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Actionable Data for Students’ Social and Emotional Learning: Results from the SELIS Pilot

Social & Emotional Learning Indicator System (SELIS) Project Research Brief

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# Introduction

The impetus for the Social and Emotional Learning Indicator System (SELIS) project was to address a need highlighted by Massachusetts’s educators. Almost half of all principals in Massachusetts disagreed somewhat or disagreed strongly that their staff were proficient in providing and/or connecting intensive SEL supports to students who needed them with a similar percentage indicating that they did not, or only to a limited extent, assess students’ SE competencies (VISTA, 2019). An impediment to ensuring that the SE supports needed by students are tailored to these needs was the lack of a reliable, accessible measure to assess students’ SE skills. In a conversation with DESE, a Director of Student Services in one district expressed concern that it was hard for her to know if the SEL curricula and interventions implemented within her district were making a difference as she had no way of measuring students’ SE competencies. Without a way to measure students’ SE competencies, it is nigh impossible to reliably evaluate whether SE supports provided are effective. This conversation and the results from the VISTA survey was the motivation behind the development of the SELIS project.

The SELIS is a 45 to 50 item survey for youth in grades 3 through 12, that allows students to self-report their own social and emotional (SE) competency strengths. The purpose of SELIS is to provide educators with an asset-based assessment that can inform a tiered approach to developing students’ core SE competencies. The SELIS survey data enables educators to support and value students’ identities and recognize competency areas students identify as needing support and development. The SELIS data in intended to help educators implement evidence-based, culturally responsive SEL strategies that support schoolwide improvement, as well as identify targeted assistance for vulnerable student groups, and to help students who have more intensive academic and behavioral needs. The SELIS survey measures students’ perceptions of five core social and emotional learning (SE) competencies. During the 2018-2019 school year, DESE collaborated with one foundation district (Monomoy Regional School District, MRSD) to field test the social and emotional learning student self-report instrument. In 2020, DESE partnered with ten additional districts to scale up and pilot the SELIS.

The purpose of this research brief is to provide key findings from the SELIS pilot project. Drawing on data from the spring 2021 pilot administration to ten participating districts, this research brief addresses five research questions that will help DESE increase its understanding of the utility of the SELIS data and its ability to contribute to a more holistic assessment of individual students’, and of groups of students’ social and emotional well-being. Specifically, the Massachusetts Department of Elementary and Secondary Education (DESE) wanted to understand if the SELIS data would provide districts and schools with meaningful and actionable data on their students’ social and emotional competency. In addition, DESE used the pilot project’s data to explore if traditionally marginalized student groups who have significant academic gaps also have gaps in their social and emotional abilities. Lastly, DESE investigated the relationship between students’ academic and behavioral outcomes and students’ SE competence as research has shown that students in schools who have higher, on average, social and emotional skills have higher, on average, achievement and lower, on average, incidence of problem behaviors (Durlak, 2011; Jackson, 2020). A companion mini-case study of MRSD’s use of the SELIS data in its multi-tiered support system is provided [here](https://www.doe.mass.edu/research/selis/default.html).

# Research Questions

This research brief focuses on the following five questions:

1. Does the SELIS survey provide districts and schools with data that *meaningfully* differentiates students’ social and emotional abilities?
2. Does the SELIS survey provide districts and schools with concrete, actionable information that could help identify inequities in the supports provided to traditionally marginalized student groups?
3. Does each of the five SE core competencies contribute equally to any overall SE gaps found within student groups? Secondly, does the composition of core competency gaps vary between student groups?
4. If inequities exist, how does the magnitude of the average SE gap compare with other educational outcome gaps traditionally observed between marginalized student groups and their peers?
5. In general, how are students’ SELIS scores related to their achievement, academic growth, views on school climate, and attendance at the student- and school-level?

# SELIS Content

The SELIS survey items are designed to measure students’ social and emotional (SE) skills in five SE competencies. These competencies are based on the Collaborative for Social and Emotional and Academic Learning’s (CASEL) conceptual framework ([Appendix A](#_Appendix_A:_Collaborative)). The five competencies are students’ self-awareness skills, students’ self-management skills, students’ relationship skills, students’ social awareness skills, and students’ responsible decision-making skills. The competencies are defined by CASEL as follows:

1. **Self-awareness skills (SA):** This competency measures students’ abilities to understand one’s own emotions, thoughts, and values and how they influence behavior across contexts.
2. **Self-management skills (SM):** This competency measures students’ abilities to manage one’s emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations.
3. **Social awareness skills (SOC):** This competency measures students’ abilities to understand the perspectives of and empathize with others, including those with different backgrounds, cultures, and contexts than their own.
4. **Relationship skills (RSK):** This competency measures students’ abilities to establish and maintain healthy and supportive relationships and to effectively navigate diverse settings.
5. **Responsible decision-making skills (RDM):** This competency measures students’ abilities to make caring and constructive choices about personal behavior and social interactions across diverse situations.

The SELIS is predicated on the Social and Emotional Competency Assessment (SECA) developed by a team of researchers, educational practitioners, and the CASEL[[1]](#footnote-2). New items were also developed by DESE to improve the responsiveness and reliability of each of the five competencies (DESE, 2021). [Appendix B](#_Appendix_B:_SELIS) provides a summary of the item statements used in SELIS.

# SELIS sample description, design, methodology, and other measures used in study

## Sample Description

The 10 pilot districts represent all five regions of Massachusetts. Three of the ten pilot districts are classified as urban, 2 districts are considered rural, with the remaining districts deemed suburban. Eighty-two schools are represented across the 10 pilot districts in the SELIS project. Overall, 16,039 students provided data for this brief. The percentage of each student group across the 10 districts is reasonably representative of the state. Half of the students participating were female, with almost a quarter and a tenth of the students identifying as Hispanic or African American/Black, respectively. The majority of students were White (57%) with almost 7% Asian and 4% categorized as “Other” (includes multi-race, Native American, and Pacific Islander), respectively. Just over a third of students were economically disadvantaged, with a tenth and almost a fifth being English learners and students with disabilities, respectively. Five of the ten districts only had students from grades 4, 5, 8, and 10 participate; the remaining districts administered the SELIS in all grades 3 through 11 or 12. Please see the [SELIS Validity Study](https://www.doe.mass.edu/research/selis/validity-report.docx) for a full profile of the respondents in the ten districts and for a summary of evidence used to support the validity of the SELIS scores.

## Design

Students in grades 3 to 5 responded to 45 items in total; students in grades 6 to 8 and in grades 9 to 11 responded to 48 and 50 items, respectively. Forty-one items were common across all grades and these items were used to anchor all 61 items onto the same scale metric. The remaining 20 items were distributed across the three grade-level forms and were unique to each form. As a result of the anchoring process, all items and all students are measured on the same scale metric.

A computer-based administration was used. Students were able to choose their preferred language (Brazilian Portuguese, Haitian Creole, Simplified Chinese, and Spanish versions were offered). Almost ninety-nine percent of SELIS forms were taken in English. Students watched a two-minute video explaining how to navigate the survey platform. The items were read out loud to students in grade 3. Students were given the time needed to complete the survey with most students taking less than 20 minutes. Districts could opt to take the survey in the fall and/or spring of the school year. The data in the survey is from the spring 2021 administration.

## Methodology

A Likert scale with four response options was used to rate students’ perceptions of how hard or easy each SE skill assessed was for students to acquire or apply. Coding for all items dictated that a response of “0” (*very hard*) indicated a student’s least positive response to the SE skill, with a “3” (*very easy*) denoting the most positive response. Response scoring categories “1” and “2” corresponded to *hard and easy*, respectively. Students’ item responses were transformed using the Rasch Rating Scale model (Rasch, 1960; Wright & Stone, 1979; Linacre, 2023) to produce scaled scores for the SE construct as a whole and for the five SE competencies.

Rasch methodology was ideal for developing a SE scale that could assess students’ SE skills from low to high on the SE ability continuum (Davidson et al., 2018; Crowder et al., 2019). Items were developed to measure each competency and span the breadth of the SE continuum with items from different competencies overlapping as you move from relatively low skill difficulty items to relatively high skill difficulty items on the scale metric (Davidson et al., 2018; Crowder et al., 2019). To respond to some of the hardest items or SE skills on the assessment (e.g., “staying calm when I feel stressed”), students will need a high level of SE competence to respond, “very easy” or “easy” to the item statement; many students will find this difficult skill hard or very hard to apply. In contrast, most students will be able to respond, “very easy” or “easy” to some of the low skill difficulty items on the assessment (e.g., getting along well with my teachers”). By having items that form a continuum of SE skill difficulty for each competency, the SELIS can reliably assess and describe a student’s SE competence no matter where they locate on the SE scale.

## Other Measures used in Study

To answer research questions 3 and 4, this study uses measures available in DESE’s data collection system.

* **Attendance:** attendance is defined as the average percentage of days in attendance for students enrolled in school with at least 20 days in membership.
* **Academic achievement:** achievement is measured using the Massachusetts Comprehensive Assessment System (MCAS) scaled scores from 2021 for English Language Arts & Literacy (ELA, escaleds) and for mathematics (mscaleds). These assessments are administered in the spring each year.
* **Academic growth:** students’ MCAS ELA growth percentile scores (esgp) and mathematics growth percentile scores (msgp) were used in the study. A *student growth percentile* measures student progress by comparing one student’s progress to the progress of other students with similar MCAS performance histories.
* **School climate perceptions:** DESE’s Views of Climate and Learning (VOCAL) is a self-report instrument that measures students’ perceptions of school climate and is collected during MCAS administration. Schools and districts receive an aggregated overall school climate scaled score and three-dimension scores representing engagement, safety, and environment. In addition, a bullying topic scaled score was provided. For this study, VOCAL 2021 student-level data was used.

All outcome scores and the SELIS scores were transformed to zscores for these analyses and aggregated to the school- or district-level as needed.

# Scaled Scores and Guide to Social and Emotional (SE) Scaled-Score Differences

All students’ scores from the ten district schools were combined for most analyses presented; the overall social and emotional (SE) ability score and each competency’s scores were placed on the same scale that ranges from 1 to 999. Using Rasch methodology (Rasch, 1960; DESE 2021) all students and all items are anchored on the same measurement scale so scaled scores can be used to reliably compare students’ individual scores, student groups’ average scores, and schools’ average SE abilities scores. Any group scaled score difference or effect is reported in three ways: 1) in standard deviation units (SDUs); 2) as a percentile difference; and 3) as a narrative (very small to very large). The effect sizes reported in this study are used to categorize the magnitude of SE abilities differences found in the SELIS data and between student groups. Table 1 provides guidance on how to interpret the magnitude of the scaled score mean differences found in this report.

The point differences associated with the SDUs, and percentile differences are a **rough guide**. For example, depending on the standard deviations of the two groups being compared, a 15-point difference could fall within the small or moderate effect size range. In addition, differences may be classified using two effect size descriptions; for example, although 0.17 SDUs falls within the “small range” in Table 1, in the body of the text, it is described as a small to moderate effect as the effect size nears the “moderate” boundary. This table is designed for educators to use that do not have a statistical background or training but suffices for this study.

Table 1: Guide to social and emotional scaled score differences

|  |  |
| --- | --- |
| Size of effect(negative or positive) | Difference in: |
| Standard deviation units (SDUs) | Percentile1 | Scaled score points (pts) (**rough estimate**)2 |
| Not meaningful | Less than .05 | Less than 2 | Less than 5 pts |
| Very small | .05 to less than 0.10 | 2 to less than 4 | 5 pts to less than 8 pts |
| Small | .10 to less than .20 | 4 to less than 8 | 8 pts to less than 16 pts |
| Moderate | .20 to less than .30 | 8 to less than 12 | 16 pts to less than 24 pts |
| Large | .30 to less than .50 | 12 to less than 19 | 24 pts to less than 40 pts |
| Very Large | .50 or greater | 19 or greater | 40 pts or greater |

1Effect can be interpreted as the percentile difference from the lowest group’s or school’s outcome standardized mean score (set at the 50th percentile on the normal distribution) and the highest group’s standardized mean score; 2This is a **rough guide** to scaled score point differences; the standard deviations of the average scaled score comparisons vary when analyzed.

# Findings

This section presents the findings for each research question. The main takeaway for each research question is summarized in a blue text box and is elaborated in the section that follows.

## Research Question 1: Does the SELIS survey provide districts and schools with data that *meaningfully* differentiates students’ social and emotional abilities?

Yes. The SELIS provides districts and schools with meaningful data: 1) there is a wide distribution of student SE scores that range from very low to very high on the SE abilities continuum, and 2) the distribution of student SE scores can *reliably* be divided into four SE abilities levels, allowing rich qualitative and descriptive profiles of students’ SE skills at different locations on the SE continuum to be developed.

### Distribution of student SE scores

Figure 1 shows that there is high degree of variability in students’ SE abilities scores that range from very low to very high on the SE measurement scale. Each student can be located on the continuum of increasing SE competence. The average SE ability score of the 16,039 students in the sample was 532 with a standard deviation of 71. The SE scores range between 188 and 986 (six outliers had scores of 25 or lower) with most students’ scores falling between 460 and 600. This variation suggests that SELIS is able to provide meaningful differentiation of students’ SE abilities levels.

Figure 1: Distribution of pilot students’ SE ability scores



### SE Abilities Levels

The SELIS validity study indicated that the students’ score distribution could reliably be divided into 5.4 person strata to support the interpretation of the data (DESE, 2021). DESE divided the students’ score distribution into four levels (Level 1 or emerging skills, Level 2 or developing skills, Level 3 or developed skills, and Level 4 or highly developed skills). The four SE abilities levels were created on the SE continuum by using benchmarks scores of 400, 500, and 600 to divide the measurement scale. Students in Level 1 report the least developed SE skills and are classified as having, “emerging SE skills”; in contrast, students in Level 4 report the most developed SE skills in the pilot sample and are classified as having, “highly developed SE skills”. Specifically, the four levels are:

1. Level 1: Students with *emerging skills* who scored less than or equal to 400
2. Level 2: Students with *developing skills* who scored between 401 and 500
3. Level 3: Students with *developed skills* who scored between 501 and 600
4. Level 4: Students with *highly developed skill*s who score above 600

Students with the *highly developed skills* (Level 4) likely respond, “very easy” (scored 3) on even the hardest of SE skills to apply or acquire. Students with emerging *skills* (Level 1) likely respond, “very hard” (scored 0) on even the easiest of SE skills to learn. In the pilot sample, the cut scores of 400, 500, and 600, correspond to approximately the 2nd percentile, 32nd percentile, and 87th percentile of students’ social and emotional (SE) construct scores, respectively. Of note, a score of 700 corresponds to the 98th percentile. The majority of the pilot students (55%) exhibit developed SE skills (Level 3) with scores lying between 501 and 600 on the scale. Approximately, 33% of the pilots’ students score 500 or lower on the measurement scale (developing or emerging SE skills); about 12% of students score 600 or above on the scale (highly developed SE skills).

At the classroom level, there was similarly a high level of variability in SE skills among the students and the distribution of skill levels within any one classroom could differ considerably, even within the same school. Figure 2 shows the percentage of students associated with each SE level for three fourth grade classrooms within the same elementary school. Teacher 3 has a higher proportion of students in Levels 1 (emerging skills) and 2 (developing skills) compared to the other two teachers.

*Turning Data into Action.* This information could, for example, be used to provide teacher 3’s classroom with more targeted resources and supports. The SE levels of students could also potentially be used in student placement decisions to create more balanced classrooms in terms of students’ social and emotional needs or to assign students with particular needs to teachers experienced in supporting students with these needs.

Figure 2: Distribution of students’ SE scores within three grade 4 classrooms

Knowing a students’ SE level is helpful, but the data is not actionable until educators can understand what skills students find hard or easy to apply or acquire as they move from the lower end of the SE abilities continuum (emerging skills, level 1) to the upper end (highly developed skills, level 4). The Rasch methodology makes it possible to qualitatively describe the benchmarks used to characterize students’ SE skills and build profiles.

### SE Abilities Profiles

Profiles (narratives) were built to describe the SE skills for the average student at three benchmarks on the SE measurement scale for each of the five competencies. Student response data, that are visualized in the student-item threshold map ([Appendix C](#_Appendix_C:_Item-Student)), are used to build the profiles for each of the five SE competencies for a student whose average score is 400, 500, or 600, respectively; these three cut points are used to form the four abilities levels used to characterize students. In addition to providing a profile of students at the three cut points, a profile was built for students scoring 300 (towards the low end of the distribution) and one for students scoring 700 (towards the top end of the distribution). Students at 300 and 700 are associated with Level 1 and Level 4, respectively, but are sufficiently distinct in their responses to warrant a separate profile. An example of a profile developed for the self-management competency is shown in Table 2.

*Turning Data into Action.* An educator can locate a student’s self-management skills (SM) score on the scale and understand how this student likely responded to the SELIS items. Students reporting the highest level of self-management skills (above 600) demonstrate a growth mindset; they are able to sustain effort and motivation and persist when faced with challenges, setbacks, and distractions. For example, as student scoring 700 responds, “very easy” to all items. In contrast, students who score 400 and lower demonstrate difficulty persisting when faced with the same challenges, setbacks, and distractions. These students find it very hard to cope with frustration and stress and these underdeveloped skills likely contribute to their relatively fixed mindsets and their inability to cope with challenges and setbacks in school. These profiles are based on a broad interpretation of students’ response patterns at each of these cut points. Knowing that student scoring 400 has a relatively fixed mindset and struggles to cope and persist when faced with challenges and setbacks provides the information needed to help this student develop their self-management skills. Educators can decide if the student would benefit from a Tier 2 small group intervention or, if the need seems more critical, from a Tier 3 one-one intervention. It is important to review the other SE competency profiles for the student as they may have a strength in other SE competencies that can be leveraged to support their less developed self-management skills. Profiles for the other four SE competencies are found in [Appendix D](#_Appendix_D:_Social) (D1, self-awareness), (D2, social awareness), (D3, relationship skills), and (D4, responsible-decision-making skills), respectively. The levels clearly differentiate students’ self-reported SE abilities.

Table 2

Profile of students’ self-management skills

|  |  |
| --- | --- |
| Score | Narrative |
| 800 | See narrative of student scoring 700 (Level 4) |
| 700Level4 | Students scoring 700 on the scale have growth mindsets, are resilient, and have very good organizational skills; they find it: * **Very easy** to cope withfrustration, to stay calm when stressed, and to be patient when excited.
* **Very easy** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Very easy** to plan their work (turn a project in on time), prepare for tests, and to juggle multiple assignments if due at the same time.
* **Very easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Very easy t**o set, plan and reach their goals.
* **Very easy to trust** and approach an adult when faced with a problem.
 |
| 600Level3 | Students scoring 600 on the scale have somewhat malleable mindsets, exhibit resiliency and good organizational skills; they find it: * **Easy** tocope with frustration, to stay calm when stressed, and to be patient when excited.
* **Easy** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Easy** to plan their work (turn a project in on time), prepare for tests, and to juggle multiple assignments if due at the same time.
* **Easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Easy** to set, plan and reach their goals.
* **Easy** **to trust** and approach an adult when faced with a problem.
 |
| 500Level2 | Students scoring 500 on the scale have somewhat fixed mindsets, exhibit some resiliency and organizational skills; they find it: * **Hard** tocope with frustration, to stay calm when stressed, and to be patient when excited.
* **Hard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Easy** to plan their work (turn a project in on time) and prepare for tests but find it **hard** to juggle multiple assignments if due at the same time.
* **Easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Easy** to set and plan goals, but still find it **hard** to reach their goals.
* **Easy** **to trust** and approach an adult when faced with a problem.
 |
| 400Level 1 | Students scoring 400 on the scale have fixed mindsets, lack resilience, and have poor organizational skills; they find it: * **Very hard** to cope with frustration, to stay calm when stressed, and to be patient when excited.
* **Very hard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Hard** to plan their work (turn a project in on time) and prepare for tests, and **very hard** to juggle multiple assignments if due at the same time.
* **Hard** to catch up when they fall behind and **struggle to** finish their schoolwork even with reminders.
* **Hard** to set and plan goals, making it **very hard** to reach their goals.
* **Hard** **to trust** and approach an adult when faced with a problem.
 |
| 300Level1 | Students scoring 300 on the scale have fixed mindsets, lack resilience, and have poor organizational skills; they find it: * **Very hard** to cope with frustration, to stay calm when stressed, and to be patient when excited.
* **Very hard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Very** **hard** to plan their work (turn a project in on time), prepare for tests, or to juggle multiple assignments if due at the same time.
* **Very hard** to catch up when they fall behind and **struggle to** finish their schoolwork even with reminders.
* **Very** **hard** to set, plan, and reach their **goals**
* **Very hard** **to trust** and approach an adult when faced with a problem.
 |

Educators can also use item-response maps (SWON maps) to get a more detailed picture of individual students’ SE abilities. A SWON map is a data visualization tool that helps identify an individual student’s SE skills strengths and areas for SE skills growth. Inclusion of SWON maps is beyond the scope of this study. Readers are directed to DESE’s [user-guide](https://www.doe.mass.edu/research/selis/user-guide.docx) and to the [mini-case study](https://www.doe.mass.edu/research/selis/default.html) of MRSD’s social and emotional initiatives for an explanation of how to interpret the maps and for examples of how practitioners use SWON maps to support students’ social and emotional well-being.

## Research Question 2: Does the SELIS survey provide districts with concrete, actionable information that could help identify inequities in the supports provided to traditionally marginalized student groups?

Yes. Traditionally marginalized student groups such as Black and Latinx students, economically disadvantaged students, English learners, and students with disabilities all reported lower SE skills when compared to their peers. These inequities were of practical significance particularly when data was analyzed by district. With this type of evidence, districts can review their supports for these groups of students.

### SELIS scores by student group

Similar to academic learning gaps, students from marginalized student groups have social and emotional learning gaps compared to their more advantaged peers. Table 3 shows the average SE score for several student group comparisons, data from all 10 districts combined are shown in Table 3.

The largest gaps in student reports of their SE skills are for three marginalized groups, namely, economically disadvantaged (ecodis) students, English learners (EL), and students with disabilities (SWD). For each of these groups, the difference between their average SE score and the average SE score of their peers is of a moderate effect size (between eight and nine percentiles). Smaller gaps exist between students of color and White students; these gaps range between 5-percentiles (Multi-race, Native American, and Pacific Islander students combined) to 6‑percentiles (Black and Latinx students).

*Turning Data into Action.* Having access to reliable comparison data allows districts to focus their limited resources and supports to the students that most need them. By breaking out the data by traditionally marginalized student groups, the district can review their current SE supports to the student group(s) identified in need of additional support. In this review, they can investigate if any systems-level factors (e.g., lack of leadership support, inequitable access to supports) impede the implementation of these supports. The review could also indicate that new supports need developed to better address the student group’s needs. The data presented in Table 3 mask how gaps vary among the 10 districts and among the five competencies, these are discussed next section and research question, respectively.

Table 3: Student group social and emotional abilities gaps

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Student Group** | **Number Students** | **Mean** | **S.D.** | **Min.****Score1** | **Max.****Score2** | **Effect size3** |
| Female4 | 8,082 | 530 | 71.7 | 25 (188) | 986 | 0.03 (<2 ptile), not meaningful |
| Male | 7,949 | 533 | 71.0 | 17 (244) | 986 |
| Asian**5** | 762 | 536 | 66.8 | 374 | 986 | ----- |
| Black**5** | 948 | 525 | 64.7 | 303 | 984 | -0.14 (6 ptile), small |
| Latinx**5** | 3,642 | 524 | 71.0 | 25 (188) | 986 | -0.15 (6 ptile), small |
| Multi-race**5** | 718 | 527 | 66.6 | 302 | 986 | -0.11 (4 ptile), small |
| White | 9,968 | 535 | 72.4 | 17 (212) | 986 | --- comparison group |
| Non-Ecodis**6** | 9,979 | 537 | 70.9 | 19 (265) | 986 | -0.20 (8 ptile), moderate |
| Ecodis**6** | 6,059 | 522 | 71.1 | 17 (188) | 986 |
| Non-English learner | 14,882 | 533 | 71.0 | 17 (256) | 986 | -0.23 (9 ptile), moderate |
| English learner (EL) | 1,156 | 516 | 73.3 | 17 (188) | 986 |
| Students without disabilities (SWOD) | 13,408 | 534 | 70.4 | 17 (256) | 986 | -0.23 (9 ptile), moderate |
| Students with disabilities (SWD) | 2,630 | 517 | 74.5 | 17 (188) | 986 |
| All Students | 16,039 | 531 | 71.3 | 17 (188) | 986 | ----- |

1The minimum (Min) scores are extreme and may not reflect these students’ true scores. The scores in parentheses are the more likely minimum scores in these student groups; 2Max: Maximum score; 3ptile: percentile difference; 4There were an insufficient number of non-binary students to report out their data; 5Students of color are compared to White students; 6Ecodis: Economically disadvantaged.

### District-level variation in size of student group gaps

There was considerable variation in the magnitude of student group gaps across the districts and the largest gap in any one student group comparison was associated with different districts. Figure 3 highlights the largest gap found in any one district for each of the student group comparisons.

For gender, the gap ranged from 7‑percentiles (favoring females) to 3‑percentiles (favoring males) with males in all but one district reporting stronger SE skills. The Black and White student group gap favoring White students ranged from no difference to a 10-percentile difference (0.25 standard deviation (s.d.), moderate gap); the Latinx and White student gap favoring White students ranged from no difference to 8-percentiles (0.20 s.d., moderate). In one district, Asian students reported more developed SE skills compared to White students (0.11 s.d., 4-percentiles, small). There was only one district where Asian students reported less developed SE skills (‑0.16 s.d., 6‑percentiles, small); in most districts there was no gap between Asian and White student reports. Lastly, compared to White students, Multi-race students reported less developed SE skills; the gap ranged from ‑0.08 s.d. (3-percentiles, very small/small) in one district to -0.56 s.d. (21‑percentiles, very large) in another.

Figure 3: Largest district-level SE abilities gap by student group1

1Student group gaps are spread across multiple districts. 2Male students are compared to female students; students of color are compared to White students. Native American students and Pacific Islander students are not reported as there was either an insufficient number in any one district, or the district would be identified; Ecodis are compared to non-ecodis students; EL are compared to English speakers; SWD are compared to students without disabilities.

The gap between economically disadvantaged students (ecodis) and their peers ranged from no difference to an 11-percentile difference; this difference favoring non-ecodis students is equivalent to 0.27 s.d. (a moderate to large gap). The gap between EL and non-EL students that favors non-EL students ranged from no difference in one district to a 19‑percentile difference (0.48 s.d., a large to very large gap) in another. Similarly, the difference between SWD and students without disabilities (SWOD) ranged from 7 percentiles in one district to 12 percentiles (0.30 s.d., a large gap favoring SWOD) in another one.

## Research Question 3: Does each of the five SE core competencies contribute equally to any overall SE gaps observed between marginalized student groups?

For each of the marginalized student group comparisons, the contribution of the five core competencies to the overall SE gap is not uniform and certain SE competencies are driving the overall SE score difference more than others. The competency that contributes to the overall SE score difference varies depending on the student group comparison being examined.

For each student group comparison, Table 4 shows the average SE abilities gap broken out by SE competency. Data from all 10 districts are used for these analyses. The size of the gap is shown as standard deviation units with percentile differences reported in parentheses. In addition, gradations in cell color denote gradations in the size of the gap. **Unless otherwise stated, the groups enumerated are those that expressed lower SE skills.**

In all student group comparisons, the magnitude of the gap in the five core competencies varies, indicating that each core competency is not contributing equally to the overall SE gap found. The SE core competency gaps vary in size and direction when females are compared to male students, and when Asian students are compared to White students. For example, Asian students have more favorable views of their self-management skills than White students, but less favorable views of their relationship skills. These gaps are small but in different directions.

Table 4: Overview of District Social and Emotional Skill Abilities Gaps

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Self-Awareness (SA) | Self-Management (SM) | Social-Awareness (SOC) | Relationship Skills (RSK) | Responsible Decision-making (RDM) |
| Female | 0.14 (6) | 0.06 (2) | ------ | No gap | ------ |
| Male | ------ | ------ | 0.10 (4) | 0.09 (3) |
| Asian1 | No gap | 0.11 (4)**+++** | 0.08 (3) | 0.13 (5) | 0.05 (2) |
| Black1 | No gap | 0.14 (6) | 0.06 (2) | 0.23 (9) | 0.08 (3) |
| Latinx1 | 0.10 (4) | 0.16 (6) | 0.11 (4) | 0.15 (6) | 0.14 (6) |
| Multi-race1 | 0.12 (5) | 0.11 (4) | 0.10 (4) | 0.09 (3) | 0.09 (3) |
| Economically Disadvantaged2 | 0.16 (6) | 0.21 (8) | 0.12 (5) | 0.15 (6) | 0.16 (6) |
| English learner3 | 0.24 (10) | 0.14 (6) | 0.28 (11) | 0.15 (6) | 0.27 (11) |
| Students with disabilities4 | 0.19 (8) | 0.20 (8) | 0.23 (9) | 0.12 (5) | 0.29 (12) |
|  |
| Cell color coding | No gap | Very small gap | Very small/small gap | Small gap | Small/moderate gap | Moderate gap | Moderate/large gap |

1 Comparing students of color to White students; 2Comparing ecodis students to non-ecodis students; 3Comparing non-EL students to EL students; 4Comparing SWD students to SWOD students; **+++**This gap favored Asian students with White students reporting lower, on average, self-management skills.

In two of the comparisons, differences in one competency are larger when compared to gaps in the other four core competencies. For example, when compared to White students, Black students report a moderate sized gap in relationship skills but the competency gaps in the other four SE competencies are small in size. Similarly, when compared to non-ecodis students, ecodis students have relatively less favorable views of their self-management skills (moderate gap) than they do of their other core competency skills (small gaps). The greatest variation in SE competency gaps is evident in two student group comparisons, namely, for EL students and students with disabilities. The SE competency gaps for EL students varies from small (self-management) to moderate-to-large (social awareness) in size. The students with disabilities competency gaps vary from small (relationship skills) to moderate-to-large (responsible decision-making skills) in magnitude. Overall, these two student groups report the largest differences, on average, among the five competencies with moderate or moderate-to-large gaps in three of the five competencies. Interestingly, both student groups have only small gaps in relationships skills when compared to their peers. Again, these data mask the fact that in certain districts, competencies that drive the overall SE gap are different and can vary considerably in magnitude.

*Turning Data into Action.* Breaking these data out by district is beyond the scope of this study. However, it is important that districts do breakout their data by school- and grade-level and, as above, by student group so they can get a more in-depth picture of student’ needs. By drilling down into the data, it will be easier to target groups that need support and understand what competencies are in most need of support. This is particularly the case as students move up the grade levels where strengths and areas of growth may vary as students develop and mature or where gaps may grow or decrease in magnitude. The grade-level of the student is also critical in identifying the age appropriateness of the intervention needed. For example, a Lunch Bunch group could be developmentally appropriate for students in the middle school level to help improve their relationship skills and group-based identities, whereas relaxation and mindfulness groups could better target high school students whose identities are becoming more individuated and who have more mature relationship skills.

## Research Question 4: If inequities exist, how does the magnitude of the average SE gap compare with other educational outcome gaps traditionally observed between marginalized student groups and their peers?

The SE gaps between Latinx and White students and between ecodis and non-ecodis students are of comparable magnitude to the gap in student’s academic growth but are of smaller magnitude when compared to other educational outcomes examined. The SE gaps highlight that the inequities typically observed between marginalized students and their peers in most educational outcomes is also evident when the outcome is students’ reported social and emotional skills and that the magnitude of these differences is meaningful.

Two student group comparisons are used to address this research question among *students in grades 3 through 8* only in these analyses (high school students are omitted). Latinx students are compared to White student outcomes, and economically disadvantaged students (ecodis) are compared to non-ecodis student outcomes. The educational outcomes examined are students’ scores on the VOCAL school climate survey, student attendance rates, student MCAS achievement scores, and students’ academic growth percentiles. Figure 4 compares the magnitude of the SE gap with six outcomes between Latinx students and White students.

Figure 4: Magnitude of Latinx and White student SE gap compared to other outcome gaps (G3 – G8)

1All outcomes were converted to zscores. Attend: Attendance rate; VOCAL: Views of Climate and Learning school climate student perception survey include grade 4, 5, and 8 only; msgp: mathematics student growth percentiles; mscaleds: mathematics scaled score; esgp: English Language Arts student growth percentile; escaleds: English Language Arts scaled score.

For Latinx students, the size of the SE skills gap is comparable in size to the gap in students’ ELA and mathematics academic growth but smaller when associated with other educational outcomes. Compared to the ELA achievement gap (escaleds, 0.48 s.d., 21-percentiles), the average SE gap (0.15 s.d., 6‑percentiles) is much smaller and is roughly a third of the size of the ELA gap. The average Latinx SE gap is comparable to the average gap observed for students’ ELA growth scores (esgp, 0.16 s.d., 6‑percentiles) and students’ mathematics growth scores (msgp, 0.11 s.d., 4-percentiles). The gap between Latinx students’ SE skills is about half the size of the gap in attendance between them and their White peers. Latinx students do not differ meaningfully in terms of their perceptions of school climate across these 10 districts but, as evident, do report a lower SE ability overall compared to White students. Figure 5 compares the size of the ecodis SE gap with the same six educational outcome gaps.

Figure 5: Magnitude of EL and non-EL student SE gap compared to other outcome gaps (G3 – G8)

1All outcomes were converted to zscores. Attend: Attendance rate; VOCAL: Views of Climate and Learning school climate student perception survey; msgp: mathematics student growth percentiles; mscaleds: mathematics scaled score; esgp: English Language Arts student growth percentile; escaleds: English Language Arts scaled score.

The SE gap between ecodis and non-ecodis students is of a moderate size (0.22 s.d., 9-percentiles). It is similar in magnitude when compared to the ELA growth score gap (esgp, 0.23 s.d., 9‑percentiles) and the mathematics growth score (msgp, 0.20, 8-percentiles). When compared to the ELA achievement gap (0.59 s.d., 23-percentiles) and the mathematics achievement gap (0.64 s.d., 24-percentiles), the SE gap is much smaller in size (approximately a third of the size). The SE gap is also smaller (four-tenths) of the size of the attendance gap between the two student groups. Ecodis students have similar views of their school climates as non-ecodis students; as a result, the SE gap is much larger. By combining the 10 districts in these analyses, we mask the variability in the educational outcome gaps impacting these 10 districts. It is beyond the scope of this study to do a comparison of educational outcome gaps to SE gaps for each district. However, it is possible to determine how students’ SE scores are related to these outcomes in general and whether the SELIS survey provides a more holistic picture of students’ academic and social and emotional well-being. This is addressed in the next question.

*Turning Data into Action.* Understanding the magnitude of students’ social and emotional skills gaps and how they compare to gaps in other educational outcomes helps educators know if focusing on social and emotional learning is worthy and has the possibility of impacting not only a student group’s social and emotional well-being but also their academic and behavioral outcomes. With the SE gaps being comparable in size to the ELA and mathematics student growth percentile gaps (a strong predictor of students’ academic success), these may highlight that there may be inequities in the supports provided to student groups and that a review and focus on student groups’ SE abilities is warranted. This is especially the case given the results highlighted in research question 5’s analyses, and some of the related academic research discussed in these results.

## Research Question 5: In general, how are students’ SELIS scores related to their achievement, academic growth, views on school climate, and attendance at the student- and school-level?

At both the student level and school level, the average SE score is positively associated with average academic and behavioral scores. At the student level, self-management scores have, for the most part, the strongest relationship with academic achievement and growth with relationship skills scores having the strongest relationship with school climate and, to a lesser extent, attendance scores. At the school-level average self-management scores also has a moderately strong relationship with academic indicator scores with relationships skills scores having the strongest association with school climate and attendance.

The onus for the SELIS data is to provide meaningful additional information to schools and districts that educators can use to drive instructional decisions, assess for inequities, and design appropriate tiered student supports. If the scores do not contribute to a more holistic assessment of individual students, and of groups of students, districts and schools should not move forward with the added burden of administering the SELIS. For SELIS scores to offer added information to schools and districts about their students, they should minimally show a positive and significant relationship to other outcome measures that are known to impact students’ academic and social and emotional learning. This study examines the extent to which students’ SELIS scores are related to their academic achievement, academic growth, views on school climate, and attendance at the student- and school-level.

Pearson bivariate correlations between SELIS scores and other outcome scores were examined at both the student- and school-level. Table 5 shows the correlations between the overall SE score and six outcome scores at the student-level (broken out by grade) and at the school-level across the 82 schools in the study.

[Appendix E](#_Appendix_E:_Number) provides the number of students for each correlation examined in Table 5. Except for grade 7, student-level SE scores are positively related to students’ academic achievement and academic growth across all grades. Similarly, there is a positive relationship between student-level SE scores and students’ perceptions of their school climate and of their attendance at school. Students who view their social and emotional skills more positively have higher ELA and mathematics achievement and academic growth. At the student-level, these correlations are considered reasonably strong. Similarly, these students view their school climate more positively and have higher overall school attendance.

Table 5: Relationship between SE scores, academic scores, and other outcomes1

|  |  |  |  |
| --- | --- | --- | --- |
| Student-level | Academic Achievement | Academic Growth | Other Outcomes |
| SE | ELA(escaleds) | Mathematics(mscaleds) | ELA(esgp) | Mathematics(msgp) | VOCAL2 | Attendance |
| All students | 0.14\*\*\* | 0.15\*\*\* | 0.07\*\*\* | 0.09\*\*\* | 0.34\*\*\* | 0.14\*\*\* |
| Grade 33 | 0.19\*\*\* | 0.22\*\*\* |  ---- | ----- | ----- | 0.13\*\*\* |
| Grade 4 | 0.16\*\*\* | 0.18\*\*\* |  ---- | ----- | 0.36\*\*\* | 0.14\*\*\* |
| Grade 5 | 0.19\*\*\* | 0.19\*\*\* | 0.10\*\*\* | 0.08\*\*\* | 0.37\*\*\* | 0.17\*\*\* |
| Grade 6 | 0.17\*\*\* | 0.19\*\*\* | 0.13\*\*\* | 0.13\*\*\* | ----- | 0.19\*\*\* |
| Grade 7 | 0.03 | 0.06 | 0.01 | 0.11\*\*  | ----- | 0.13\*\*\* |
| Grade 8 | 0.10\*\*\* | 0.13\*\*\* | 0.06\*\* | 0.08\*\*\* | 0.39\*\*\* | 0.18\*\*\* |
| G3 – G8 | 0.15 | 0.17 | 0.08 | 0.09 | 0.35 | 0.15 |
| Grade 10 | 0.06\*\* | 0.06\* | 0.02 | 0.07\*\* | 0.39\*\*\* | 0.10\*\*\* |
| School-level | Academic Achievement | Academic Growth | Other Outcomes |
| SE | ELA (escaleds) | Mathematics(mscaleds) | ELA(esgp) | Mathematics(msgp) | VOCAL2 | Attendance |
| All schools | 0.58\*\*\* | 0.53\*\*\* | 0.52\*\*\* | 0.37\*\* | 0.24\* | 0.39\*\* |

1Statistical significance: \**p*<0.05, \*\**p*<0.01, \*\*\**p*<0.001; 2VOCAL is only administered in grades 4, 5, 8, and 10. One district did not administer VOCAL. 3There are no growth scores available for grade 3, 4, or 9 students. MCAS was not administered in 2020 or to grade 11 students in 2021.

When aggregated to the school level, there is a moderately strong positive relationship between average SE scores and average academic achievement scores and with academic growth scores. Schools with higher SE scores on average have higher ELA and mathematics achievement scores and higher growth scores. Students in schools who have higher, on average, SE skills are in schools with more favorable school climates; the correlation is small but significant (0.24). Notable, the magnitude of the school-level correlation is smaller than the correlations between the two constructs at the student-level; however, this is likely due to some schools not participating in VOCAL. Similarly, students in schools with higher, on average, SE skills also have higher, on average, attendance more positively; the correlation is of a small to moderate size (0.39).

[Appendix F](#_Appendix_F:_Student-) shows the same correlations for each of the five SE core competencies for all students. A meta-analysis has shown that universal school-based interventions have a positive impact on students’ academic learning (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011). When compared to controls, students in schools who implemented a universal SEL program had, on average, a 11-percentile improvement in achievement. Half of the 213 studies in the analysis used a randomized design, the golden standard for educational research studies. The positive relationship between students’ SE skills and their achievement and with their academic growth at the school level suggests that universal SEL programming could help support improvement in student achievement. SE skills related to all five core competencies help drive this positive association between SE skills and academic achievement and growth at the school level (see Appendix F); the magnitude of competency associations with the four academic indicators ranges from 0.31 (between social awareness and mathematics growth) to 0.54 (between self-management skills and ELA achievement, and between self-awareness skills and ELA growth). At the student-level, self-management skills have the strongest association with all four academic indicators.

Teacher-student relationships are viewed as the most important element of school climate needed to support student learning and academic achievement (Darling-Hammond & Cook-Harvey, 2018); “when teachers view students’ experiences as an asset and intentionally bring students’ voices into the classroom, they create an “identity-safe” and engaging atmosphere for learning to take place” (p.21). To foster positive teacher-student relationships, students need strong relationship skills. At the school-level, students in schools with more favorable school climates report more positive relationships skills on average; the association is moderately strong in size (*r* = 0.55, Appendix F). Relationship skills and to a lesser extent social awareness (*r* = 0.33) and self-management skills (*r* = 0.30) drive the association between the overall social and emotional skills average score and the overall school climate average score. Interestingly, students’ relationship skills and self-management skills also appear to drive the association between students’ average SE skills scores and their average attendance scores at the school-level and at the student-level. Students in schools with higher average attendance report higher average relationships skills (*r* = 0.47) and self-management skills (*r* = 0.44); similarly within schools, students who report higher relationship skills and self-management skills have higher, on average, attendance.

*Turning Data into Action*. The school-level correlations between students’ social and emotional skills and other educational outcomes are mostly moderately strong in magnitude indicating that the SE data is providing schools with a different perspective on their students and their school as a whole. This additional information can supplement other data they use to inform their tiered supports for their students and potentially help target the type and intensity of supports better (DESE, 2019). A mini case study is available and shows how the foundation district used a systems approach to develop its multi-tiered system of support and how it used SELIS data to inform student supports within the tiered system. The mini study findings can be found [here](https://www.doe.mass.edu/research/selis/default.html).

# Summary

The purpose of this research brief was to describe SELIS data and answer research questions about its validity, reliability, and use-cases. The findings illuminate how the SELIS pilot project can provide districts and schools with meaningful and actionable data about their students’ SE competencies particularly those from traditionally marginalized groups. Findings suggest that the SELIS provides distinct information that districts, or schools can use to glean a more holistic picture of their students’ academic and social and emotional well-being.

Findings indicate that the SELIS assessment was reliable and responsive as there was a wide distribution of student SE scores that ranged from very low (188) to very high (986) on the SE abilities continuum across the 10 districts. Because of this substantive variability in students’ SE scores, the score distribution could *reliably* be divided into four SE abilities levels. The profiles developed help to make the data actionable for educators by providing benchmarks for each of the five competencies. The profiles can be used to characterize not only individual students’ SE skills but the average SE skill level of a group of students such as students with disabilities.

This analysis also indicated that inequities found between marginalized student groups and their peers in academic achievement and growth, are mirrored in their social and emotional skills. Specifically, SELIS identified that marginalized students also have gaps in their social and emotional learning abilities compared to their more advantaged peers. With the inequities varying by student group and competency in any one district or school, the SELIS provides districts/schools a better way to target their resources and supports to the student groups that most need them.

Lastly, findings show that SELIS scores offer added information to schools and districts about their students; at the school level, they has a moderately strong positive relationship with other educational outcome measures (both academic and behavioral) but not such a strong relationship that they were essentially measuring the same thing. Having SELIS scores available offers schools and districts a more holistic picture of their students and can provide important data to better inform and improve their tiered academic and social and emotional support systems for their students.

# Limitations of Study

This study is limited in scope as, for the most part, it did not take a deeper dive into the data and report data for each research question addressed at the district or school level. By using the combined data from all 10 districts, the study masked the full extent of the variability in the SE data and interesting differences in students’ SE abilities that impacted some districts but not others. In addition, the data and analyses in this study are descriptive and cross-sectional. The study examines students’ self-reported SE skills at one moment in time and does not account for the fact that students are nested within classrooms or schools or randomly assigned to schools (needed to determine causality). As a result, the data presented do not meet the criteria for Tier 1 evidence developed by [ESSA](https://ies.ed.gov/ncee/wwc/essa). Similar to Durlak et al. (2011) and Jackson et al. (2020), this study does provide preliminary evidence that students’ self-reports of their SE skill abilities can be used to help improve schools’ improvement plans and support students’ academic and social and emotional well-being.

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# **Appendix A:** Collaborative for Academic and Social and Emotional Learning’s (CASEL) Conceptual Framework

The SELIS was based on the **old CASEL framework** below. SELIS will be updated to reflect the new CASEL framework that can be found[**here**](https://casel.org/sel-framework/)**.**



Downloaded from [www.casel.org](http://www.casel.org) (2019)

# **Appendix B:** SELIS Item Prompts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.1** | **Item code** | **Item Prompt: How hard to easy is the following for you?** | **ES2** | **MS2** | **HS2** |
| 11 | SAS1 | Knowing what my strengths are.  | X | X | X |
| 21 | SAE2 | Knowing ways to make myself feel better when I'm sad.  | X | X | X |
| 31 | SAE3 | Noticing what my body does when I am nervous.  | X | X | X |
| 41 | SAE4 | Knowing the emotions I feel.  | X | X | X |
| 51 | SAS5 | Knowing when I am wrong in the way I behave. | X | X | X |
| 61 | SAS6 | Knowing how to get better at things that are hard for me to do at school.  | X | X | X |
| 71 | SAE7 | Knowing when my mood affects how I treat others.  | X | X | X |
| 81 | SAE8 | Knowing ways I calm myself down.  | X | X | X |
| 91 | SAS9 | Knowing when I can't control something. | X | X | X |
| 101 | SAE10 | Knowing when my feelings are making it hard for me to focus. | X | X | X |
| 11 | SAE11 | Understanding the difference between how others expect me to feel and how I really feel. |   |   | X |
| 12 | SAS12 | Knowing what I am interested in at school. | X |  |  |
| 13 | SAS13 | Offering an answer even though I am not sure I am right. |   | X |   |
| 14 | SAS14 | Knowing my opinions matter even when others don't listen to them. |  |  | X |
|   |   | Total Number of SA Items | 11 | 11 | 12 |
| 151 | SME1 | Staying calm when I feel stressed.  | X | X | X |
| 161 | SME2 | Being patient even when I am really excited.  | X | X | X |
| 171 | SMS3 | Working on assignments even when they are hard.  | X | X | X |
| 181 | SMS4 | Staying focused in class even when there are distractions.  | X | X | X |
| 191 | SMS5 | Planning ahead so I can turn a project in on time. | X | X | X |
| 201 | SMS6 | Being prepared for tests. | X | X | X |
| 211 | SMG7 | Thinking through the steps it will take to reach my goals. | X | X | X |
| 221 | SMG8 | Setting goals for myself. | X | X | X |
| 231 | SMS9 | Finishing my schoolwork without reminders.  | X | X | X |
| 241 | SMS10 | Doing my schoolwork even when I do not feel like it. | X | X | X |
| 251 | SMG11 | Finishing tasks even if they are hard for me. | X | X | X |
| 261 | SME12 | Getting through something even when I feel frustrated.  | X | X | X |
| 271 | SME13 | Working on things even when I don't like them.  | X | X | X |
| 281 | SMG14 | Reaching goals that I set for myself. | X | X | X |
| 29 | SME15 | Trusting at least one adult in school who I can go to if I have a problem. | X | X | X |
| 30 | SME16 | Being careful about what information I share about myself on social media (e.g., TikTok, Facebook, Instagram, etc.). |  | X |  |
| 31 | SMG17 | Catching up on my work when I get behind. | X |   |   |
| 32 | SMG18 | Planning my work when I have multiple assignments due at the same time. |  |  | X |
|  Total Number of Self-management (SM) Items | 16 | 16 | 16 |

|  |
| --- |
| Appendix B: SELIS Item Prompts continued |
| No.1 | Item code | Item Prompt: **How hard to easy is the following for you?** | ES2 | MS2 | HS2 |
| 331 | SOC1 | Knowing what people are feeling by the look on their face.  | X | X | X |
| 341 | SOC2 | Knowing how to get help when I'm having trouble with a classmate. | X | X | X |
| 351 | SOC3 | Learning from people with different opinions than me. | X | X | X |
| 361 | SOC4 | Knowing how my actions impact my classmates.  | X | X | X |
| 371 | SOC5 | Knowing when someone needs help.  | X | X | X |
| 38 | SOC6 | Waiting for other students to finish talking before I speak. | X |  |  |
| 39 | SOC7 | Knowing the difference between bullying someone and joking with someone. |   | X |   |
| 40 | SOC8 | Knowing when to tell my friends how I really feel |  | X |  |
| 41 | SOC9 | Knowing when my tone of voice may cause someone to misunderstand what I intended to say. |   |   | X |
| 42 | SOC10 | Recognizing when I am making someone uncomfortable. |  |  | X |
|   Total Number of Social Awareness (SOC) Items | 6 | 7 | 7 |
| 431 | RSK1 | Being welcoming to someone I don't usually eat lunch with.  | X | X | X |
| 441 | RSK2 | Talking to an adult when I have problems at school. | X | X | X |
| 451 | RSK3 | Getting along well with my classmates.  | X | X | X |
| 461 | RSK4 | Sharing what I am feeling with others. | X | X | X |
| 471 | RSK5 | Respecting a classmate's opinions during a disagreement.  | X | X | X |
| 481 | RSK6 | Getting along well with my teachers.  | X | X | X |
| 49 | RSK7 | Leading a discussion in class. |  | X |  |
| 50 | RSK8 | Asking a classmate to do their fair share of a group project. |   |   | X |
| 51 | RSK9 | Standing up for someone even if they are outside of my friend group. |  |  | X |
|   Total Number of Relationship Skills (RSK) Items | 6 | 7 | 8 |
| 521 | RDM1 | Helping to make my school a better place.  | X | X | X |
| 531 | RDM2 | Knowing when people's actions are "right" or "wrong" (e.g., helpful or harmful) | X | X | X |
| 541 | RDM3 | Thinking of different ways to solve a problem (e.g., a disagreement with another student).  | X | X | X |
| 551 | RDM4 | Saying "no" to a friend who wants to break the rules.  | X | X | X |
| 561 | RDM5 | Thinking about what might happen before making a decision. | X | X | X |
| 57 | RDM6 | Taking responsibility for my choices. | X |   |   |
| 58 | RDM7 | Knowing when to accept help when it is offered. |  | X |  |
| 59 | RDM8 | Understanding the importance of what I am learning to my future success. |   | X |   |
| 60 | RDM9 | Deciding what courses to take to get me into the college or career I want. |  |  | X |
| 61 | RDM10 | Knowing something is wrong to do even when it happens all the time. |  |  | X |
|   Total Number of Responsible Decision-making (RDM) Items | 6 | 7 | 7 |
| Total Number of SELIS Items | 45 | 48 | 50 |
| 1Items taken or adapted from the Social and Emotional Competency Assessment (SECA), (Crowder et al, 2019; Davidson et al, 2018) |
| 2ES: Elementary (G3 - G5) items; MS: Middle school (G6 - G8); HS: High school (G9-G12) |

# **Appendix C:** Item-Student Threshold Map

 <more>|<rare> 1 2 3

 900 . +

 **HIGHER | More Difficult SE Skills (Items)**

 **SCORING |**

 **STUDENTS** |

 |

 . |

 |

 . |

 . |

 800 . +

 . |

 . |

 . |

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 . |

 . |

 . |

 . | RSK4.3 **LEVEL 4**

 700 . +

 .# | SMS4.3 RDM9.3 SME1.3

 . T| RSK7.3 SMG18.3 SME12.3

 # | SMS3.3 SAS13.3

 .# | SME13.3 SOC8.3 SME2.3 RSK2.3 SMG14.3 SMS10.3 SMG11.3 SAS6.3

 .# | SMG17.3 SMS5.3 SMS9.3

 .# | SMG7.3 RDM1.3 RDM7.3 SMS6.3 SAE2.3 SME15.3 RSK8.3 RDM5.3

 .### | **SAE8.3** SAE10.3 RDM3.3 SAS9.3 RDM8.3 SMG8.3 SAE11.3 SOC2.3

 .#### S| RDM6.3 SOC1.3 SAS14.3 SAS1.3 SOC3.3 SOC9.3

 600 .###### + RSK9.3 SAE7.3 SOC4.3 RSK1.3

 .###### | **SAE3.3** SAS5.3 SAE4.3 RDM10.3 RSK5.3 SOC6.3 SOC5.3

 .###### |T RDM4.3

 .######## | RSK4.2 RDM2.3 SOC10.3 RSK3.3 SAS12.3

 .########### | SOC7.3

 .########### | SMS4.2 RSK6.3 RDM9.2 SME1.2

 .############ M|S RSK7.2 SMG18.2 SME12.2 **LEVEL 3**

 .########## | SMS3.2 SAS13.2

 500 .############ + SME13.2 SME16.3 SOC8.2 SME2.2 RSK2.2 SMG14.2 SMS10.2 SMG11.2 SAS6.2

 .############ | SMG17.2 SMS5.2 SMS9.2

 .######### |M SMG7.2 RDM1.2 RDM7.2 SMS6.2 SAE2.2 SME15.2 RSK8.2 RDM5.2

 .###### | **SAE8.2** SAE10.2 RDM3.2 SAS9.2 RDM8.2 SMG8.2 SAE11.2 SOC2.2

 .###### S| RSK4.1 RDM6.2 SOC1.2 SAS14.2 SAS1.2 SOC3.2 SOC9.2

 .## |S RSK9.2 SAE7.2 SOC4.2 RSK1.2 **SAE3.2**

 ### | SMS4.1 SAS5.2 RDM9.1 SAE4.2 SME1.1 RDM10.2 RSK5.2 SOC6.2 SOC5.2

 .# | RSK7.1 RDM4.2 SMG18.1 SME12.1 **LEVEL 2**

 .## | SMS3.1 RDM2.2 SAS13.1 SOC10.2 RSK3.2 SAS12.2

 400 . +T SME13.1 SOC7.2 SOC8.1 SME2.1 RSK2.1 SMG14.1 SMS10.1 SMG11.1 SAS6.1 SMG17.1

 . T| SMS5.1 RSK6.2 SMS9.1 SMG7.1 RDM1.1

 . | RDM7.1 SMS6.1 SAE2.1 SME15.1 RSK8.1 RDM5.1 **SAE8.1** SAE10.1

 . | RDM3.1 SAS9.1 RDM8.1 SMG8.1 SAE11.1 SOC2.1

 . | RDM6.1 SME16.2 SOC1.1 SAS14.1 SAS1.1 SOC3.1 SOC9.1

 . | RSK9.1 SAE7.1 SOC4.1 RSK1.1 **SAE3.1**

 . | SAS5.1 SAE4.1 RDM10.1 RSK5.1 SOC6.1 SOC5.1

 | RDM4.1 RDM2.1 SOC10.1

 . | RSK3.1 SAS12.1

 300 . + SOC7.1

 | RSK6.1

 |

 . |

 | SME16.1 **LEVEL 1**

 |

 **LOWER** | **Easier SE Skills (Items)**

 **SCORING** |

 **STUDENTS** |

 **200** +

 <less>|<freq> 0 1 2

**SAE8.1**: Threshold between “very hard” and “hard”; **SAE8.2**: Threshold between “hard” and “easy”

**SAE8.3**: Threshold between “easy” and “very easy”

**SAE3.1**: Threshold between “very hard” and “hard”; **SAE8.2**: Threshold between “hard” and “easy”; **SAE8.3**: Threshold between “easy” and “very easy”

Appendix C continued: Interpreting the Item-Student Threshold Map

A student’s SE ability is placed on a continuum of increasing competence from low to high; similarly, SE skills (items) are placed on the same scale metric and represent a continuum of relatively easy skills to apply or acquire to relatively hard skills to master. The difference between a student’s SE ability and the difficulty of the SE skill is the foundation for all Rasch models. The Rasch model is a probabilistic model.

A student at the cut point of 600 on the scale has a greater than 50% probability of responding in the more affirmative response categories for items below her/his SE skill score and a less than 50% probability of responding in the more affirmative category for items above her/his skill score. For example, a student scoring 600 has a less than 50% probability of responding, “very easy” (scored 3) to the self-awareness of emotion item, “Knowing ways to calm myself down” (SAE8.3). The difficulty threshold to move from a response of, “easy” to a response of “very easy” (SAE8.3) is above the student’s score location on the map. The difficulty of this skill is such that, given the student’s current skill level, a response of, “easy” is more likely to this SE skill than one of, “very easy”. In contrast, Student 600 has a greater than a 50% probability of responding, “very easy” to the self-awareness of emotion item, “Noticing what my body does when I am nervous” (SAE3). The threshold to move from a response of “easy” to a response of “very easy” (SAE3.3) is below the student’s score location on the scale so the student’s most likely response to this item is, “very easy”. The SE competency abilities profiles and the SWON map’s four quadrants and zone of proximal development are derived from examining students’ observed responses and comparing them to their expected responses (given their average SE ability).

# **Appendix D: Social and Emotional Abilities Profiles**

D1 Self-Awareness: This competence measures students’ abilities to understand one’s own emotions, thoughts, and values and how they influence behavior across contexts.

|  |  |
| --- | --- |
| 800 | See Profile for student scoring 700 |
| 700Level4 | A student scoring 700 on the scale perceives it: * **Very easy** to identify their emotions and **to** connect with how they really feel in peer situations.
* **Very easy** to calm themselves down, to stop their feelings from impeding their focus, to make themselves feel better when sad, and **to** recognize physical cues when nervous.
* **Very easy** to understand how their mood can affect others, behave appropriately, and to understand how they cannot always control something.
* **Very easy** to identify their strengths and have a high degree of self-efficacy
* **Very easy** to take risks (e.g., offer answers if not sure they are right) and to feel confident that they can improve when the work is hard.
* **Very easy** for them to know that their opinions matter to others and what interests them at school.
 |
| 600Level3 | A student scoring 600 on the scale perceives it: * **Very easy** to identify their emotions and **easily** connect with how they really feel in peer situations.
* **Easy** to calm themselves down, to stop their feelings from impeding their focus, to make themselves feel better when sad, and **very easily** recognize physical cues when nervous.
* **Very easy** to understand how their mood can affect others and how to behave appropriately, and **easy** to understand how they cannot always control something.
* **Easy** to identify their strengths and have a degree of self-efficacy
* **Easy** to take risks (e.g., offer answers if not sure they are right) and to feel confident that they can improve when the work is hard.
* **Easy** for them to know that their opinions matter to others and **know** what interests them at school.
 |
| 500Level2 | Students scoring 500 on the scale perceive it: * **Easy** to identify their emotions and connect with how they really feel in peer situations.
* **Easy** to calm themselves down, to stop their feelings from impeding their focus, to make themselves feel better when sad, and to recognize physical cues when nervous.
* **Easy** to understand how their mood can affect others, behave appropriately, and to understand how they cannot always control something.
* **Easy** to identify their strengths and have a degree of self-efficacy
* **Hard** to take risks (e.g., offer answers if not sure they are right) and to feel confident that they can improve when the work is hard.
* **Easy** for them to know that their opinions matter to others and what interests them at school.
 |
| 400Level 1 | Students scoring 400 on the scale perceive it is: * **Hard** to identify their emotions and connect with how they really feel in peer situations.
* **Hard** to calm themselves down, to stop their feelings from impeding their focus, to make themselves feel better when sad, and to recognize physical cues when nervous.
* **Hard** to understand how their mood can affect others, how to behave appropriately, and to understand how they cannot always control something.
* **Hard** to identify their strengths and have little self-efficacy
* **Very hard** to take risks (e.g., offer answers if not sure they are right) and to feel confident that they can improve when the work is hard.
* **Hard** for them to know if their opinions matter to others and what interests them at school.
 |
| 300Level1 | Students scoring 400 on the scale perceive it is: * **Very hard** to identify their emotions and connect with how they really feel in peer situations.
* **Very hard** to calm themselves down, to stop their feelings from impeding their focus, to make themselves feel better when sad, and to recognize physical cues when nervous.
* **Very hard** to understand how their mood can affect others, how to behave appropriately, and to understand how they cannot always control something.
* **Very hard** to identify their strengths and have little self-efficacy
* **Very hard** to take risks (e.g., offer answers if not sure they are right) and to feel confident that they can improve when the work is hard.
* **Very hard** for them to know if their opinions matter to others and what interests them at school.
 |

Appendix D2 Self-Management: This competence measures students’ abilities to manage one’s emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations.

|  |  |
| --- | --- |
| 800 | See Profile for student scoring 700 |
| 700Level4 | Students scoring 700 on the scale have growth mindsets, are resilient, and have very good organizational skills; they find it: * **Very easy** to cope withfrustration, to stay calm when stressed, and to be patient even when excited.
* **Very easy** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Very easy** to plan their work (turn a project in on time), prepare for tests, and to juggle multiple assignments if due at the same time.
* **Very easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Very easy t**o set, plan and reach their goals.
* **Very easy to trust** and approach an adult when faced with a problem.
 |
| 600Level3 | Students scoring 600 on the scale have somewhat malleable mindsets, exhibit resiliency and good organizational skills; they find it: * **Easy** tocope with frustration, to stay calm when stressed, and to be patient even when excited.
* **Easy** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Easy** to plan their work (turn a project in on time), prepare for tests, and to juggle multiple assignments if due at the same time.
* **Easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Easy** to set, plan and reach their goals.
* **Easy** **to trust** and approach an adult when faced with a problem.
 |
| 500Level2 | Students scoring 500 on the scale have somewhat fixed mindsets, exhibit some resiliency and organizational skills; they find it: * **Hard** tocope with frustration, to stay calm when stressed, and to be patient even when excited.
* H**ard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* **Easy** to plan their work (turn a project in on time) and prepare for tests but find it **hard** to juggle multiple assignments if due at the same time.
* **Easy** to catch up when they fall behind and to finish their schoolwork without reminders.
* **Easy** to set and plan goals, but still find it **hard** to reach their goals.
* **Easy** **to trust** and approach an adult when faced with a problem.
 |
| 400Level1 | Students scoring 400 on the scale have fixed mindsets, lack resilience, and have poor organizational skills; they find it: * **Very hard** to cope with frustration, to stay calm when stressed, and to be patient even when excited.
* V**ery hard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* H**ard** to plan their work (turn a project in on time) and prepare for tests, and **very hard** to juggle multiple assignments if due at the same time.
* **Hard** to catch up when they fall behind and **struggle to** finish their schoolwork even with reminders.
* **Hard** to set and plan goals, making it **very hard** to reach their goals.
* **Very hard** **to trust** and approach an adult when faced with a problem.
 |
| 300Level1 | Students scoring 300 on the scale have fixed mindsets, lack resilience, and have poor organizational skills; they find it: * **Very hard** to cope with frustration, to stay calm when stressed, and to be patient even when excited.
* V**ery hard** to sustain effort and motivation, and persist when faced with challenges, setbacks, and distractions.
* V**ery** **hard** to plan their work (turn a project in on time), prepare for tests, or to juggle multiple assignments if due at the same time.
* **Very hard** to catch up when they fall behind and **struggle to** finish their schoolwork even with reminders.
* V**ery** **hard** to set, plan, and reach their **goals**
* **Very hard** **to trust** and approach an adult when faced with a problem.
 |

Appendix D3 Social Awareness: This competence measures students’ abilities to understand the perspectives of and empathize with others, including those with different backgrounds, cultures, and contexts than their own.

|  |  |
| --- | --- |
| 800 | See Profile for student scoring 700 |
| 700Level4 | Students scoring 700 on the scale find it:* **Very easy** to take the viewpoint of and learn from other students
* **Very easy to** recognize when others need help.
* **Very easy** to know when they are making others uncomfortable.
* **Very easy** to know when their tone of voice or actions could lead to misunderstandings or to negatively impact others.
* **Very easy** to understand social norms (bullying vs. joking; waiting to speak) and **easy** to understand social cues (facial expressions).
* **Very easy** to get help when having trouble with a classmate
* **Very easy** to express their true feelings to friends
 |
| 600Level3 | Students scoring 600 on the scale find it:* **Easy** to take the viewpoint of and learn from other students
* **Very easy to** recognize when others need help.
* **Very easy** to know when they are making others uncomfortable.
* **Very Easy** to know when their actions could negatively impact others and relatively **easy** to know when their tone of voice could lead to misunderstandings.
* **Very easy** to understand social norms (bullying vs. joking; waiting to speak) and **easy** to understand social cues (facial expressions).
* **Easy** to get help when having trouble with a classmate
* **Easy** to express their true feelings to friends
 |
| 500Level2 | Students scoring 500 on the scale find it:* **Easy** to take the viewpoint of and learn from other students
* **Easy to** recognize when others need help.
* **Easy** to know when they are making others uncomfortable.
* **Easy** to know when their tone of voice or actions could lead to misunderstandings or to negatively impact others.
* **Easy** to understand social cues (facial expressions) and norms (bullying vs. joking; waiting to speak).
* **Easy** to get help when having trouble with a classmate
* **Hard** to express their true feelings to friends
 |
| 400Level 1 | Students scoring 400 on the scale find it:* **Hard** to take the viewpoint of and learn from other students
* **Hard to** recognize when others need help.
* **Hard** to know when they are making others uncomfortable.
* **Hard** to know when their tone of voice or actions could lead to misunderstandings and to negatively impact others.
* **Hard** to understand social cues (facial expressions) and norms (bullying vs. joking; waiting to speak).
* **Hard** to get help when having trouble with a classmate
* **Very hard** to express their true feelings to friends
 |
| 300Level1 | Students scoring 300 on the scale find it:* **Very hard** to take the viewpoint of and learn from other students
* **Very hard to** recognize when others need help.
* **Very hard** to know when they are making others uncomfortable.
* **Very hard** to know when their tone of voice or actions could lead to misunderstandings and to negatively impact others.
* **Very hard** to understand social cues (facial expressions) and norms (bullying vs. joking; waiting to speak).
* **Very hard** to get help when having trouble with a classmate
* **Very hard** to express their true feelings to friends
 |

Appendix D4 Relationship Skills: This competence measures students’ abilities to establish and maintain healthy and supportive relationships and to effectively navigate diverse settings.

|  |  |
| --- | --- |
| 800 | See Profile for student scoring 700 |
| 700Level4 | Students scoring 700 on the scale find it:* **Very easy** toget along well with their teachers.
* **Very easy** to talk to adults when they have problems.
* **Very easy** to get along with their peers.
* **Very easy** to be inclusive and respectful of their peers.
* **Very easy** to navigate group work.
* **Very easy** to take the lead in class discussions.
* **Easy** to share their feelings with others.
 |
| 600Level3 | Students scoring 600 on the scale find it:* **Very easy** toget along well with their teachers.
* **Easy** to talk to adults when they have problems.
* **Very easy** to get along with their peers.
* **Very easy** to be inclusive and respectful of their peers.
* **Easy** **to** navigate group work.
* **Easy** to take the lead in class discussions.
* **Easy** to share their feelings with others.
 |
| 500Level2 | Students scoring 500 on the scale find it:* **Easy** toget along well with their teachers.
* **Hard** to talk to adults when they have problems.
* **Easy** to get along with their peers.
* **Easy** to be inclusive and respectful of their peers.
* **Easy to** navigate group work.
* **Hard** to take the lead in class discussions.
* **Hard** to share their feelings with others.
 |
| 400Level 1 | Students scoring 400 on the scale find it:* **Easy** toget along well with their teachers.
* **Very hard** to talk to adults when they have problems.
* **Hard** to get along with their peers.
* **Hard** to be inclusive and respectful of their peers.
* **Very hard to** navigate group work.
* **Very hard** to take the lead in class discussions.
* **Very hard** to share their feelings with others.
 |
| 300Level1 | Students scoring 300 on the scale find it:* **Hard** toget along well with their teachers.
* **Very hard** to talk to adults when they have problems.
* **Very hard** to get along with their peers.
* **Very hard** to be inclusive and respectful of their peers.
* **Very hard to** navigate group work.
* **Very hard** to take the lead in class discussions.
* **Very hard** to share their feelings with others.
 |

Appendix D5 Responsible decision-making: This competence measures students’ abilities to make caring and constructive choices about personal behavior and social interactions across diverse situations.

|  |  |
| --- | --- |
| 800 | See Profile for student scoring 700 |
| 700Level4 | Students scoring 700 on the scale find it:* **Very easy** to make constructive choices.
* **Very easy** to recognize right from wrong and to resist negative peer pressure.
* **Very easy** to take responsibility for their own choices and
* **Very easy** to understand any consequences of their decisions.
* **Very easy** to decide what courses to take to succeed after high school (HS only).
* **Very easy** to identify solutions to problems (e.g., disagreements)
* **Very easy** to know when to accept help when it is offered.
* **Very easy** to understand the relevance of school to their future success.
* **Very easy t**o engage and help in their school community.
 |
| 600Level3 | Students scoring 600 on the scale find it:* **Very easy** to make constructive choices.
* **Very easy** to recognize right from wrong and to resist negative peer pressure.
* **Easy** to take responsibility for their own choices and
* **Easy** to understand any consequences of their decisions.
* **Easy** to decide what courses to take to succeed after high school (HS only).
* **Easy** to identify solutions to problems (e.g., disagreements)
* **Easy** to know when to accept help when it is offered.
* **Easy** to understand the relevance of school to their future success.
* **Easy** o engage and help in their school community.
 |
| 500Level2 | Students scoring 500 on the scale find it:* **Easy** to make constructive choices.
* **Easy** to recognize right from wrong and to resist negative peer pressure.
* **Easy** to take responsibility for their own choices and
* **Easy** to understand any consequences of their decisions.
* **Hard** to decide what courses to take to succeed after high school (HS only).
* **Easy** to identify solutions to problems (e.g., disagreements)
* **Easy** to know when to accept help when it is offered.
* **Easy** to understand the relevance of school to their future success.
* **Easy** o engage and help in their school community.
 |
| 400Level 1 | Students scoring 400 on the scale find it:* **Hard** to make constructive choices.
* **Hard** to recognize right from wrong and to resist negative peer pressure.
* H**ard** to take responsibility for their own choices and
* **Hard** to understand any consequences of their decisions.
* **Very hard** to decide what courses to take to succeed after high school (HS only).
* **Hard** to identify solutions to problems (e.g., disagreements)
* **Hard** to know when to accept help when it is offered.
* **Hard** to understand the relevance of school to their future success.
* **Hard** to engage and help in their school community.
 |
| 300Level1 | Students scoring 300 on the scale find it:* **Very hard** to make constructive choices.
* **Very hard** to recognize right from wrong and to resist negative peer pressure.
* **Very hard** to take responsibility for their own choices and
* **Very hard** to understand any consequences of their decisions.
* **Very hard** to decide what courses to take to succeed after high school.
* **Very hard** to identify solutions to problems (e.g., disagreements)
* **Very hard** to know when to accept help when it is offered.
* **Hard** to understand the relevance of school to their future success.
* **Hard** to engage and help in their school community.
 |

# **Appendix E:** Number of students and schools included in the correlational analyses

|  |  |  |  |
| --- | --- | --- | --- |
| Student-level | Academic Achievement | Academic Growth | Other Outcomes |
| Table 5p.19 | ELA (escaleds) | Mathematics(mscaleds) | ELA(esgp) | Mathematics(msgp) | VOCAL | Attendance |
| N students | 14249 | 14244 | 9417 | 9426 | 8747 | 15303 |
| Grade 3 | 1068 | 1046 | ---- | ---- | ----- | 1065 |
| Grade 4 | 3099 | 3100 | ---- | ---- | 2553 | 3160 |
| Grade 5 | 3208 | 3210 | 2999 | 3006 | 2647 | 3280 |
| Grade 6 | 1167 | 1165 | 1096 | 1096 | ---- | 1196 |
| Grade 7 | 1008 | 1006 | 958 | 955 | ---- | 1042 |
| Grade 8 | 2827 | 2839 | 2672 | 2681 | 2290 | 2949 |
| Grade 10 | 1829 | 1820 | 1680 | 1676 | 1225 | 1926 |
| School-level | Academic Achievement | Academic Growth | Other Outcomes |
|  | ELA (escaleds) | Mathematics(mscaleds) | ELA(esgp) | Mathematics(msgp) | VOCAL | Attendance |
| N schools | 82 | 69 | 82 | 69 | 76 | 82 |

# **Appendix F:** Student- and school-level Pearson correlations between SELIS scores and academic, school climate, and attendance outcome scores

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Student-level correlations1,2,3** |  | **School-level correlations1,2,3** |
| Correlate4 | **SE** | **SA** | **SM** | **SOC** | **RSK** | **RDM** | Correlate4 | **SE** | **SA** | **SM** | **SOC** | **RSK** | **RDM** |
| SA | **.879\*\*\*** |  |  |  |  |  |  SA | **.903\*\*\*** |  |  |  |  |  |
| N | 16039 |  |  |  |  |  | N | 82 |  |  |  |  |  |
| SM | **.920\*\*\*** | **.741\*\*\*** |  |  |  |  |  SM | **.932\*\*\*** | **.778\*\*\*** |  |  |  |  |
| N | 16039 | 16039 |  |  |  |  | N | 82 | 82 |  |  |  |  |
| SOC | **.783\*\*\*** | **.663\*\*\*** | **.619\*\*\*** |  |  |  | SOC | **.788\*\*\*** | **.627\*\*\*** | **.638\*\*\*** |  |  |  |
| N | 16038 | 16038 | 16038 |  |  |  | N | 82 | 82 | 82 |  |  |  |
| RSK | **.792\*\*\*** | **.640\*\*\*** | **.656\*\*\*** | **.646\*\*\*** |  |  | RSK | **.813\*\*\*** | **.610\*\*\*** | **.739\*\*\*** | **.683\*\*\*** |  |  |
| N | 16038 | 16038 | 16038 | 16037 |  |  | N | 82 | 82 | 82 | 82 |  |  |
| RDM | **.823\*\*\*** | **.691\*\*\*** | **.689\*\*\*** | **.685\*\*\*** | **.640\*\*\*** |  | RDM | **.858\*\*\*** | **.791\*\*\*** | **.695\*\*\*** | **.767\*\*\*** | **.608\*\*\*** |  |
| N | 16039 | 16039 | 16039 | 16038 | 16038 |  | N | 82 | 82 | 82 | 82 | 82 |  |
| escaleds | **.137\*\*\*** | **.100\*\*\*** | **.141\*\*\*** | **.111\*\*\*** | **.094\*\*\*** | **.140\*\*\*** | escaleds | **.582\*\*\*** | **.494\*\*\*** | **.539\*\*\*** | **.518\*\*\*** | **.502\*\*\*** | **.482\*\*** |
| N | 14249 | 14249 | 14249 | 14248 | 14248 | 14249 | N | 82 | 82 | 82 | 82 | 82 | 82 |
| esgp | **.072\*\*\*** | **.057\*\*\*** | **.081\*\*\*** | **.034\*\*** | **.059\*\*\*** | **.063\*\*\*** | esgp | **.522\*\*\*** | **.538\*\*\*** | **.492\*\*\*** |  **.308\*** | **.322\*\*** | **.513\*\*\*** |
| N | 9417 | 9417 | 9417 | 9416 | 9417 | 9417 | N | 69 | 69 | 69 | 69 | 69 | 69 |
| mscaleds | **.155\*\*\*** | **.124\*\*\*** | **.178\*\*\*** | **.084\*\*\*** | **.092\*\*\*** | **.133\*\*\*** | mscaleds | **.528\*\*\*** | **.479\*\*\*** | **.478\*\*\*** | **.459\*\*\*** | **.388\*\*\*** | **.472\*\*\*** |
| N | 14244 | 14244 | 14244 | 14243 | 14243 | 14244 | N | 82 | 82 | 82 | 82 | 82 | 82 |
| msgp | **.089\*\*\*** | **.061\*\*\*** | **.113\*\*\*** | **.032\*\*** | **.071\*\*\*** | **.062\*\*\*** | msgp | **.370\*\*\*** | **.308\*** | **.329\*\*** | **.320\*\*** | **.423\*\*\*** | **.264\*** |
| N | 9426 | 9426 | 9426 | 9425 | 9426 | 9426 | N | 69 | 69 | 69 | 69 | 69 | 69 |
| SCL | **.339\*\*\*** | **.246\*\*\*** | **.324\*\*\*** | **.256\*\*\*** | **.355\*\*\*** | **.245\*\*\*** | SCL | **.244\*** | **-.012** | **.298\*\*** | **.327\*\*** | **.548\*\*\*** | **.037** |
| N | 8747 | 8747 | 8747 | 8746 | 8747 | 8747 | N | 76 | 76 | 76 | 76 | 76 | 76 |
| ENG | **.296\*\*\*** | **.208\*\*\*** | **.286\*\*\*** | **.232\*\*\*** | **.312\*\*\*** | **.216\*\*\*** | ENG | **.221** | **-.028** | **.286\*** | **.279\*** | **.510\*\*\*** | **.019** |
| N | 8744 | 8744 | 8744 | 8743 | 8744 | 8744 | N | 76 | 76 | 76 | 76 | 76 | 76 |
| SAF | **.326\*\*\*** | **.247\*\*\*** | **.306\*\*\*** | **.236\*\*\*** | **.340\*\*\*** | **.241\*\*\*** | SAF | **.304\*\*** | **.047** | **.307\*\*** | **.430\*\*\*** | **.570\*\*\*** | **.169** |
|  N | 8746 | 8746 | 8746 | 8745 | 8746 | 8746 | N | 76 | 76 | 76 | 76 | 76 | 76 |
| ENV | **.289\*\*\*** | **.203\*\*\*** | **.281\*\*\*** | **.222\*\*\*** | **.309\*\*\*** | **.199\*\*\*** | ENV | **.120** | **-.111** | **.223** | **.177** | **.449\*\*\*** | **-.147** |
| N | 8746 | 8746 | 8746 | 8745 | 8746 | 8746 | N | 76 | 76 | 76 | 76 | 76 | 76 |
| BUL | **.275\*\*\*** | **.210\*\*\*** | **.254\*\*\*** | **.206\*\*\*** | **.274\*\*\*** | **.215\*\*\*** | BUL | **.306\*\*** | **.064** | **.298\*\*** | **.420\*\*\*** | **.555\*\*\*** | **.188** |
| N | 8741 | 8746 | 8746 | 8745 | 8746 | 8746 | N | 76 | 76 | 76 | 76 | 76 | 76 |
| Attend | **.142\*\*\*** | **.093\*\*\*** | **.177\*\*\*** | **.082\*\*\*** | **.120\*\*\*** | **.091\*\*** | Attend | **.389\*\*\*** | **.282\*** | **.442\*\*\*** | **.240\*** | **.475\*\*\*** | **.196** |
| N | 15303 | 15303 | 15303 | 15302 | 15302 | 15303 | N | 82 | 82 | 82 | 82 | 82 | 82 |

1Unless correlation is color-coded pink, all other correlations are statistically significant (\**p*<0.05; \*\* *p*<0.01; \*\* *p*<0.001); 2There were no growth scores available for grades 3 or 4; this reduced the number of students and schools (69) for these analyses. 3VOCAL is only administered in grades 4, 5, 8, and 10 so this reduced the number of students in these analyses. In addition, one district did not administer VOCAL; this further reduced the number of students and schools for these analyses; 4SE: Overall Social and Emotional skills zscore; SA: Self-awareness skills zscore; SM: Self-management skills zscore; SOC: Social Awareness skills zscore; RSK: Relationship skills zscore; RDM: Responsible Decision-making skills zscore; escaleds: English Language Arts & Literacy (ELA) zscore; esgp: ELA student growth percentile zscore; mscaleds: Mathematics zscore; msgp: Mathematics student growth percentile zscore; VOC: Overall school climate zscore; ENG: Engagement dimension zscore; SAF: Safety dimension zscore; ENV: Environment dimension zscore; BUL: Bullying topic/domain zscore; Attend: Attendance zscore; N: Number of students or schools.

1. Many items were taken as is or adapted from the Social-Emotional Competency Assessment (Crowder M. K. et al. (2019). Linking social and emotional learning standards to the WCSD Social-Emotional Competency Assessment: A Rasch approach. *School Psychology, 34*(3*),* 281–295)*.* [↑](#footnote-ref-2)