

StrongMinded Social Emotional Learning Program: Initial Efficacy Evaluation

RESEARCH BRIEF

StrongMinded is a unique Social Emotional Learning (SEL) program designed to be a flexible and integrated approach to helping students build essential social and emotional skills. The supplemental instructional activities provide targeted instruction for five core competencies: self-awareness, social awareness, self-management, relationship skills, and responsible decision making. Several learning opportunities are offered for each competency, resulting in over 300 SEL modules for middle and high school students. The digital learning modules do not interfere with coursework as they are brief, about five minutes each. Each module contains objectives, vocabulary, and practice activities with feedback. They also include video and other interactive activities to encourage engagement and completion.

Development of the SEL curriculum was guided by the framework set forth by the Collaborative for Academic, Social, and Emotional Learning (CASEL, 2017). At the center of this framework are five core social and emotional skills or competencies: self-awareness, social awareness, relationship skills, self-management, and responsible decision making. Two are self-oriented, two others are oriented to relationships, and one focuses on behavior. Informed by this framework, instructional activities were created and aligned to the five core competencies as well as respective skills identified by CASEL. The StrongMinded modules are also aligned to learning standards that fit within the CASEL framework and are vertically structured by grade bands, providing for a continuum of development. The content within the SEL modules offer developmental tasks that evolve as students mature. The overarching

competency, such as responsible decision-making or self-awareness, continues to be a key component throughout the series, but each task associated with the construct becomes increasingly sophisticated and age specific.

The StrongMinded team relied on decades of research in developing the learning system, incorporating research-based best practices and a comprehensive evaluation plan into the program's design. The program leverages the expertise of teachers, whose observations and decisions are critical to providing effective and timely social emotional support for students. Through StrongMinded, teachers have the option to assign learning modules based on student scores on the WCS-SECA, a set of instruments designed to assess social and emotional competencies (Davidson et al., 2018). However, this approach is not prescriptive, StrongMinded allows teachers to assign modules to individual students or whole classes any way they see fit, addressing both relationship-oriented and self-oriented social emotional learning objectives.

Rather than constructing a one-size-fits all model, StrongMinded was designed to provide students a more impactful SEL intervention by providing a needs-based approach. In addition to the flexibility afforded to teachers in assigning modules, learners also have the ability to independently search for topics that meet their personal interests, needs, and goals. Through this combination of options, each student is afforded a unique learning experience designed to help build upon their existing strengths and develop in areas in need of growth.

ABOUT THIS STUDY

This rigorous evaluation plan is intended to evaluate the program’s effectiveness, inform implementation efforts, and spur further research. This study was undertaken as the first step in a series of program evaluation efforts, with the goal of providing a preliminary investigation into the impact of participation in StrongMinded on student-level outcomes. We also sought to determine if there is a dosage, or level of student participation, associated with increased academic performance and engagement. Specifically, the study addressed the following research questions:

1. Is there a specific dose, or level of student interaction with the SEL curriculum, associated with improved student outcomes?
2. How did participation in the StrongMinded SEL program impact student academic performance?
3. How did participation in the StrongMinded SEL program impact student engagement?

METHODS

SETTING AND PARTICIPANTS

The StrongMinded program was adopted by an accredited Arizona public charter school in January 2020 at the beginning of the spring semester. The school offers 100% online courses to approximately 20,000 K-12 students each year. The study included 6,264 students in grades 6 – 12 who attended the school in the fall 202 and spring 2021 semesters.

STUDENT DEMOGRAPHIC

DEMOGRAPHICS	N	%
Female	3,454	56
Male	2,728	44
Free or Reduced Lunch	1,316	21
White	3,144	51
African American	535	9
Hispanic	2,301	37
Other	202	3

TABLE 1

DATA COLLECTION AND ANALYSIS

Student-level demographic, academic, and engagement data were obtained for students attending the school in the fall 2020 and spring 2021 semesters. Students were included for analysis in the final data set if they were enrolled during both fall 2020 and spring 2021 semesters. Data were also collected on SEL program interactions for each student during the spring 2020 semester. A series of Mann-Whitney U tests were then conducted to compare academic and engagement indicators between students in the treatment and control groups.

DOSAGE

For the purposes of this study, dosage was defined as the total number of modules each student engaged with during the spring 2020 semester. Given the goal of examining the impact of student interaction with the SEL learning content on academic performance and engagement, activities such as searching for SEL content using key terms was not included in this analysis.

ACADEMIC ACHIEVEMENT

Grade Point Average (GPA) was utilized as an indicator of students' academic success. Fall and spring GPAs were calculated for each student and utilized to compare student performance at various dosage levels against their counterparts. Fall and spring GPAs were also utilized to compare growth within treatment and control groups.

ENGAGEMENT

The average percentage of course requirements completed by each student was utilized as an indicator of student engagement. The percentage of course requirements completed was averaged for each student for both the fall and spring semesters and utilized to compare student engagement at various dosage levels against their counterparts. Fall and spring percentages of course requirements completion was also compared within treatment and control groups.

FINDINGS

DOSAGE

We compared student performance on academic achievement and engagement between groups of students at various dosage levels of engagement with the SEL educational modules. We found that students engaging with three or more SEL modules outperformed students engaging with zero to two modules (findings described in detail below). These findings suggest that interaction with three SEL modules is the threshold at which student academic performance and engagement improve significantly.

IMPACT ON ACADEMIC PERFORMANCE

Spring GPA was significantly higher (Mdn = 2.58) for students engaging with three or more SEL modules than their counterparts (Mdn = 1.57) engaging with zero to two modules, $U=1485065.5$, $p<.001$.

SPRING GPA COMPARISONS

	N	MEAN FALL GPA	SPRING GPA	DIFFERENCE
3+ SEL Modules	799	2.15	2.34	.19
0 – 2 SEL Modules	5,383	1.59	1.64	.05

TABLE 2

Since students in the treatment group started with a higher mean fall GPA than their counterparts in the control group, we compared the gains in GPA for both groups. The students interacting with three or more SEL modules significantly outperformed students interacting with fewer than tree modules, with statistically greater gains in GPA (Mdn = .03) than their counterparts (Mdn = .00), $U=1951205.0$, $p<.001$.

IMPACT ON STUDENT ENGAGEMENT

The mean percentage of completed course requirements was greater for students interacting with three or more SEL modules (Mdn = 99.76) than for students interacting with less than three modules (Mdn = 89.48), $U=1507866.0, = <.001$.

PERCENTAGE OF COURSE REQUIREMENTS COMPLETED

	N	MEAN % OF FALL COMPLETED REQUIREMENTS	MEAN % OF SPRING COMPLETED REQUIREMENTS	DIFFERENCE
3+ SEL Modules	799	86.87	89.67	2.80
0 – 2 SEL Modules	5,383	75.26	76.09	0.83

TABLE 3

Given that students in the treatment group started with a higher percentage of completed course requirements in the fall than their counterparts in the control group, we compared the gains between the two groups. The students interacting with three or more SEL modules significantly outperformed students interacting with fewer than three modules, with statistically greater gains in the mean percent of course requirements completed (Mdn = .00) than their counterparts (Mdn = .01), $U=202247430, p=.007$.

CONCLUSION

This study was the first step in a series of planned program evaluation efforts intended to investigate the impact of StrongMinded SEL on student achievement and engagement. Results from this initial evaluation indicate that the SEL program significantly impacted student outcomes, resulting in quantifiable positive effects on academic performance and engagement. Data show that from fall 2020 to spring 2021 students engaging with three or more StrongMinded SEL learning modules outperformed their peers, with significantly higher gains than their counterparts in GPA and percentage of course requirements completed. The findings from this study will also serve to inform program efforts aimed at targeting and attracting lower performing students, increasing their engagement with the SEL content. Future research efforts will focus not only on replicating the findings from this initial study, but also include data from additional schools adopting the program and more longitudinal data for students engaging with the curriculum.

REFERENCES

CASEL (2017). What is SEL? Retrieved from <https://casel.org/what-is-sel/>.

Davidson, L., Crowder, M., Gordon, R., Domitrovich, C., Brown, R., & Hayes, B., (2017). A continuous improvement approach to social and emotional competency measurement. *Journal of Applied Developmental Psychology, 55*, 93-106.