance the social-emotional skills of teachers.

Iizuka et al. (2014) present a study evaluating the effect on students of a combined intervention designed to target both the social-emotional skills of students and those of teachers. Teachers participated in training using the Adult Resilience Program (ARP), and also delivered the FRIENDS for Life curriculum to students. Six months after completion of the programs, 48% of the students who had initially been characterized as "high difficulty" had moved down to the "low difficulty" level. The level of student anxiety was significantly decreased; 75% of the students who showed high levels of anxiety at the beginning of the program did not at the end.

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Resources by Skill: Achieve

Critical Thinking

The Importance of Critical Thinking

Critical thinking is very difficult to define. The Foundation for Critical Thinking lists a few contestant definitions:

- Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. It is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness. (National Council for Excellence in Critical Thinking, 1987)
- Critical thinking is a self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way. (Elder, 2007)
- Critical thinking is that mode of thinking – about any subject, content, or problem – in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. (Paul and Elder, 2008)
- The ability to think critically involves three things: (1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods. (Glaser, 1941)

Other researchers have similar definitions:

- Critical thinking consists of seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth. (**Willingham, 2008**)
- Critical thinking is acquiring, developing, and exercising the ability to grasp inferential connections holding between statements. (**Mulnix, 2012**)
- All definitions of critical thinking share certain traits, notably an ability to use reason to move beyond the acquisition of facts to uncover deep meaning. (**Weissberg, 2013**)

Whitaker (2002) provides a more in depth discussion of the historic difficulty defining critical thinking. This difficulty makes critical thinking difficult to measure, which in turn makes it difficult to ascertain if critical thinking is being or can be taught. For example, **Weissberg (2013)** is skeptical that efforts to teach critical thinking are valuable enough to continue.

However, critical thinking is intuitively important for forming justified opinions, which in turn is pervasively important throughout all of human intellectual activities.

Fostering Critical Thinking Skills

Despite a continuing debate over whether critical thinking skills can be taught at all, several strategies have emerged about how to best teach critical thinking. **Willingham (2008)** claims that it is difficult – if not impossible – to teach critical thinking without accompanying factual content knowledge. For example, scientific thinking, involving formation of hypotheses, development of tests, and evaluation of evidence, certainly requires critical thinking, yet is difficult if certain relevant scientific facts have not been learned.

Van Gelder (2005) uses results from cognitive science to address methods of teaching critical thinking. He finds that:

1. Learning to think critically is difficult, about as difficult as becoming fluent in a second language, and takes a lot of time to master.
2. Practicing critical thinking activities is essential to developing the skill. Modelling critical thought is not enough.
3. Practicing *transferring* critical thinking strategies to other content areas is especially important, and should be taught explicitly.
4. Critical thinking lessons should come along with some explicit instruction on the theory of thought, which allows a more advanced perception of thinking as a process. For example, names of argument types allow students to distinguish between them more readily.
5. Argument maps are excellent ways of describing argument structures, which in turn can help with a deeper understanding of argumentation in general.
6. Everyone, students and adults alike, is prone to cognitive biases. In order to mitigate these biases, a critical thinker would put extra effort into searching for evidence that contradicts what she currently believes, will give extra “weight” to opposing arguments, and will cultivate a willingness to change her mind when the evidence is in favor of doing so.

These strategies are seconded by **Willingham (2008)** and **Mulnix (2012)**.

Here is an example of an argument map:

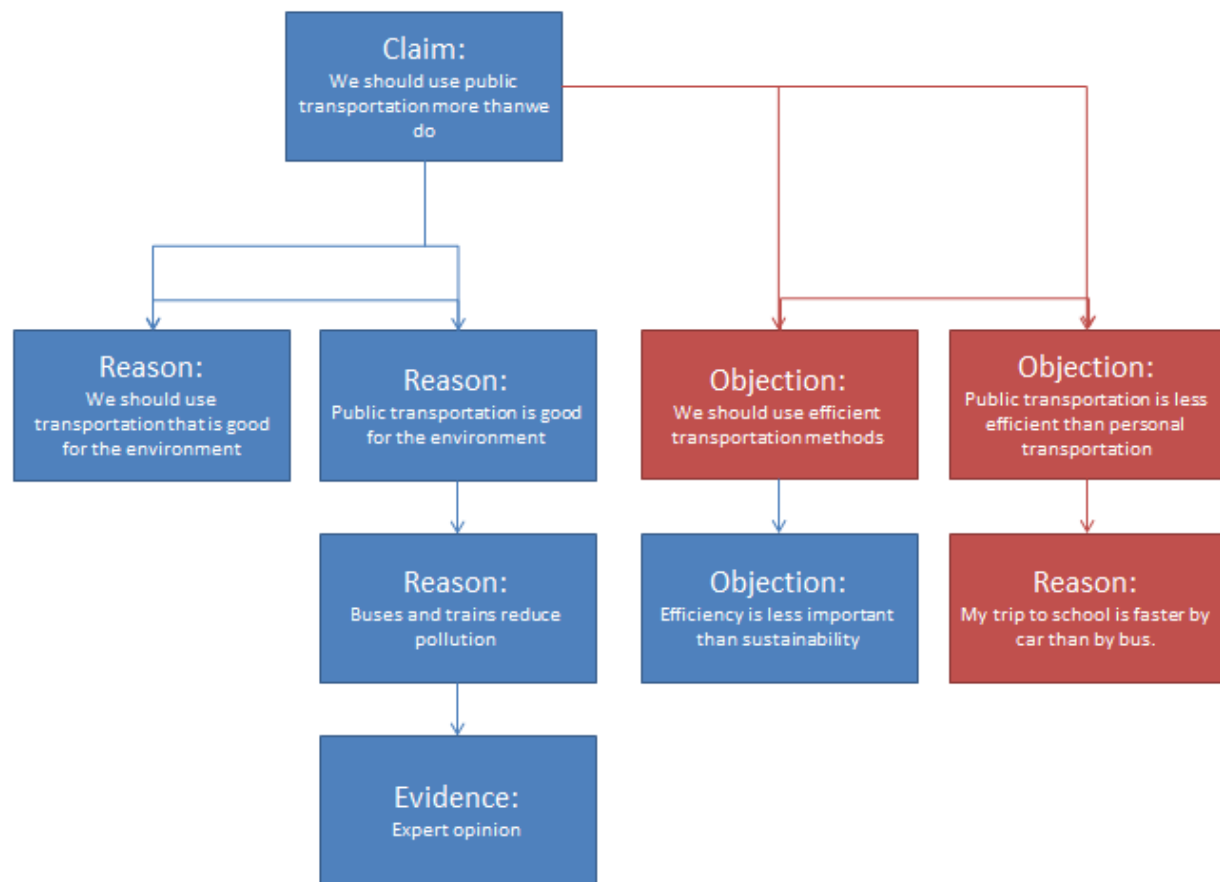


Figure 1: An argument map. The map shows two sides of the argument in different colors, and relationships between claims and sub-claims with arrows. Students could be asked to go from a dialogue format argument to a map, or to answer questions about the map (e.g. labeling fallacies).

Paul and Elder (2006) provide some further tools for students and teachers to use in learning and teaching critical thinking. For example, they provide the following questions to aid the critical thinking process:

- Clarity
 - Could you elaborate further?
 - Could you give me an example?
 - Could you illustrate what you mean?
- Accuracy
 - How could we check that?
 - How could we find out if that is true?
 - How could we verify or test that?
- Precision
 - Could you be more specific?
 - Could you give me more details?
 - Could you be more exact?
- Relevance
 - How does that relate to the problem?
 - How does that bear on the question?
 - How does that help us with the issue?
- Depth
 - What factors make this a difficult problem?
 - What are some of the complexities of this question?
 - What are some of the difficulties we need to deal with?
- Breadth
 - Do we need to look at this from another perspective?
 - Do we need to consider a different point of view?
 - Do we need to look at this in other ways?
- Logic
 - Does all of this make sense together?
 - Does your first paragraph fit with your last?
 - Does what you say follow from the evidence?
- Significance
 - Is this the most important problem to consider?
 - Is this the central idea to focus on?
 - Which of these facts are most important?
- Fairness
 - Do I have any vested interest in this issue?
 - Am I sympathetically representing the viewpoints of others?

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Creativity

The Importance of Creativity

Conducting research on creativity is very difficult, because researchers cannot agree on what creativity is, exactly, or how to measure it. However, there have been attempts to do so, and as the field begins to focus more on creativity as a social-emotional skill, research in this area will become more robust.

Boxx et al. (2013) provide an overview of the research to date on creativity, especially its relationship to academic achievement. Research has shown that this relationship is complex: some conclude that the effects of creativity on academic achievement are affected by intelligence (high creativity can make up for lower intelligence), but the particular measure of creativity used in a study affects these results. Researchers have also found gender differences in the relationship between creativity and academic achievement.

OECD (2015) notes positive and statistically significant results for employment and health with increased openness to new experience, a component of creativity.

In any case, creativity is often seen as desirable in its own right. For example, business leaders believe that successfully navigating today's world will require creativity (**Hadani and Jaeger, 2015**).

Cultivating Creativity

Teachers often claim that they value creativity generally, while devaluing children's creative behaviors. For example, conscientiousness, which is often valued in academic settings, has been found to be negatively correlated with creativity (**Boxx et al., 2013**). The challenge for instructors, then, is to promote creative behaviors despite adult tendencies not to do so.

Context is extremely important to creativity. Creativity can be influenced by environmental factors and active involvement in novel experiences (**Hadani and Jaeger, 2015**). When children are encouraged and offered opportunities to be creative, they are more likely to be engaged in learning, which in turn leads to higher achievement (**Boxx et al., 2013**).

Boxx et al. (2013) note that there is extensive evidence that creativity can be learned. Several researchers have used extrinsic rewards to encourage creativity, although others argue that this can produce negative effects if students are concerned that their work will be evaluated. Some recommendations for creativity training include basing activities on a clear understanding of the particular skills required for creativity, and including opportunities to practice these skills using real world tasks.

Hadani and Jaeger (2015) divide creativity into seven components, and provide research-supported strategies to promote each (for ages 6-14):

- Imagination and Originality
- Flexibility
- Decision making
- Communication and Self-expression
- Motivation
- Collaboration
- Action and Movement

Their report also includes example activities to promote creativity.

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Perseverance

The Importance of Perseverance

Farrington et al. (2012) found that throughout the literature, academic perseverance is related to academic performance, perseverant behaviors are malleable and can be taught, and that perseverance is affected by classroom contexts. Some ways that classroom context may affect student perseverance include:

- Influences on students' academic mindsets (e.g. context causes student to not persist because student believes his or her efforts will be futile), and
- Opportunities to learn strategies that help students be more effective in their learning and more academically engaged

The authors also emphasize the relationship between learning strategies, such as time management, and perseverance. However, there is unfortunately little research providing guidance on specific practices that can change a students' perseverance.

Many researchers equate perseverance with resilience. Resilience occurs when a person experiences risk or adversity that normally would lead to negative outcomes, but is able to maintain normal or above normal functioning despite the stressor (**Windle, 2011**). However, there continuous debate about a good definition for resilience, because resilience may look different for different developmental stages (**Masten and Obradovic, 2006**).

Cultivating Perseverance

Bowes et al. (2010) studied the effect of familial "warmth" on resilience to bullying in late elementary school, and found that both maternal and sibling warmth, as well as atmosphere at home, helped children to respond resiliently to bullying. These results indicate that caring adults and peers can impact youth's resilience to adversity, and also underscore the importance of engaging the family in youth development.

Farrington et al. (2012) discusses strategies for teaching academic perseverance in a classroom. Direct instruction, most often used in students with identified behavioral disabilities, has unfortunately not been proven effective in the long-term. However, perseverance may also be taught by changing the *context* in which students operate: by supporting positive academic mindsets and helping students develop effective learning strategies, students' perseverant behavior may be affected. Instructors should:

- Show students the value of their work,
- Make students feel they are capable of succeeding,
- Cultivate a growth mindset in students, and
- Teach specific learning strategies so that students have the tools they need to complete a task.

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Resources by Skill: Connect

Relationships, Teamwork, and Communication

The Connect skills are Relationships, Teamwork, and Communication. These three skills are very closely related, so we have chosen some studies that deal with all three.

The Importance of Connect Skills

Positive relationships with teachers and peers can help students academically and behaviorally. **Hamre and Pianta (2001)**, for example, studied the extent to which kindergarten teachers' relationships with students are associated with academic and behavioral outcomes, and found that reports of negative relationships predicted student grades, test scores, work habits through lower elementary school (4th grade). Additionally, early teacher-child relationships were unique predictors of academic and behavioral outcomes in early elementary school, with mediated effects through eighth grade.

Similarly, **Birch and Ladd (1997)** analyzed the effect of kindergarten students' relationships with their teachers (including closeness, dependency, and conflict) on their achievement and attitudes towards school. For example, they found that student-teacher closeness uniquely accounted for 17% of the variance in school liking, and 14% of the variance in self-directedness. Dependency on the teacher uniquely accounted for 24% of the variance in student self-directedness. Components of the student-teacher relationship also accounted for smaller portions of the variance in academic readiness (visual and language skills), loneliness, school avoidance, and cooperation.

Furrer and Skinner (2003) examined children's sense of relatedness to teachers, parents, and peers as a factor contributing to their school engagement and academic outcomes. They found that engagement mediated the relationship between children's sense of relatedness and academic outcomes, meaning that relatedness affected academic outcomes by means of improving engagement in the classroom. Relatedness uniquely accounted for 15% of the variance in engagement.

A comparison of different groups of children based on their perceptions of teacher relationships and bonds with school (**Murray and Greenberg, 2000**) also found that students with greater scores on student-teacher relationship and school bond scales had higher scores on scales measuring positive aspects of social and emotional adjustment. Furthermore, students with strong relationship and school bond scores also had lower scores on negative adjustment factors. Effects were also found for social competence, delinquency, and symptoms of disorder.

Lastly, a longitudinal study (third through eighth grade) found that early prosocial behavior, including cooperativeness, helpfulness, sharing, and empathy, predicted later academic success (**Caprara et al., 2000**). The following figure describes the paths of influence that the researchers proposed between prosocial behavior, aggression, and academic achievement in third grade, and academic achievement and social preference in eighth grade, controlling for early academic achievement.

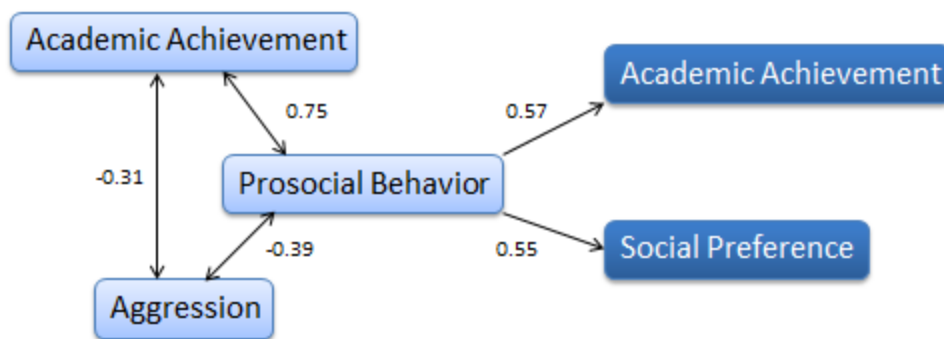


Figure 2: Caprara et al. (2001)'s proposed paths of influence, represented by arrows, and correlation coefficients ($p < 0.05$). The three items on the left are measured in third grade; the two on the right in eighth grade.

Cultivating Connect Skills

One study of youth-adult relationships in an after school program (Paisley and Ferrari, 2005), concluded that attendance is important to relationship-building and that relationships with program staff are some of the students' most positive relationships with adults. Interactions at the program between youth and adults were primarily one on one (84%) compared to group (9%) or small group (7%). A significant correlation was found between attendance and the adult relationship score ($r = 0.481$, $p < 0.01$).

Furthermore, relationships with program staff were significantly more positive than those with teachers or neighborhood adults. The researchers note some implications of these results for practice, suggesting that programs should:

- Encourage long-term participation of youth,
- Recruit program staff with desirable characteristics conducive to relationship-building,
- Provide training for staff on youth development and building relationships,
- Conduct observations to provide feedback,
- Take steps to increase the frequency of desirable interactions, and
- Provide positive feedback to staff who build positive relationships with youth.

Petrides et al. (2006) studied the extent to which individual differences in trait emotional intelligence (EI) influence children's relationships with their peers. High trait EI pupils received more nominations for cooperation and leadership and fewer nominations for aggression and dependence. There was also a significant correlation between trait EI and fewer classroom disruptions.

One specific program, the Boys and Girls Clubs, focuses on forming positive relationships. Arbreton et al. (2009) studied ten Boys and Girls Clubs from around the country, tracking middle school youth over a 30 month period. Researchers found that longer attendance to such a program mattered. A minimum attendance of 52 days was associated with increased levels of school effort, increased levels of academic confidence, increased levels of integrity, higher levels of community service involvement, increased levels of future connectedness, and a lower likelihood of starting to smoke marijuana. A minimum attendance of 122 days caused decreased levels of aggression, decreased levels of shyness, a lower likelihood of starting to carry a weapon, a decreased number of times stopped by the police, a lower likelihood of starting to drink alcohol, and a lower likelihood of starting to smoke cigarettes. A minimum

of 244 days attending resulted in a decrease in the number of times skipping school and a lower likelihood of starting to have sexual intercourse. Finally, attendance of 366 days or more caused a decreased number of negative peers as friends.

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Resources by Skill: Thrive

Growth Mindset

The Importance of a Growth Mindset

Noncognitive factors in general, including a growth mindset, are essential for academic success.

Farrington et al. (2012) performed a literature review of the impact of focusing educational efforts on non-cognitive factors instead of cognitive factors, and note the importance of attitudes about learning to academic and future success. Furthermore, there is evidence that academic mindsets are malleable and can be taught. The researchers suggest the following construct for various noncognitive factors that influence academic performance:

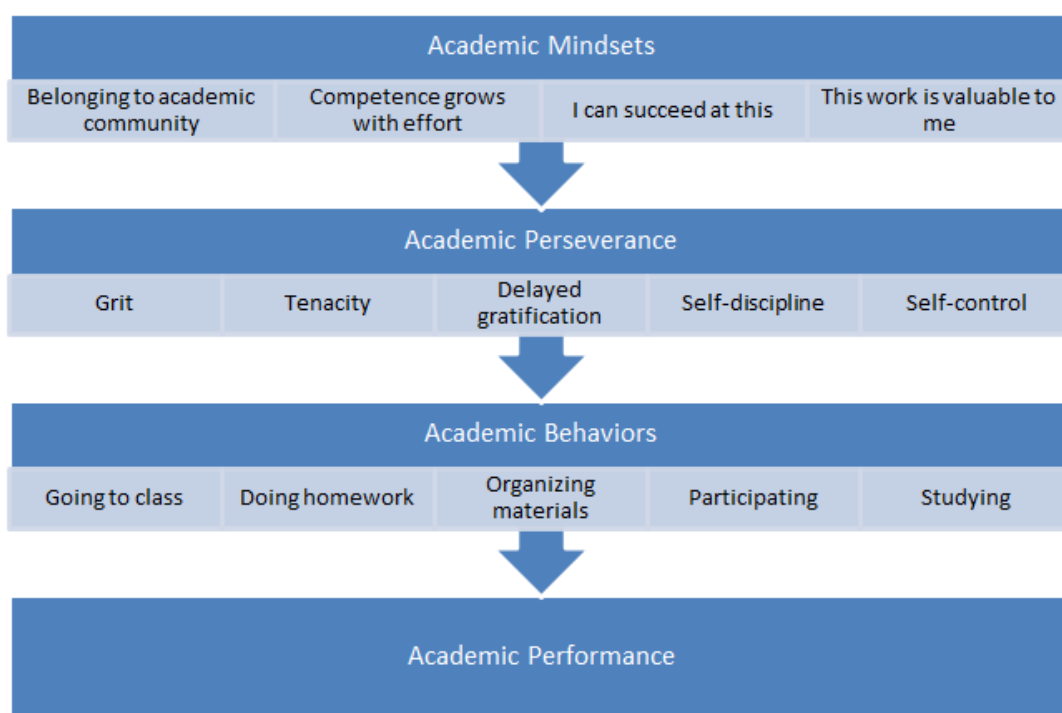


Figure 3: Farrington, et al.'s proposed process of turning academic mindsets into academic performance. Note that learning strategies, such as study skills and goal setting, also influence academic perseverance, behaviors, and performance, and that social skills, such as empathy and cooperation, can also impact academic behaviors. Additionally, context and environment can affect all of these factors.

The **Organization for Economic Cooperation and Development (2015)** studied OECD countries' implementation of SEL programs and interventions and their effectiveness at various indicators of social progress. In the US, children who participated in a low-cost program to change their mindset from fixed to growth-oriented scored better on the international PISA mathematics test.

Roeser et al. (2002) performed multiple analyses of academic motivation, including a growth mindset. One analysis found that adolescents who think that intelligence is fixed (fixed mindset) and who

pursued academic goals in which concealing one's perceived ability relative to others was the aim (ego-avoidance) were more likely to report symptoms of internalizing and externalizing distress. Adolescents' perceived efficacy, valuing of subject matter, and task goal orientation all negatively correlated with distress. In another analysis, "helpless" students who did not believe they could improve were less engaged and more distracted, and acted out and withdrew more in the classroom.

Other researchers have emphasized the importance of incorporating what we know about the growth mindset into research paradigms concerning social-emotional learning in general. For example, **Dornyei (2000)** argued for a process model of motivation, which would break motivation up into pre-actional, actional, and post-actional phases. The paper argues that it is one thing to be motivated to do something initially, and another thing to have the persistence to follow through. This is especially relevant in school-based contexts, where long-term activities and skill building usually take place. This model provides a useful research paradigm for using task-based assessments of academic motivation. The model implies the ability to develop systematic motivational strategies that the teacher can apply to generate and maintain motivation in learners, and the ability to formulate action control or self-motivating strategies that enable learners to take personal control of the conditions and experiences that shape their subjective involvement in learning.

Cultivating a Growth Mindset

Carol Dweck is the primary researcher who advocates for a growth mindset approach to learning. Some suggestions of hers for teaching a growth mindset include:

- Challenge students to learn and achieve over time
 - Set high expectations and standards
 - Ensure that students perceive expectations as challenging but attainable
- Scaffold cognitive tasks and instructions, as well as the motivational process
 - Treat tasks and student motivation as a progression
 - Support student autonomy and intrinsic motivation
- Promote students' feelings of belonging
- Praise students properly
 - Tell stories of hard work rather than talent
 - Congratulate students for their hard work rather than talent

A study of students who participated in school clubs, sports teams, or other OST recreational activities (**Fredricks and Eccles, 2008**) examined the effects of participation in eighth grade on immediate and later (eleventh grade) outcomes. Significant differences between participants and non-participants were found for: eighth grade grades, school value, resiliency, prosocial peers, and risky behaviors; and eleventh grade grades, school value, self-esteem, resiliency, and prosocial peers. These results led researchers to recommend encouraging organized activity involvement in middle school, for a diverse group of youth.

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Efficacy

The Importance of Efficacy

One study (**Bandura et al., 1996**) examines a variety of factors related to child self-efficacy in relation to academic outcomes. The effect of self-efficacy on students' academic success was multifaceted; researchers proposed the following causal model based on correlations between factors:

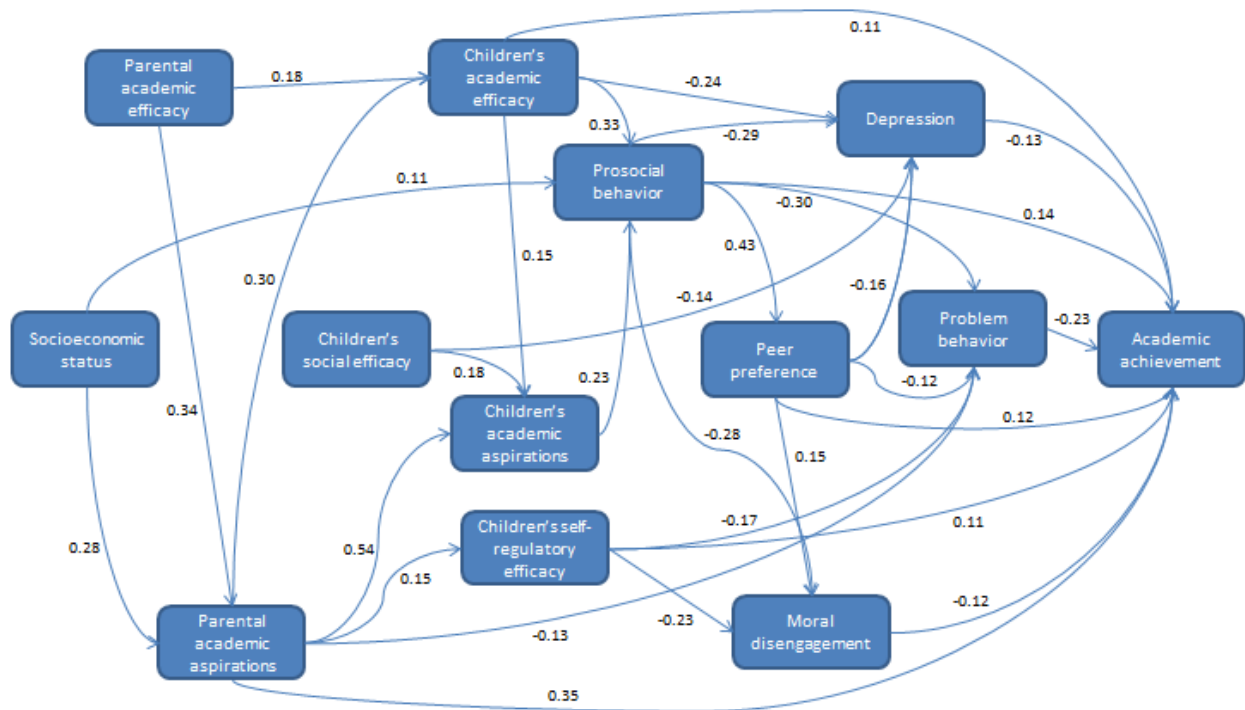


Figure 4: Bandura et al.'s path analysis for the effect of self-efficacy on academic success. Correlation coefficients are provided, all statistically significant at $p < 0.05$.

Cultivating Efficacy

Huang et al. (2011) studied the effects of an after school program in Los Angeles, the Better Educated Students for Tomorrow (BEST) program for elementary school students. LA's BEST promotes self-efficacy in the following ways:

- Activities that foster students' confidence, such as performance arts, science projects, and physical activities,
- Offering the students interactions with accomplished individuals who share commonalities with the students,
- Verbal encouragement and appraisal of the students' work, and
- Opportunities to improve students' cognitive self-appraisal by allotting time and space for challenging activities such as public speaking or competitive sports.

The study found the LA's BEST had positive effects on students' later middle school attendance, grades, standardized test scores, and enrollment in more challenging math courses.

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Self-Regulation

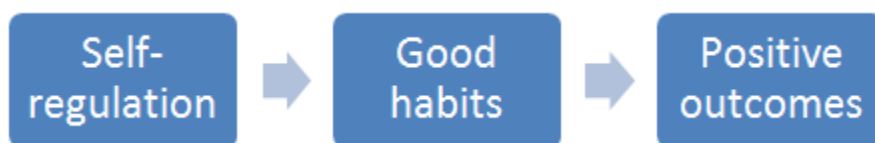
The Importance of Self-Regulation

Self-regulation is known to affect behavior, academic success, and health, among other desired results. A meta-analysis (**de Ridder et al., 2012**) of the effects of self-control on various behavioral outcomes (school and work performance, eating and weight-related behavior, sexual behavior, addictive behavior, interpersonal functioning, affect regulation, well-being and adjustment, deviant behavior, planning and decision making), and found an average effect size of between 0.19 and 0.26, depending on the measurement scale used.

Duckworth and Seligman (2005) report the effect of self-discipline on academic results (GPA of eighth graders), which was larger than the effect of a higher IQ. The correlation coefficient between self-discipline and GPA was 0.67, while correlation between IQ and GPA was only 0.32. Self-discipline accounted for more than twice as much variance in GPA as IQ.

Moffitt et al. (2011) performed a longitudinal study of the effects of self-control on health, wealth, and safety. Controlling for socio-economic status and IQ, high self-control in childhood predicted reduced adult health problems, including depression and substance dependence as well as physical health. Childhood self-control was also a predictor of adult socio-economic status and income, as well as financial planning skills and reduced numbers of credit problems. Children with poor self-control were also more likely to be convicted of a crime as an adult. The researchers also found children to exist on a continuum of self-control skills, and for their skills to change over time, suggesting the malleability of self-regulation.

Six studies performed by **Galla and Duckworth (2015)** showed that many areas can all be positively impacted by self-regulation, including homework habits, study habits, exercise habits, eating habits, and sleeping habits. Researchers argue that the habits mediate the relationship between self-regulation and positive outcomes such as health or student performance.



Cultivating Self-Regulation

The RULER (recognize, understand, label, express, regulate) curriculum, which is usually incorporated into ELA or history lessons, was studied by **Brackett et al. (2012)**. The study found significant effects found on ELA grades and adaptability/problem behavior. The RULER program centers lessons on feeling words; each unit follows these steps:

1. Introduction of feeling word: Students enhance their understanding and recall of words
2. Designs and personified explanations: Students use divergent thinking and visualize the elements and actions that represent meanings of feeling words
3. Academic and real world association: Students evaluate how people of different societies and time periods experience, express, and manage emotions

4. Family association: Parents are involved in students' academic work; Students have increased understanding of their parents' thoughts, feelings, actions, and pasts
5. Classroom discussions: Students expand each other's knowledge, are exposed to others' viewpoints, and learn strategies to enhance, maintain, or curtail emotions
6. Creative writing: Students incorporate their own ideas and personal experiences into writing and think critically about how emotions progress and transform life experiences

Huang et al. (2011) studied the Los Angeles' Better Educated Students for Tomorrow (LA's BEST) after school program. The program focuses on self-regulation, along with self-efficacy, communication, and critical thinking skills. Researchers found that the program had an effect on students' math GPA, standardized test scores, and course-taking patterns in high school. Self-regulation is promoted at LA's BEST by providing students with activities to develop skills such as conflict resolution, engaging in experiential or hands-on activities. Students learn self-regulation through working collaboratively, which increases their willingness to make necessary compromises and work respectfully within a diverse group.

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