

The Research Alliance for  
New York City Schools

**STUDENT SUCCESS**  
**NETWORK**

Report

# **Social-Emotional Learning and Academic Growth:**

Insights from an Innovative  
Research-Practice Partnership

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The Research Alliance for  
New York City Schools

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## About the Partners

### *Student Success Network (SSN)*

For seven years, SSN has created a solid foundation for enacting change by sharing experiences, scaling solutions, and leveraging the power of community. We have formed deep roots with organizations and communities, built a toolbox focused on data-driven improvement, strengthened our collective knowledge of SEL as a lever for improving student outcomes, and committed to doing the work of being an anti-racist Network. Today, SSN is a powerful, connected, citywide network of nonprofit leaders, practitioners, and youth from almost 80 organizations, working inside and outside of schools, to close the opportunity gap.

The SSN backbone staff supports members to:

- Expand collective knowledge about youth social-emotional growth and other indicators of success;
- Fuel collaborations to develop solutions for key barriers to equity;
- Support practitioners with tools and skills to create stronger organizations and more impactful programming; and
- Share and scale solutions to disseminate evidence-based practices and approaches.

### *The Research Alliance for New York City Schools*

The Research Alliance is an essential and growing part of NYC's civic infrastructure. We conduct rigorous studies on topics that matter to the City's public schools, and strive to advance equity and excellence in education by providing credible, nonpartisan evidence about policies and practices that promote students' development and academic success. Housed at New York University, within the Steinhardt School of Culture, Education, and Human Development, the Research Alliance:

- Conducts rigorous, applied research in collaboration with policymakers, educators, and other stakeholders;
- Supports research by others, by maintaining a unique archive of longitudinal data on NYC schools and communities; and
- Communicates the results of our work to diverse audiences, here in NYC and across the nation.

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# Social-Emotional Learning and Academic Growth: Insights From An Innovative Research-Practice Partnership

## Introduction: SEL in the Lives of Students

Young people need a combination of academic skills and other key mindsets and behaviors to succeed in school and become healthy, employed, civically engaged adults. In recent years, there has been growing interest in the relationship between academics and social-emotional learning (SEL)—a broad set of competencies that includes, for example, self-efficacy, growth mindset, and interpersonal skills. Research has shown that students with stronger SEL skills have higher academic outcomes (Durlak et al, 2011), more positive interactions with peers, fewer feelings of alienation (Nagaoka et al., 2015), and higher levels of health and happiness (Walton & Cohen, 2011). These positive associations persist well into adulthood, where individuals with strong SEL competencies are more likely to succeed in their places of employment, cope more readily with life stress (Walton & Cohen, 2011), and live longer than adults who are isolated (Goldsmith, 2008; Joseph et al., 2015; Slaski & Cartwright, 2002; Stone et al., 2005).

This report describes a portion of work from an innovative SEL-focused research-practice partnership between the Student Success Network (SSN) and the Research Alliance for New York City Schools. For the last five years, SSN and the Research Alliance have worked together to develop a robust set of SEL measurement tools and practices—drawing on SSN’s extensive network of schools and nonprofits and the Research Alliance’s technical capacity and access to data. The present study investigates the relationship between SEL growth and academic achievement for nearly 6,000 middle and high school students, by matching data on a pre-post SEL survey with academic data from the NYC Department of Education (NYCDOE). We co-developed research questions, jointly analyzed emerging results, and co-wrote this report, to ensure that the perspectives of researchers and practitioners were represented.

Our project investigated two central research questions:

1. How, if at all, does students’ growth in SEL contribute to improved academic performance? Which SEL competencies contribute the most?
2. To what extent does the relationship between SEL and academic growth differ by student subgroup? Is growth in SEL a stronger contributor to academic outcomes for middle or high school students? For 9th graders? For students with disabilities? Do students from more disadvantaged neighborhoods benefit more or less?

The findings from these analyses were mixed. While many of the associations we tested were not borne out, we did find some small but notable relationships. Specifically:

- Middle- and high-school students who demonstrated growth in SEL, particularly in Growth Mindset, Self-Regulation, and Academic Self-Efficacy, showed more growth in academic outcomes; and
- Improvements in Growth Mindset and Self-Regulation were associated with *larger* academic gains for students who live in more structurally disadvantaged neighborhoods<sup>1</sup> and students who have an Individualized Education Plan (IEP).

Although this work began well before COVID-19, the SEL capacities we are focused on may be even more salient given the many disruptions to public life over the last year. Young people nationwide have been thrust into various combinations of online and in-person instruction. They have been cut off from family and friends and lost access to supports and routines that may have helped them feel secure. Many families have experienced economic fallout from the pandemic and lost loved ones. These factors pose significant threats to students' mental health, with fewer opportunities for stress regulation, increased social isolation, and high rates of anxiety. Especially vulnerable are those who were already disadvantaged, including students with limited family resources and students with disabilities (Fegert, et al., 2020). Students of color—who represent the majority of New York City's youth generally and SSN's population specifically—have found themselves in a particularly precarious position, pressed between the disproportionate impact of the coronavirus and the existential threat of structural racism. While we do not know what the next year has in store, we are certain that young people will need substantial social and emotional resources to navigate the world that awaits beyond the pandemic.

## SEL Definitions and Measurement

Brief definitions for each of the seven SEL competencies and the scale on which we measured responses can be found here. For a complete account of the survey items and constructs, please see Appendix B.

**Academic Self-Efficacy** is the belief in one's ability to succeed in academic situations or accomplish academic tasks. It is measured on a scale (1-4) from "Almost never" to "Almost always" with items such as: *I'm confident that I can do a great job on assignments and tests.*

**Belonging** measures students' feelings of being taken in and accepted as part of a group. We measure Belonging on a scale (1-5) from "Not at all true" to "Completely true" with items such as: *Adults in this program respect me.*

**Growth Mindset** is the belief that one's abilities can improve with effort. It is measured on a scale (1-5) from "Not true at all" to "Completely true" with items such as: *My intelligence is something that I can't change very much* (reverse coded).

**Interpersonal Skills** are the ability to clearly communicate one's thoughts, be aware of one's own communication style and those of others, and be empathetic. They are measured on a scale (1-6) from "False" to "True" with items such as: *I can solve problems with other students without being aggressive.*

**Problem Solving** is the ability to identify a problem, analyze possible plans to resolve the problem, select and implement a plan, and evaluate the outcome. It is measured on a scale (1-4) from "Almost never" to "Almost always" with items such as: *I compare different solutions to find the best one to solve my problem*

**Self-Advocacy** includes two parts: (1) self-awareness, or the conscious knowledge of one's strengths, weaknesses, and needs; and (2) agency, or the ability and tendency to speak up for oneself and gather appropriate resources. We measure Self-Advocacy on scales (1-4) from "Almost never" to "Almost always" and "Strongly disagree" to "Strongly agree" with items such as: *I think about how to become a better person.*

**Self-Regulation** is the ability to successfully manage one's own emotions, thoughts, and behaviors in academic situations. It is measured on a scale (1-5) from "Not confident at all" to "Extremely confident" by items such as: *How confident are you in your ability to get yourself to study when there are other interesting things to do?*

## The Origins of Our Work on SEL and Academics

In 2011, 20 leaders of NYC youth-serving nonprofits organized a dinner to get to know one another. Sitting in a circle, they talked about their successes and their challenges. These were what one might expect—fundraising wins and losses, board member recruitment, etc.—until one leader offered a powerful new perspective. Iris Chen, then Executive Director of the I Have a Dream Foundation, asserted that the biggest challenge came from the outside: It was the narrowing focus on academic learning, specifically high test scores, as the pathway for student success. Iris posited: “This almost exclusive focus on academics is the biggest threat to our beliefs as educators. We know students need both social emotional *and* academic learning to succeed in life.”

Iris’s declaration started a conversation that lasted two years. Every six weeks, the leaders would meet for supper and explore a different aspect of social-emotional development for young people. Which social-emotional capacities were important for young people to succeed? What does “success” mean anyway? Academic achievement? Career attainment? Social connection? Was high school graduation or college persistence the ultimate goal? What can we learn about the relationship between specific social-emotional capacities and academic success?

The supper club members, who in other settings would be competing for funding and publicity, came to trust one another. They shared a passion and commitment to the youth they served, and they recognized that no matter how large each of their organizations grew, they would never have the capacity to serve all of New York City’s youth. They came to believe that the solution to any challenge they faced was likely to be found among their peers and created a vision of how their organizations could learn from one another. In 2013, they launched the Student Success Network (SSN) and administered SSN’s first SEL Survey for students in grades 6 through 13. By 2015, SSN’s then 40 member organizations were using survey data and continuous improvement approaches to strengthen their programs and share learnings across the network. Today nearly 80 organizations are part of the SSN learning community.

The Survey also stimulated members’ curiosity. The more they learned, the more they wanted to know. Beginning about five years ago, SSN began working with the Research Alliance to develop strong SEL measurement strategies and to investigate the relationship between SEL growth and academic achievement. During that time, SSN and the Research Alliance created a reliable and valid student SEL survey that measures seven competencies. We have worked with practitioners, youth, and researchers to add and adjust measures and refine survey administration procedures to ensure that we have high-quality data. We found ways to shorten the survey, increased the number of students taking it, and increased the pre-post response rates. It is due to these efforts that we are able to conduct such rigorous analyses for the current study.

### What Prior Research Says

This work began with problems of practice—real questions that SSN program leaders and educators faced when making decisions about how to use their limited time with students. *What opportunities do students need to strengthen their SEL competencies? Will students*

*be better able to navigate their academic challenges if we support their SEL? How much can we really shift a student's SEL?*

These questions were only partially answered by existing research, which generally shows that students with higher levels of SEL have both higher levels of academic performance and greater academic growth. The constructs of Growth Mindset, Academic Self-Efficacy, and Self-Regulation seem particularly promising for supporting academic development (West et al., 2013; Transforming Education., 2016; Balfanz and Byrnes, 2020; Easton et al., 2017; Durlak et al., 2010; Walton and Cohen, 2001, 2007). They are often considered in the SEL literature to be “academic mindsets” that are more directly related to success in school than some other SEL competencies (Farrington, 2013).

The challenge with much of the existing research is that SEL skills are associated with a host of other factors, including higher family income—and this makes it difficult to know whether higher SEL is actually responsible for better outcomes, or if SEL is simply another conduit for prior achievement and socio-economic status to influence future academic success. In other words, we know the value of having stronger SEL competencies, but we do not know the value of *improving* them. This is a crucial distinction for educators who must decide how to allocate their time with students and whether focusing on SEL development is likely to improve academic outcomes as well.

Our practice partners have also raised some fundamental concerns about whether the existing SEL research really responds to the structural inequalities facing students. They have argued that attempts to shore up individual students' SEL without also addressing the context that students are in and the challenges they face may make students feel as though they are the source of the problem or that they simply need more internal resources to overcome the vast inequities of their lives. These concerns echo a broader and growing demand for an equity and anti-racist approaches to SEL (Ginwright, 2018; Jagers, 2016; Kirshner, 2015; Rivas-Drake, Jagers, & Martinez, 2019), which we discuss in greater detail in the text box on page 5.

This report addresses these complex issues from two perspectives. First, we attempt to answer practitioners' questions and extend the existing SEL literature in the most rigorous way we can—by examining how growth in SEL over a single year relates to growth in academic performance. This is a deliberately narrow approach that helps to account for the many other factors that might influence both SEL and academic growth. We believe this approach is necessary to make a realistic assessment of how SEL supports academic development and about how much change we might expect to see in both in a given period of time.

Second, we discuss responses to these findings from the educators, practitioners, and youth who participate in SSN throughout the City. These conversations have pushed us to think in new ways about the role of academic outcomes in youth development work, and have opened up more holistic and inclusive lines of research and practice.

## SEL as a Lever for Equity

*SEL can be a lever for advancing equity. Transformative SEL holds us accountable for sustaining strong relationships, facilitating co-learning to critically examine root causes of inequity, and developing collaborative solutions that lead to personal, community and societal well-being. (CASEL)*

Over the years, practitioners in our Network have told us that one-off activities are not sufficient to develop youth SEL. They've made clear that SEL strategies need to occur in a supportive environment where adults acknowledge inequities, affirm young people's identities, and build authentic relationships in order to effectively support all youth.

Commentators in the education field have pointed out that without an anti-racist lens, even well-intended SEL supports can avoid addressing inequities and even become a form of oppression. Along similar lines, scholars have questioned whether SEL frameworks and assessments affirm the cultural assets of young people of color and promote their well-being.

In response to these critiques, and with acknowledgement of broader systemic inequities, SSN is using its partnerships across New York City and the education sector to deliver programming that amplifies the voices, experiences, and expertise of youth of color and creates space for their leadership and power. As we discover new ways to leverage our collective power as a Network, we address inequitable systems and structures. We examine root causes of oppression instead of attempting to "fix" economically marginalized youth or youth of color.

## Research Questions, Data, and Analysis

We focus our analysis on two main sets of questions:

1. How, if at all, does students' growth in SEL contribute to improved academic performance? Which SEL competencies contribute the most?
2. To what extent does the relationship between SEL and academic growth differ by student subgroup? Is growth in SEL a stronger contributor to academic outcomes for middle or high school students? For 9th graders? For students with disabilities? Do students from more disadvantaged neighborhoods benefit more or less?

In the 2018-19 school year, almost 9,000 students, across 43 SSN member programs, at 238 sites (120 offered in school and 118 outside of school) took the SSN Survey at the beginning of the school year. We administered the survey again at the end of the school year to see whether and how students grew with respect to their SEL. The survey measured seven SEL constructs: Academic Self-Efficacy, a Sense of Belonging, a Growth Mindset, Interpersonal Skills, Problem Solving abilities, Self Regulation, and Self-Advocacy. Our final pre-post matched sample contained 5,810 students in Grades 6-13. We then linked all responses on the SEL survey to the students' NYCDOE academic records, creating a unique database that enabled us to study the relationship between SEL and academics over time. The academic outcomes we used are New York State Math and ELA exams for middle school students (grades 6-8); academic GPA for high school students; and on-track status (which is defined as passing at least one Regents test and earning at

least 10 credits at the end of the year) for 9<sup>th</sup> graders. We also looked at attendance rates for all students.

We used a set of multi-level growth models to address our research questions in a rigorous way. This analytic strategy takes into account prior SEL levels and academic outcomes, which helps to limit potential bias in our findings. We know, for instance, that students with high prior levels of Growth Mindset often have a greater range of family resources, which also influence academic achievement. By accounting for earlier levels of both Growth Mindset and academic achievement we were able to narrow our focus on how SEL growth in a single year relates to academic growth in that same year. Our models also included variables to statistically account for other important student characteristics, including gender, race, grade, school level, neighborhood of residence, and school.

After assessing the relationship between SEL and academics broadly, we examined findings by student subgroup to determine if the relationship between SEL and academics differed depending on IEP status or the structural disadvantages in students' neighborhoods. We also treated middle schoolers, 9<sup>th</sup> graders, and other high school students as three separate groups, both for theoretical and practical reasons. A wide range of research has shown that 9<sup>th</sup> grade is a critical year with distinct developmental concerns (Easton et al., 2017), but we also needed to account for differences in available data for 9<sup>th</sup> graders.<sup>2</sup> Investigating by subgroup permitted us to determine whether the relationship between SEL and academics worked the same way for all students, or whether it differed depending on students' ages, exposure to poverty, and learning needs.

A few caveats are in order. First, our measures cover a single year of student growth even though we know that changes in SEL and academics occur over multiple years. This limited observational period means that we would expect to see relatively small relationships, if any, between growth in SEL and growth in academics. Second, growth in SEL and academics are measured concurrently, which means that we are unable to determine the direction of effects. Where we find associations between SEL and academics, we cannot say whether SEL growth is driving academic growth, whether the reverse is true, or whether some third, unmeasured factor is driving growth in both SEL and academics. Finally, all of the SEL data were collected in students' SSN youth development programs, which may or may not offer an accurate reflection of students' SEL levels in other contexts, such as school.

Despite these limitations, our analytic approach makes this study one of the most rigorous examinations of SEL and academics to date, offering robust and valid data about what a single year of SEL development can—or perhaps cannot—do in terms of supporting students' academic growth.

## Findings

The findings from this analysis were mixed. For most of the specific SEL skills we measured, growth was not significantly related to academic improvement—as we might expect given the limited observation period and the rigor of our analytic strategy. We did, however, find small but significant relationships in the following patterns:

1. Middle- and high-school students who demonstrated growth in SEL, particularly in Growth Mindset, Self-Regulation, and Academic Self-Efficacy, showed growth in academic outcomes;
2. Improvements in Growth Mindset and Self-Regulation were associated with larger academic gains for students who live in more structurally disadvantaged neighborhoods and for students who have an IEP.

In all cases, the effects were small, but they are noteworthy—both because they are the result of a strict analytic approach, and because they are largely in line with what we already know (or theorize) about how SEL contributes to academic growth for young people. We describe each of these patterns of findings in greater depth below and explore the implications for practice in the discussion section. A full explanation of the analytic strategy, as well as point estimates, can be found in the technical appendix.

### **Finding 1: Middle- and high-school students with improvements in Growth Mindset, Self-Regulation, and Academic Self-Efficacy also show small improvements in key academic outcomes.**

Growth in these SEL competencies was associated with statistically significant, though quite small improvements in five of the seven academic outcomes we tested. The other four competencies—Interpersonal Skills, Problem Solving, Sense of Belonging, and Self-Advocacy—did not appear to have any relationship to academic performance in this study.

In all cases, we describe growth in outcomes in relation to one unit of growth on the SEL measure. For instance, when we talk about a one-unit increase in Academic Self-Efficacy (e.g., “I’m confident I can do a great job on my homework”), we refer to change in a student’s survey measures from an average response of 3 (“Somewhat confident”) to a 4 (“Very confident”). Table 1 on the next page summarizes the statistically significant relationships between SEL growth and the seven academic outcomes we tested, each of which we discuss in greater detail below.

In our sample, about half the students improved their SEL over the course of the year, and half did not. Specifically, about 19 percent improved at least one unit in Growth Mindset, 11 percent improved at least one unit in Self-Regulation, and 9 percent improved at least one unit in Academic Self-Efficacy. About 10 percent of students improved at least one unit in each of the remaining competencies, except for Self-Advocacy, where only 5 percent of students improved during the year. The fact that we see these changes over time in SEL, at least for some students, demonstrates that these capacities are malleable, and that it is realistic to think that students could experience this much SEL growth during a single year.

**Table 1: Summary of Relationships Between SEL Growth and Academic Growth**

<b><i>One-unit increase in:</i></b>	<b><i>...is associated with these concurrent changes:</i></b>
Growth Mindset	<ul style="list-style-type: none"> <li>• 1-point improvement on ELA and math scores in middle school (on a scale from 400 to 700)</li> <li>• One additional day of attendance for middle school students</li> <li>• 1-percentage point improvement in GPA for high school students</li> </ul>
Self-Regulation	<ul style="list-style-type: none"> <li>• 1-percentage point improvement in GPA for high school students</li> </ul>
Academic Self-Efficacy	<ul style="list-style-type: none"> <li>• 1-point improvement on ELA and math scores (on a scale from 400 to 700) in middle school</li> <li>• 7-percentage point increase in the likelihood of being on track in 9<sup>th</sup> grade</li> </ul>
Interpersonal Skills	<i>No significant relationships with concurrent academic growth</i>
Problem Solving	<i>No significant relationships with concurrent academic growth</i>
Sense of Belonging	<i>No significant relationships with concurrent academic growth</i>
Self-Advocacy	<i>No significant relationships with concurrent academic growth</i>

**Source:** Research Alliance calculations based on data from the SSN SEL survey and student data provided by the NYC Department of Education.

### **Growth Mindset Findings**

Students with a growth mindset believe that intelligence is not fixed. The Growth Mindset survey measure included items such as, “My intelligence is something that I can’t change very much” and “There are some things I am not capable of learning.” Among our middle school sample, we found that a one-unit improvement in Growth Mindset was related to a one-point increase in the Math and ELA scale scores, with scores ranging from 400 to 700. Improvements in Growth Mindset were also related to increased attendance in the middle school sample. For a one-unit increase in Growth Mindset, a student’s attendance also increased by .5 (from an 80.0 to an 80.5 percent), which is about one school day per year. Finally, we found that improvements in Growth Mindset were related to small increases in GPA among all high school students, from both our 9th grade and 10th-12th grade samples.

### **Self-Regulation Findings**

Self-Regulation is a student’s ability to focus on school work. The Self-Regulation measure includes items like “I finish my homework on time,” and “I get myself to study when there are other interesting things to do.” For all high school students, both the 9th grade and 10th-12th grade samples, we found that a one-point improvement in Self-Regulation was related to about a 1-percentage point improvement in GPA, from an average of 70 to 71.

## Academic Self-Efficacy Findings

Academic Self-Efficacy is a student's confidence in their academic abilities. It is measured in the survey with items such as: "I'm confident that I can do a great job on assignments and tests," and "I'm sure I can understand the most complicated information presented by the teacher." Among our middle school sample, we found that a one-unit increase in Academic Self-Efficacy was related to a one-point increase in the Math and ELA scale scores, with scores ranging from 400 to 700.

Finally, our results indicate that, for 9th graders, a one-unit increase in Academic Self-Efficacy is associated with an increased likelihood (7 percentage points higher) of being on-track by the end of 9th grade. On-track is a measure used by New York City to indicate whether a student has earned at least 10 credits and passed at least one New York State Regents Exam. This is a particularly meaningful outcome because being on-track in 9th grade is a strong predictor of graduating high school (Kemple et al., 2013). Thus, improvements in this early high school indicator may lead to real improvements in high school graduation rates.

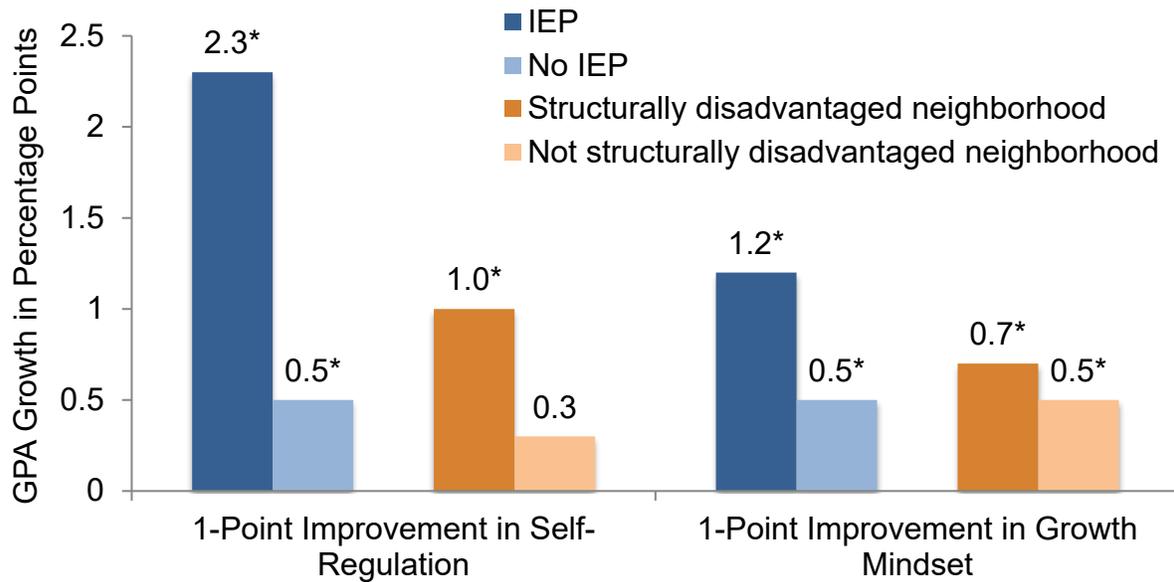
### **Finding 2: Among high school students, improvements in Growth Mindset and Self-Regulation seem to be associated with larger academic gains for students who live in more structurally disadvantaged neighborhoods and for students who have an Individual Education Plan (IEP).**

As the next step in our analysis, we further examined our statistically significant findings for two important subgroups to determine whether there were differences in how SEL growth related to academic development. We found that improvements in Growth Mindset and Self-Regulation were somewhat more strongly related to academic growth for students with IEPs and students residing in the most structurally disadvantaged neighborhoods. (Students with an IEP are students with disabilities who are eligible for special education services. Structurally disadvantaged neighborhoods are based on census tract variables, such as the unemployment rate and percent of families living in poverty.) These findings are largely in line with literature that tells us that students from families with fewer resources and students with IEPs may experience more benefits from SEL (Bierman et al., 2010; Daley and McCarthy, 2020). Due to limitations in the size of our middle school sample (about 900 students total and much less for subgroups) and 9th grade sample (about 500 students and much less for subgroups), we only investigated this question for our 10th-12th grade sample.

### **Subgroup Differences for Self-Regulation and GPA Improvement**

As depicted in Figure 1 on the next page, while the relationship between Self-Regulation and GPA was significant for students with and without IEPs, the magnitude of the relationship was much larger for those who had been slated for special education services. A one-point increase in Self-Regulation was associated with a 2.3 percentage point increase in GPA for students with IEPs, in contrast with a .5 percentage point increase in GPA for students without.

**Figure 1: Differences in GPA Growth by SEL Measure and Subgroup**



**Source:** Research Alliance calculations based on data from the SSN SEL survey and student data provided by the NYC Department of Education.

When we look at structurally disadvantaged neighborhoods, we see that the overall relationship between Self-Regulation and GPA was driven largely by students who lived in neighborhoods with more structural disadvantages. For these students, a one-point increase in Self-Regulation was associated with one percentage point of GPA growth. For other students, improvement in Self-Regulation had no statistical relationship with GPA.

### **Subgroup Differences for Growth Mindset and GPA Improvement**

As shown in Figure 1, a one-point increase in Growth Mindset was associated with a 1.2 percentage point increase in GPA for students with an IEP. Those without an IEP saw a smaller, though still significant, .5 percentage point increase. A one-point increase in Growth Mindset was associated with similar, and small, improvements in GPA for students in both kinds of neighborhoods.

Overall, while the associations we describe here are statistically significant, they are also quite small, as we might expect from the design of the study. In the following section we discuss some of our thinking on these findings, as well as directions for research and practice that may help produce more meaningful change for students.

## **Discussion**

### **Interpreting the Findings of this Study**

This study grew directly out of the questions and concerns of youth development practitioners in the SSN network—questions about which SEL competencies might support academic progress, and about which students might benefit most. While the work between the Research Alliance and SSN has evolved over time, in this study we sought to answer these particular questions in as rigorous a way as possible. To that end, we used a

multilevel, multivariate growth model to examine whether and how a year of growth in highly studied SEL competencies might relate to concurrent growth in key academic outcomes.

We found small but statistically significant relationships in patterns that are largely in line with other research in SEL, including the salience of Growth Mindset, Academic Self-Efficacy, and Self-Regulation, and the variation in SEL-academic relationships by subgroup. Our findings around growth in Academic Self-Efficacy and the increased likelihood of being on-track for graduation in the 9<sup>th</sup> grade are particularly noteworthy, as they signal a real change in academic trajectory that may be important for longer-term outcomes like high school graduation.

However, the effect sizes for all but the 9<sup>th</sup> grade on-track indicator were small enough that we need to ask whether our findings are *meaningful* in addition to being statistically significant. On its own, a one-percentage point increase in GPA or a one-point increase in state test scores is not particularly meaningful growth. Nevertheless, we believe that the overall *pattern* of findings, within a relatively short window of time, as well as the rigor of the study design, provide useful insights that point the way forward for future research in SEL and further development of the SEL field.

### Implications for Future Research

While our narrow observation period should be considered a feature rather than a limitation of the study, it did mean that any observed changes in outcomes would be small. We believe that longer-term longitudinal research is essential for understanding how SEL capacity changes over time and how those changes might bear on students' cumulative academic growth. Similarly, because we examined growth in SEL and academic outcomes over the same school year, we cannot really determine the directionality of these relationships. Future work might address this problem by examining SEL growth in a time point prior to measuring academic growth. This was not possible under our present research conditions, but we believe it is an important one to consider for the future.

Another set of challenges relates to the growing evidence that SEL competencies are contextual—that is, that students' SEL may change depending on the environment or domain (Berg et al., 2019). For our study, this means that the SEL level students reported in their supportive after-school programs, where they were surveyed, may not be the same as their SEL level in school. A student who feels confident in their ability to grow in their sports and tutoring programs may not carry the same Growth Mindset into their classrooms. It is thus possible that measuring SEL outside of school contexts dampened the size of SEL's effects on academics.

We have also been thinking about more fundamental critiques of the approach we use in this study. A frequent response from the practitioner community to these findings has been to argue that academic outcomes, like those used in this paper, are limited and problematic. Attendance rates, test scores, and GPA are all institutional measures of success and do not reflect the wide range of skills, knowledge, mindsets, and behaviors they want their students to develop. These are concerns that have begun to appear in the literature, as well. For instance, in their critique of prior SEL research, Robert Jagers and colleagues argued that institutional measures of success are often sourced from prevailing White, middle class values and that they require a level of conformity from those who wish

to succeed (Jagers, Rivas-Drake, & Williams, 2019). We take these criticisms seriously and have begun thinking through their implications for practice and research with our partners.

We believe our findings underscore the importance of combining SEL support with more targeted instruction in whatever domain is being measured. For example, Growth Mindset may help to facilitate students' openness to challenging math curricula, but without high-quality instruction, improvement in math may be limited. Likewise, instructional interventions without attention to SEL may be less successful if students do not think they are capable of doing well at math. Past studies in community colleges demonstrate the power of holistic SEL and mathematics instructional interventions to improve student achievement (Silva and White, 2013). Carefully combined SEL and academic intervention is an area ripe for continued research.

In many ways, our findings (and our partners' responses to them) return us to some of the very questions that launched this work in the first place—about the purpose of schooling. Should school be narrowly defined as a place for the transmission of academic knowledge, or should schools be designed with a broader vision and plan for the development of young adults? Parents, students, and educators often want the latter. If school systems seek to achieve the goal of supporting the whole child, one way they might begin is by expanding the range of outcomes deemed important—beyond solely the academic—to include SEL, physical and mental health, creativity and innovation, or citizenship and democracy.

Regardless of how SEL competencies relate to academic performance, they can assist young people in their everyday lives, as they navigate relationships, conflicts, and new situations. These competencies are also related to other, longer-term outcomes, such as positive mental health, development of strong relationships, and economic stability (Goldsmith, 2008; Joseph et al., 2015; Slaski & Cartwright, 2002; Stone et al., 2005). In short, SEL is critical for students' overall well-being and for making smooth transitions into adulthood, making it a worthy focus for research.

### **New Directions for Our Research-Practice Partnership**

For the organizations that make up the Student Success Network, it has become increasingly clear that questions of improving students' mental, physical, and emotional health ought to be elevated to the same level of importance as improving student GPA. This perspective means expanding the outcomes we measure beyond academic performance variables to include SEL, physical and mental health, creativity and innovation, and civic engagement (*Broader Measures*, 2013). It also means a renewed focus on how to support students in improving their SEL—and, specifically, how to support programs and adults responsible for teaching, modeling and coaching students in SEL.

Our most recent work as a partnership has focused on bringing together a multidisciplinary and diverse team of educators, nonprofit staff, academic researchers, and young people to advance an agenda of *anti-racist and equity-focused SEL*. We believe this work requires a level of adult-youth partnership that is not sufficiently supported in most research. We have begun to experiment with opportunities for adults and students in SSN programs to critically examine the root causes of inequities in students' SEL and SEL growth and to develop collaborative solutions for personal, communal, and societal well-being.

Among the questions we hope to address in this next phase of work are:

- What strategies and perspectives do adults and youth need to develop strong relationships and form authentic partnerships?
- What are effective strategies and processes to ensure that youth are meaningfully engaged in vision-setting and decision-making?
- How can adults and youth examine their social and cultural identities and promote youth voice, leadership, and decision-making?

Answering these questions in partnership with young people and practitioners provides an opportunity to understand each other more deeply in service of community well-being. It is through these kinds of collaborative investigations that we learn to focus on a wider range of questions, that we make space for new perspectives, and that we elevate voices that all too often have been marginalized in the systems governing research and policy.

## Recommendations

We encourage our readers to critically engage with our findings by *taking action*. Program leaders, school leaders, and youth workers identified several practical applications of our findings, including:

### 1. Use this report as an anchor text—a springboard for team discussions. For instance, teams might read this report then discuss:

- How these findings confirm or contradict the experiences of students and youth development professionals;
- What outcomes to measure and why;
- How to integrate SEL into program content and school curricula;
- How to implement SEL in an anti-racist way that addresses inequities and affirms youths' lived experiences and identities. (See "SEL as A Lever for Equity" on page 5.)

### 2. Engage key stakeholders, including youth, in decision-making about SEL measurement and data use to ensure equity and quality.

- Organizations and schools committed to measuring SEL might engage their own stakeholders in deciding whether to use the Network's [Youth SEL Survey](#), to use [another existing tool](#), or to create their own.
- Teams can use the resources in the Network's [Data Use to Improve Outcomes Toolkit](#) to engage with stakeholders in gleaning insights from SEL data, setting goals, investigating root causes underlying unsatisfactory outcomes, adapting promising practices, and improving outcomes.

### 3. Integrate SEL practices and approaches into programs and classrooms to create supportive learning environments.

- Program leaders, school leaders, and practitioners can use the Network's [Foundations for Youth SEL Development Reflection Tool](#) to reflect on ways they are currently supporting youth SEL development and identify new ways to help young people build SEL skills and capacities. The tool captures approaches to creating a supportive environment from SSN practitioners at sites where youth experienced exceptional SEL growth during a program year (see [Foundations for Developing the Three SEL Competencies that Lead to Better Academic Outcomes](#) in the Supplemental Materials section below).
- Teams of researchers and practitioners can work together to undertake studies that continue building knowledge around SEL, including practices and structures that are most effective for supporting students' SEL growth and long-term success.

## Supplemental Materials

### Foundations for Developing the Three SEL Competencies that Lead to Better Academic Outcomes

The Student Success Network’s [Foundations for Youth SEL Development](#) features practitioners’ strategies and approaches to fostering the three SEL competencies that we found lead to better academic outcomes. The Research Alliance analyzed the Network’s SEL survey data to identify “Bright Spot” sites—sites where youth experienced exceptional SEL growth during a program year. SSN staff, including youth interns, then interviewed practitioners at “Bright Spot” sites to learn promising practices and approaches that these practitioners hypothesize improve their participants’ SEL. Insights from this work are highlighted below.

**Academic self-efficacy is the belief that one can successfully achieve an outcome or reach a goal (Bandura, 1977; Gosselin and Maddux, 2003).**

Practitioners at SSN member sites where youth develop academic self-efficacy report that they affirm young people and encourage them to express themselves, provide individualized support, and partner with youth in making decisions.

- Brooklyn College Community Partnership staff recognize that middle school can be a difficult time in a young person’s identity development. In response, teaching artists start sessions with self-reflection, give students a platform to practice positive affirmation, and recognize the strengths of individual students. See [Infusing Program with Self-Reflection, Positive Affirmation, and Recognition](#).
- HEAF (Harlem Educational Activities Fund) staff hold monthly meetings to discuss the social-emotional and academic needs and progress of each of the students on their rosters. Discussions are informed by relationships staff build with students, as well as academic and program data. Staff collaboratively plan appropriate supports. See ["Roster Reviews" Informed by Caring Relationships](#).
- At Good Shepherd Services’ Groundwork for Success program, older students serve as Peer Tutors for younger students during homework time. Tutors and tutees take on academic challenges together.
- High school seniors at Goddard Riverside Options Center pose questions to college students who are recent program alumni during “Wish I Had Known” panels. Staff step out of the room to ensure that the students feel safe to ask honest questions about the college application process and the college experience. See ["Wish I Had Known" Panels](#).

**Growth mindset is the belief that one’s abilities can improve with effort. People who have developed a growth mindset see challenges and mistakes as ways to learn (Blackwell, et al 2007).**

Practitioners at sites where youth develop a growth mindset report creating *space to grow*. Young people at these programs incrementally build up new skills and demonstrate those skills.

- Center for Family Life students at MS 136/821 participate in a new performing arts activity each day (incrementally learning how to count a beat, compose a song, etc). These lead into a performance each semester. Staff share, “Students think they won’t

succeed, but their thinking changes once they finish the performance. Students are on a high and say ‘I can’t believe I just did that!’”

- City Squash students choose and learn a new skill by teaching themselves via YouTube. After breaking the skill into smaller pieces and practicing over seven weeks, they perform their skill for an audience of peers and staff. See [Growth Mindset YouTube Challenge](#).

**Self-regulation is the ability to successfully manage one’s own emotions, thoughts, and behaviors in academic situations. Students who have developed self-regulation motivate themselves to work toward academic goals (adapted from Cash, 2020).**

Practitioners at sites where youth develop self-regulation in their academic behaviors cultivate a *culture of care*, provide *individualized support*, offer *incentives with accountability*, and *partner with youth to make decisions*.

- At Good Shepherd Services Groundwork for Success, Peer Leaders participate in decision making around program activities, structure, and even staff hiring. A group of Peer Leaders serve as tutors for younger students during homework time. See [Student Ownership of Program](#).
- Staff and teens at Prospect Park YMCA share program decision-making power through a Teen Committee. Staff expect Teen Committee members to be role models for their peers, and hold them accountable for meeting program participation, community service, and academic expectations. See [Teen Committee](#).
- At IS 126Q, Y staff build trust through close personal relationships with students—and their families. They listen to their academic and personal struggles and learn the root causes of those challenges. They then partner with school staff like teachers and guidance counselors to offer support as a team.

## SEL Measures Included in the SSN SEL Survey Over Time

SEL Factor	2013	2014	2015	2016	2017	2018	2019	2020
Academic Self-Efficacy	Adapted from Perceived Self Efficacy Scale, March et al (2006)							
Belonging	<i>Added in 2015</i>		Carnegie SAIC (2015)	Adapted from Psychological Sense of School Membership (PSSM), Goodenow (1993)				
Grit	8-item Grit Scale, Duckworth et al (2007)		<i>Removed in 2015</i>					
Growth Mindset	Implicit Theories of Intelligence, Blackwell, Trzesniewski & Dweck (2007)			Measuring MESH: Student and Teacher Surveys Curated for the CORE Districts, Transforming Education (2016)				
Interpersonal Skills	Communication Scale, Barkman & Machtmes (2002)	Adapted from: Teamwork Scale, American Camping Association (2007) Social Competence Scale, ChildTrends (2014)						
Problem Solving	Adapted from Solving Problems, Barkman et al (2002)							
Self-Advocacy	<i>Added in 2015</i>		Developed by Student Success Network/Research Alliance (2015-16)					
Self-Regulation (formerly Academic Behaviors)	Adapted from Children's Self-Efficacy Scale, Bandura (2006)							

## Timeline of Changes to the SSN SEL Survey

<b>2013</b>	<ul style="list-style-type: none"> <li>• Pilot Network SEL Survey includes five SEL factors: Academic Behaviors, Academic Self-Efficacy, Grit, Growth Mindset, Interpersonal Skills, and Problem Solving.</li> </ul>
<b>2014</b>	<ul style="list-style-type: none"> <li>• Initial Interpersonal Skills measure drawn from Communication Scale, Barkman &amp; Machtmes (2002) replaced with questions from Teamwork Scale, American Camping Association (2007) and Social Competence Scale, ChildTrends (2014).</li> </ul>
<b>2015</b>	<ul style="list-style-type: none"> <li>• Grit measure from Duckworth et al (2007) removed.</li> <li>• Belonging measure drawn from Carnegie SAIC (2015) added.</li> <li>• Self-Advocacy measure, developed by the Research Alliance for NYC Schools and Network members, added.</li> <li>• Release Spanish and Simplified Chinese translations of survey.</li> </ul>
<b>2016</b>	<ul style="list-style-type: none"> <li>• Initial Growth Mindset measure drawn from Implicit Theories of Intelligence, Blackwell, Trzesniewski &amp; Dweck (2007) replaced with questions from Measuring MESH: Student and Teacher Surveys Curated for the CORE Districts, Transforming Education (2016).</li> <li>• Initial Belonging measure drawn from Carnegie SAIC (2015) replaced with adaptation of Psychological Sense of School Membership (PSSM), Goodenow (1993).</li> <li>• Sub-scale removed from pilot Self-Advocacy measure designed by Data Advisory Working Group (DAWG) members and Research Alliance.</li> <li>• DAWG members partner with Story Shares, an organization that generates age-appropriate reading material for older students who read below grade level, to alter the reading level of survey questions.</li> <li>• Hire a Data Manager to support “data leads”—staff members from each of the participating member organizations—with training and technical assistance.</li> </ul>
<b>2017</b>	<ul style="list-style-type: none"> <li>• Begin identifying “bright spot” sites using statistical modeling that accounted for student baseline SEL scores. Then SSN interviewed practitioners at bright spot sites to learn promising practices they thought led to their participants’ improved SEL.</li> <li>• Contract with Resonant Education to provide members a customized online portal for roster and consent tracking, survey administration, and automated reports.</li> <li>• Release Arabic translation of survey.</li> </ul>
<b>2018</b>	<ul style="list-style-type: none"> <li>• Based on member feedback, comparison to other frameworks, and Research Alliance analyses, survey shortened from 53 to 37 SEL items. The average time it takes a young person to complete the survey decreased 15% from 13 to 11 minutes.</li> <li>• Youth interns create Youth-Informed Data Collection training guide for survey administrators, emphasizing the need to focus on benefits of the survey for youth, e.g., why they should take the survey seriously, what is done with the survey results, and how the survey will help them individually.</li> <li>• DAWG members and youth interns provide feedback to develop tools and templates to capture, document, and share promising practices, including an interview protocol and practice documentation template.</li> </ul>
<b>2019</b>	<ul style="list-style-type: none"> <li>• Based on extensive interviews with almost 60 bright spot practitioners, elevated 22 promising practices and six <a href="#">Foundations for Youth SEL Development</a> that interviewees credit for exceptional SEL growth of youth at their sites.</li> </ul>
<b>2020</b>	<ul style="list-style-type: none"> <li>• Release Bengali translation of survey.</li> </ul>

## Endnotes

<sup>1</sup> A neighborhood is considered structurally disadvantaged if it is in the bottom quintile (20 percent) of the distribution on a composite measure of socioeconomic status, which includes other socioeconomic measures such as family income and education.

<sup>2</sup> Our outcomes for both 9<sup>th</sup> graders and other high school students included academic GPA, but prior scores available for the two groups were different. For 9<sup>th</sup> graders, we did not have prior high school GPA, and we used middle school test scores in place of prior GPA. For upper-grade high school students, we used prior GPA.

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