

Trends in Student Social-Emotional Learning: Evidence From the CORE Districts

Martin R. West
Hans Fricke
Libby Pier

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Abstract

Amid growing interest from educators and policymakers in supporting students' social and emotional learning (SEL), this brief describes the development of key social-emotional skills within the CORE districts, a network of urban California school districts that collectively serve more than one million students. Specifically, we use CORE's unique SEL survey, administered in 2015 and 2016 to nearly 400,000 students in Grades 4–12, to document trends in four SEL constructs: growth mindset, self-efficacy, self-management, and social awareness. We find that, with the exception of growth mindset, these social-emotional skills do not increase steadily as students progress through school. Self-efficacy and social awareness in particular exhibit large declines in middle and high school. These overall patterns conceal important differences across student subgroups. Girls consistently report higher self-management and social awareness than boys, but their self-efficacy drops sharply relative to boys over time. Economically disadvantaged students report lower social-emotional skills across the board, but the gaps in self-management, growth mindset, and self-efficacy narrow in high school. White students report higher levels of social-emotional learning than African American and Latinx students; Asian students report similar levels of self-management as White students but exhibit declining self-efficacy over time. While these findings are based on self-reports and cannot be generalized beyond the six districts participating in the CORE SEL survey, the scope and scale of the data far exceed anything in the extant literature.

Educators, policymakers, and the public agree that social and emotional learning (SEL) is an important priority, and that schools should help students acquire and develop skills in this domain. This consensus reflects a growing recognition that social-emotional skills predict a range of educational and life outcomes, even after taking into account conventional indicators of academic achievement (Almlund, Duckworth, Heckman, & Kautz, 2011; Heckman, Humphries, & Kautz, 2014). Social-emotional skills also may be more malleable than cognitive abilities, particularly after early childhood, making them attractive targets for interventions aimed at improving student success (Cunha & Heckman, 2008; Dee & West, 2011; Durlak Dymnicki, Taylor, Weissberg, & Schellinger, 2011; Heckman & Kautz, 2014).

As a result, state and school district policymakers nationwide are increasingly seeking to incorporate measures of SEL into their systems for monitoring student success and school quality. At the forefront of this trend are the CORE districts, a network of large urban districts in California that received a waiver from the U.S. Department of Education in 2013 to implement an alternative to the school accountability system then-mandated under the No Child Left Behind Act.¹ The CORE districts chose to develop a measurement system that includes survey-based measures of SEL and school culture and climate alongside traditional academic indicators. Although the obligation to use its SEL survey for school accountability was voided by the 2015 enactment of the Every Student Succeeds Act (ESSA), the CORE districts continue to collect data on SEL to guide school policy and continuous improvement.

The CORE districts' ongoing partnership provides a valuable opportunity to inform efforts to promote SEL with evidence on how key social-emotional skills develop as students progress through U.S. schools. Policymakers need to know how social-emotional skills typically vary across grade levels and subgroups in order to interpret aggregate data on SEL across schools and to determine where interventions or supports are most needed. Similarly, educators need such information in order to interpret data on their own students and take appropriate action. In some cases, evidence on trends in SEL has already informed the design of interventions. For example, evidence that many students experience a decline in self-esteem and school engagement as they move from elementary school to middle school (Blum & Libbey, 2004; Eccles, Lord, & Midgley, 1991; Eccles et al., 1993) has motivated the development of SEL-focused interventions aimed at supporting students through this transition (see, e.g., Blackwell, Trzesniewski, & Dweck, 2007).

However, there is a paucity of research examining how a broader set of social-emotional skills develop over time, particularly for different student subgroups. Existing studies with a longitudinal design tend to focus on the development of SEL only in early childhood or elementary school or consider only a single SEL construct (see, e.g., Gestsdottir & Lerner, 2008; Ross & Tolan, 2017). Cross-sectional studies in turn do not shed light on how skills evolve over time (e.g., Ablard & Lipschultz, 1998; Choudhury, Blakemore, & Charman, 2006). Many studies

¹ The CORE districts that implemented the waiver are Fresno, Long Beach, Los Angeles, Oakland, San Francisco, and Santa Ana unified school districts. Garden Grove and Sacramento City unified school districts are also part of the CORE network.

of SEL rely on small, convenient samples of students within specific settings (e.g., Duckworth, Tsukayama, & May, 2010; Blackwell et al., 2007), raising questions about the generalizability of their findings. Moreover, variation in the specific constructs and measures used to assess students' social-emotional skills makes it difficult to compare results across studies (see, e.g., Berg et al., 2017; Duncan & Magnuson, 2011).

This brief and the working paper on which it is based² aim to help fill this gap in our understanding of social-emotional development. In particular, we use the CORE districts' SEL survey to examine how four social-emotional skills develop from Grades 4 to 12 across six California school districts, and how these patterns vary by gender, economic disadvantage, and race/ethnicity. Administered to roughly 400,000 students in the 2014–15 and 2015–16 school years, the CORE districts' SEL survey represents the first large-scale panel data collection on SEL outcomes. With two years of data, we are only able to track the development of SEL skills for a given student over the course of a single school year. However, we are able to aggregate information on these changes across multiple grade levels in order to simulate long-term trends for students expected to remain enrolled in participating districts through middle and high school. While our findings cannot necessarily be generalized beyond these students and districts, the scope and scale of the underlying data far exceed anything in the extant literature.

Measuring SEL in the CORE Districts

The CORE districts' SEL survey comprises a battery of items designed to measure four SEL constructs: self-management, social awareness, growth mindset, and self-efficacy. Using a 5-point Likert scale, students in Grades 4 through 12 rate themselves on the same 25 questions each year. The four SEL constructs are defined as follows:

- *Self-management*, also referred to as self-control or self-regulation, is the ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, delaying gratification, motivating oneself, and setting and working toward personal and academic goals (CASEL, 2005).
- *Growth mindset* is the belief that one's abilities can grow with effort. Students with a growth mindset believe that they can develop their skills through effort, practice, and perseverance. These students embrace challenges, see mistakes as opportunities to learn, and persist in the face of setbacks (Dweck, 2006).
- *Self-efficacy* is the belief in one's ability to succeed in achieving an outcome or reaching a goal. Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and environment and allows students to become effective advocates for themselves (Bandura, 1997).
- *Social awareness* is the ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports (CASEL, 2005).

² <http://www.edpolicyinca.org/publications/sel-trends>

Six CORE districts administered the SEL survey in the 2014–15 and 2015–16 school years. These six districts served roughly 572,000 students in Grades 4–12 across 1,200 schools in 2015–16. Approximately 390,000 (about 70%) students completed the survey each year. Students attending schools in the participating CORE districts in these grades are predominantly Latinx (69 percent) and economically disadvantaged (73 percent); 36 percent are English language learners. We aggregate responses to survey items into a composite score for each construct (see Meyer, Wang, & Rice, 2018 for details on the scaling procedure). We then standardize these scores to have an average score of zero and a standard deviation of one across all grades, so that we can present the results as “z-scores.”

We use these data to simulate trends in SEL development across Grades 4 to 12 for all students and for subgroups based on gender, economic disadvantage, and race/ethnicity. To simulate long-term trends using only two years of data, we first limit our attention to students who took the SEL survey in both years. Next, we calculate the mean of each construct for eighth graders (the midpoint of our sample) in 2014–15, and then add the mean changes observed at each prior and subsequent grade level among students who responded to both surveys. These simulated trends can be interpreted as showing how each construct develops among students who, based on patterns of entry and exit observed over the 2014–15 and 2015–16 school years, would be expected to attend schools in the six districts participating in the SEL survey continuously from Grades 4 through 12.

In reporting these trends, we emphasize that the measures gathered by the CORE districts’ SEL survey are self-reports and therefore reflect students’ subjective assessments of their social-emotional skills. Students evaluating their own skills must employ an external frame of reference in order to reach a judgment about their relative standing. As a result, differences in self-reports across students or over time may in theory reflect differences in normative standards rather than authentic differences in skills—a phenomenon known as *reference bias* (West et al., 2016). Students’ responses may also be influenced by cultural differences that lead them to interpret specific items in different ways, or by differences in their home or school environments that influence their ability to demonstrate a given social-emotional skill. In the working paper accompanying this brief, we show that students’ self-reports of each SEL construct are associated in expected ways with theoretically related academic and behavioral indicators, providing at least partial evidence of validity. Even so, we urge caution when interpreting changes in these self-report measures over time and differences in both levels and trends across subgroups. Although the patterns in students’ self-perceptions that we document are of interest in and of themselves, they may not necessarily capture true differences in underlying skills.

Key Findings

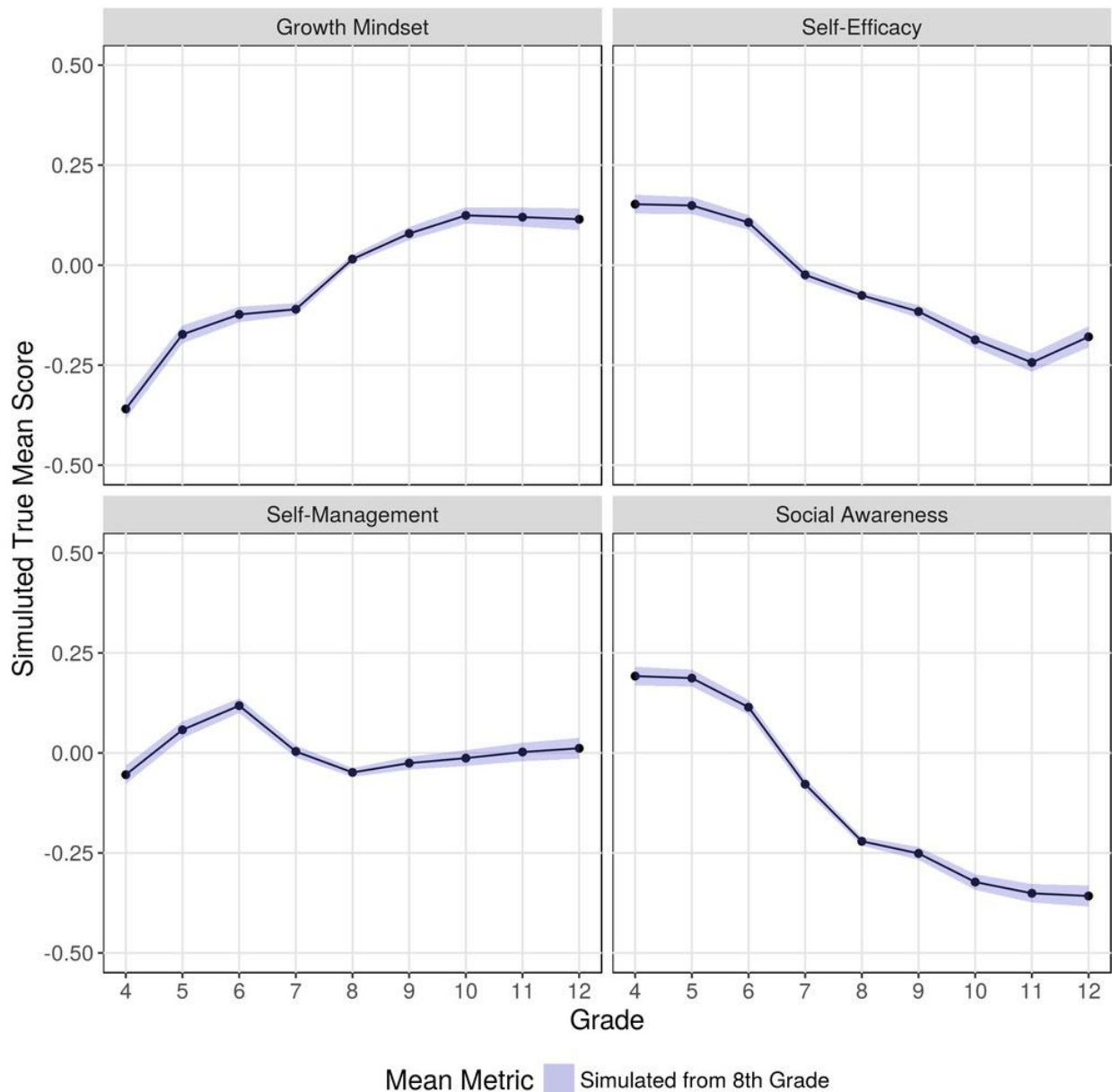
Our analyses reveal four key findings, each discussed in turn below, that will help policymakers and educators to interpret and act on measures of students’ SEL.

1. Trends in social-emotional learning differ by construct: While growth mindset increases steadily over time, social awareness and self-efficacy exhibit large declines.
2. Girls report higher self-management and social awareness than boys, but their self-efficacy drops sharply relative to boys in middle and high school.
3. Economically disadvantaged students report lower social-emotional skills, but gaps in self-management, growth mindset, and self-efficacy narrow in high school.
4. White students report higher levels of social-emotional learning than African American and Latinx students; Asian students report similar levels of self-management as White students but exhibit declining self-efficacy over time.

1. Trends in social-emotional learning differ by construct: Whereas growth mindset increases steadily over time, social awareness and self-efficacy exhibit large declines.

Perhaps the most striking pattern is the existence of large differences across grades in students' assessments of their social-emotional skills; these differences vary by construct and do not always favor older students. Students' scores on self-efficacy and social awareness decline markedly between Grade 4 and Grade 12, with the most rapid changes occurring while students are enrolled in middle school, as shown in Figure 1 (with 95-percent confidence intervals shaded in purple around each point). These declines are substantial in size, at more than one half of a standard deviation for social awareness and roughly two fifths for self-efficacy. To put this in context, the decline of one half of a standard deviation for social awareness implies that the median fourth grader's self-report would place her at the 69th percentile of the distribution of 12th graders with respect to this construct. Self-management follows a more nuanced pattern, with scores increasing between Grade 4 and Grade 6, declining by a similar amount by Grade 8 and remaining roughly stable thereafter.

Figure 1. Trends in Mean SEL Construct, 2015–16



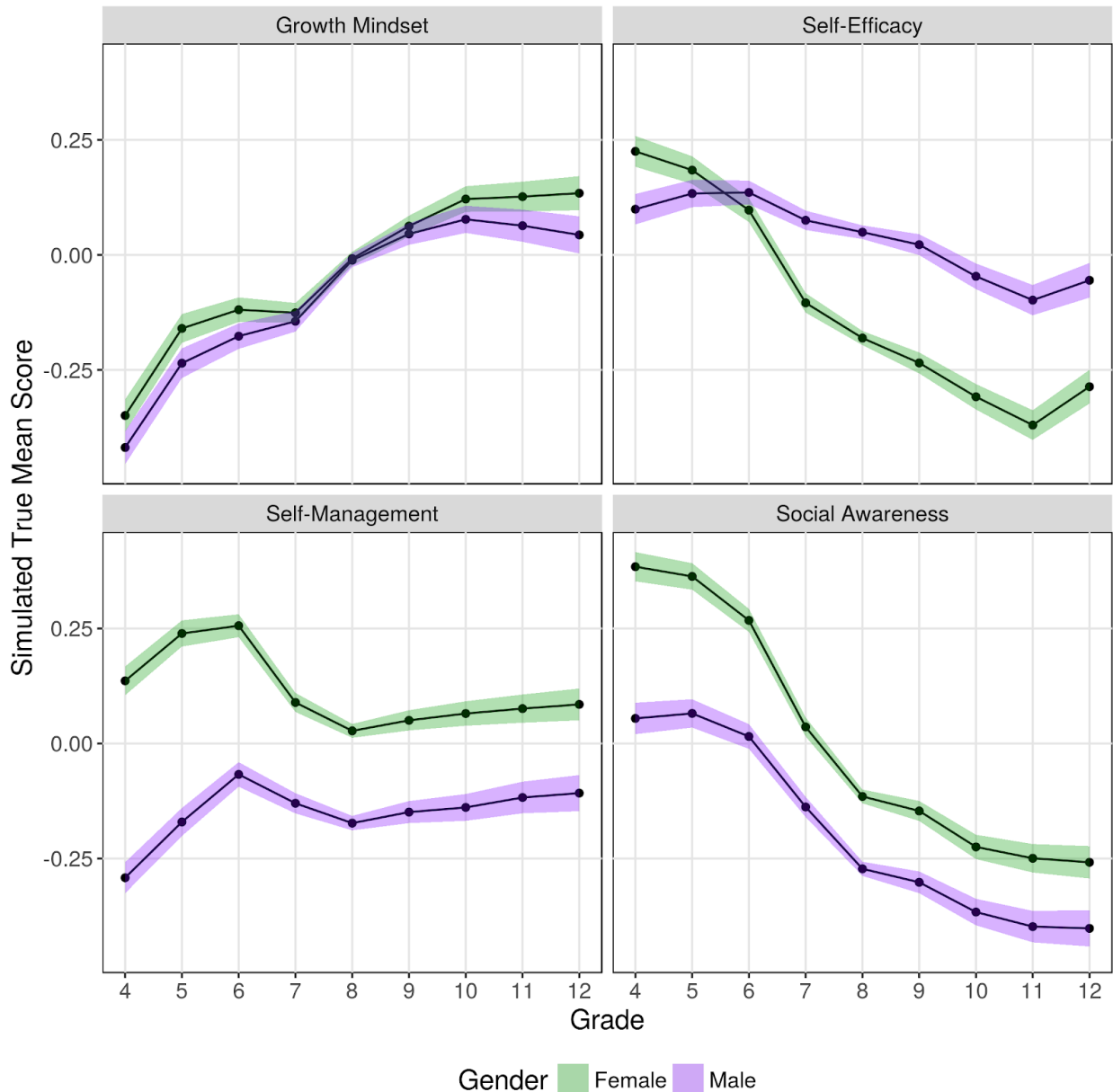
These patterns corroborate prior evidence that, unlike academic achievement, the development of students’ social-emotional skills does not proceed linearly or even monotonically (i.e., in the same direction) over time (e.g., Schunk & Meece, 2005; Schunk & Pajares, 2002). This basic reality is critical for educators and policymakers to understand as they seek to make sense of patterns and trends observed in their students. Declines across grades might not be alarming but rather a sign of typical development. It may also be the case that the changes over time reflect changes in normative standards rather than students’ underlying skills. For instance, self-efficacy may decline at least in part because younger students tend to overestimate their capabilities and become more realistic as they mature (Pintrich & Zusho, 2002).

Unlike the other three constructs, growth mindset does not show evidence of decreases over time. Instead, students register fairly steady growth between Grade 4 and Grade 10, before leveling off through the remainder of high school. This is consistent with evidence from other sources that growth mindset tends to increase as students progress through school (Pintrich & Zusho, 2002; West et al., 2016). The contrasting patterns observed for growth mindset and the other three constructs highlight that different constructs within the SEL domain do not develop similarly over time, indicating that they should be measured and assessed individually.

2. Girls report higher self-management and social awareness than boys, but their self-efficacy drops sharply relative to boys in middle and high school.

The patterns for all students displayed in Figure 1 conceal important differences across student subgroups, including girls and boys. As shown in Figure 2, girls exhibit a sizable advantage over boys with respect to both self-management and social awareness; this gap persists across all grade levels but becomes slightly smaller as students age. The bulk of the narrowing of the gender gap for self-management occurs between Grade 6 and Grade 8, when girls experience a larger decline in this construct.

Figure 2. Trends in Mean SEL Construct by Gender, 2015–16



Trends for girls and boys differ even more dramatically for self-efficacy. Girls report modestly higher levels of self-efficacy than boys in Grade 4. However, girls experience a rapid decline in self-efficacy through Grade 11 that is particularly steep between Grade 6 and Grade 8 before recovering modestly in Grade 12. Boys also register a decline in self-efficacy between Grades 6 and 11, but the slope of that decline is more gradual. As a result of these trends, girls’ self-efficacy starts to lag that of boys by Grade 7, with the difference growing to more than one quarter of a standard deviation by Grade 11.

In contrast with the other three constructs, trends of growth mindset are quite similar across genders. Girls exhibit a small advantage over boys with respect to growth mindset in elementary school that narrows in middle school but reemerges in high school.

Together, these findings provide new insight into how the social-emotional skills of girls and boys develop over time. Existing research suggests that girls have superior self-management (Ablard & Lipschultz, 1998; Duckworth & Seligman, 2006; Moffitt et al., 2011; Pintrich & Zusho, 2002; Zimmerman & Martinez-Pons, 1990) and social awareness skills (Gaspar, Cerqueira, Branquinho, & Gaspar de Matos, 2018; Kågesten et al., 2016; Wentzel, 1994) compared to boys', but that boys may have more of a growth mindset (Dweck, 1986, 2000; Dweck & Simmons, 2014; Halvorson, 2011) and higher self-efficacy (Anderman, Maehr, & Midgley, 1999; Wigfield, Eccles, Maclver, Reuman, & Midgley, 1991; Wigfield, Eccles, & Pintrich, 1996). Our results corroborate previous findings for self-management and social awareness in middle- and high-school grades but suggest that girls and boys exhibit similar levels of growth mindset over time. We also document how, at least in the CORE districts, lower self-efficacy among girls is not a constant phenomenon but rather first emerges in middle school and worsens over time.

3. Economically disadvantaged students report lower social-emotional skills, but gaps in self-management, growth mindset, and self-efficacy narrow in high school.

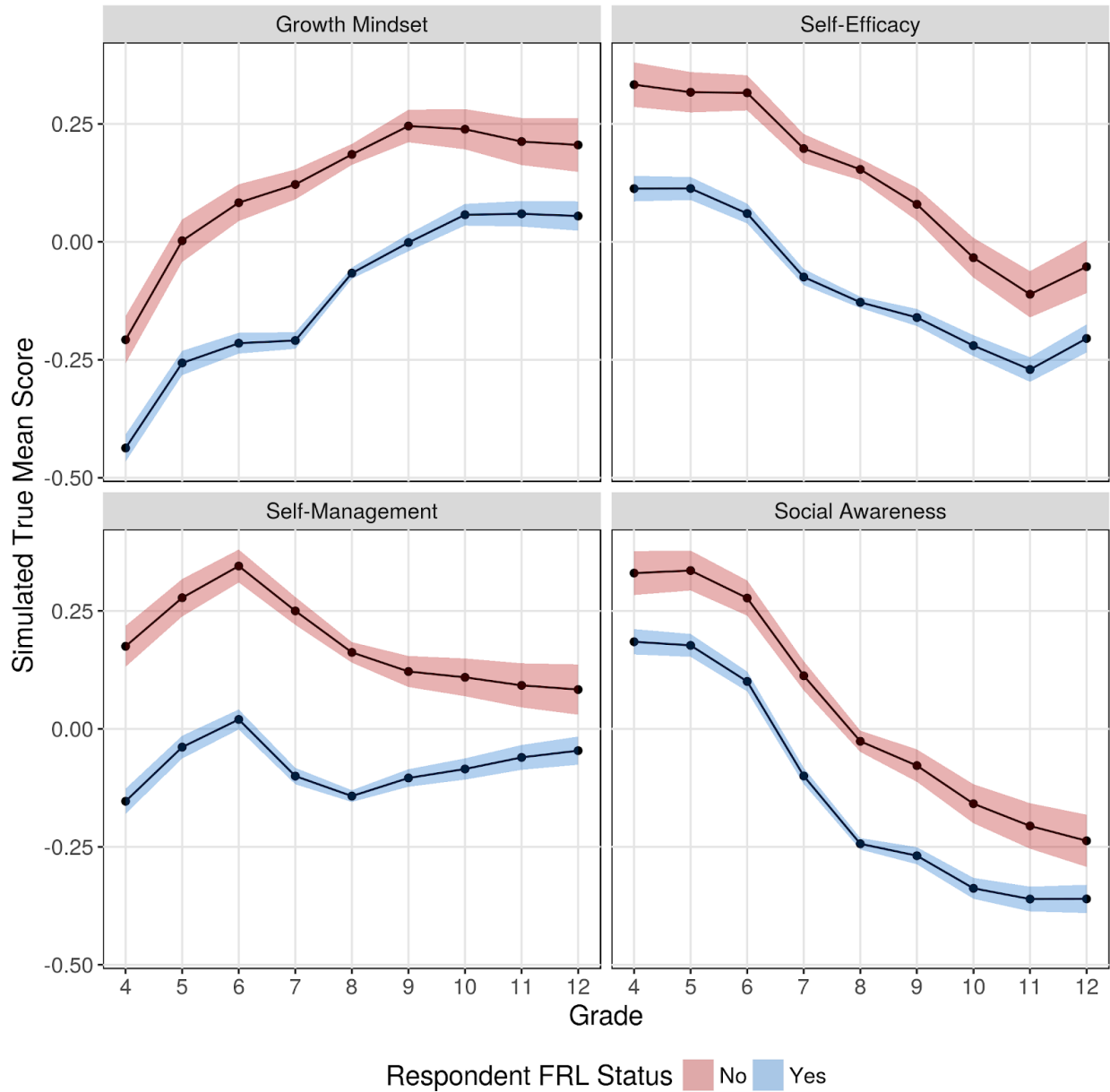
It is well documented that poverty is a significant risk factor for students' social and emotional well-being, both in childhood and throughout adolescence (Bradley & Corwyn, 2002; Brooks-Gunn & Duncan, 1997; Takeuchi, Williams, & Adair, 1991; Yoshikawa, Aber, & Beardslee, 2012). However, little empirical research has examined how specific social-emotional skills develop over time among economically disadvantaged students relative to their peers. It is therefore useful to identify which specific competencies students from economically disadvantaged backgrounds may need more support in developing, and which skills tend to be strengths.

Figure 3 reveals that students who are not economically disadvantaged report higher levels of each SEL construct across all grade levels than those who are. These gaps vary in magnitude in Grade 4, from roughly one tenth of a standard deviation in social awareness to more than one third of a standard deviation in self-management. The gaps in each construct widen somewhat in the middle-school grades before narrowing in high school, particularly for self-management and growth mindset. This narrowing does not reflect students who are economically disadvantaged being more likely to dropout of high school prior to Grade 12, as our analysis includes only students who were present in both years of survey data.

As family and community influences play a pivotal role in SEL (Eccles, 1999), these results suggest that schools, in particular, may have an opportunity to additionally support the development of social-emotional skills among students from economically disadvantaged backgrounds. Given that social-emotional skills are predictive of students' academic

achievement and other life outcomes, targeted interventions may help to alleviate the detrimental effects of poverty on students' long-term well-being and success.

Figure 3. Trends in Mean SEL Construct by Economic Disadvantage, 2015–16



4. White students report higher levels social-emotional learning than African American and Latinx students; Asian students report similar levels of self-management as White students but exhibit declining self-efficacy over time.

The CORE districts' SEL survey also makes it possible to compare trends in the development of social-emotional skills by students' race and ethnicity. Knowing how SEL measures differ between students in these groups is important, as both ESSA and California's own Local Control Funding Formula (LCFF) require the disaggregation of student outcomes by subgroup. In making such comparisons, however, it is important to keep in mind various factors that could lead them to respond to survey items differently than their White peers. Students of color are more likely to be economically disadvantaged and to experience trauma outside of school (Bolger, Patterson, Thompson, & Kupersmidt, 1995; Chau, Thampi, & Wight, 2010; DeCarlo Santiago, Wadsworth, & Stump, 2012; Hackman, Betancourt, Brodsky, Hurt, & Farah, 2012); these differences not only are risk factors for social and emotional health but also may make it more difficult for students of color to demonstrate the kinds of behaviors asked about in the survey. Evidence from the CORE districts' school culture and climate survey also reveals that students of color rate their school's culture and climate less favorably than do their White peers, even when they attend the same school (Hough, Kalogrides, & Loeb, 2017). These findings are consistent with extensive research showing that students' experiences within school differ by race/ethnicity, including well-documented disparities in disciplinary practices and expectations for success (Bankston & Zhou, 2002; Gregory, Skiba, & Noguera, 2010; Lareau & Horvat, 1999; Lewis, 2003; Okonofua, Walton, & Eberhardt, 2016; Tenenbaum & Ruck, 2007; Warikoo & Carter, 2009; Watamura, Phillips, Morrissey, McCartney, & Bub, 2011). If these factors are considered when evaluating SEL data, disaggregating the survey results by race/ethnicity can be useful in prompting educators and other stakeholders in schools serving diverse students to discuss how best to support students of color.

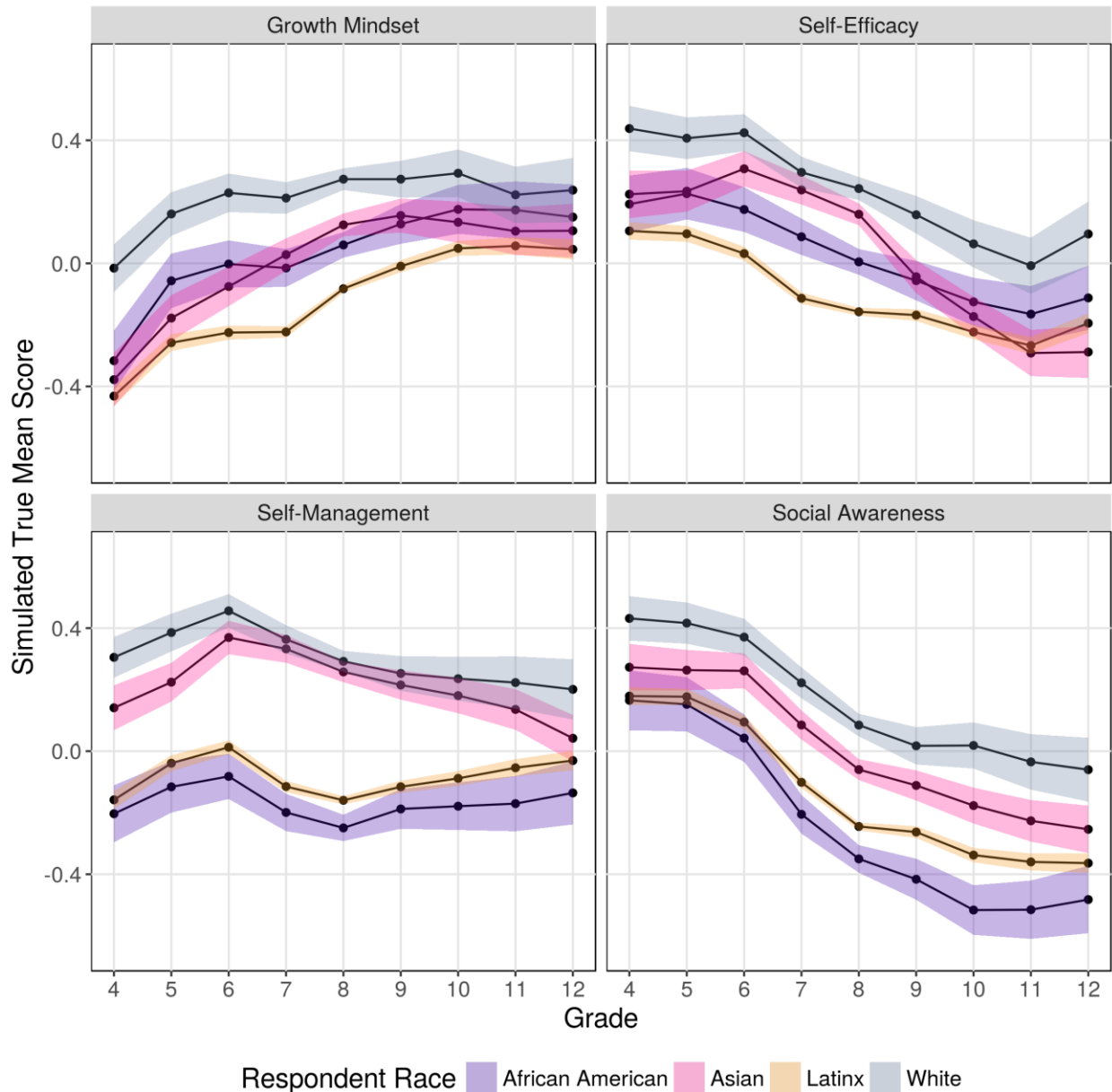
Figure 4, therefore, documents differences in both levels and trends in SEL for students of different racial and ethnic backgrounds. Consistently across grade levels, White students report higher levels of each SEL construct than do students of other races/ethnicities, although the levels of self-management reported by Asian students follow close behind those of their White peers. African American and Latinx students—the latter comprising the bulk of students enrolled in the CORE districts—generally report lower levels of self-management and social awareness than do White and Asian students. In the case of self-management, the gap between African American or Latinx students compared to White students narrows markedly between Grade 4 and Grade 12. In the case of social awareness, however, the size of the gap between African American or Latinx students compared to White students widens modestly.

The patterns observed across racial groups for growth mindset and self-efficacy are more complex. In Grade 4, White students' growth mindset scores exceed those of each of the other groups. Although growth mindset increases for students of all races/ethnicities by Grade 12, these initial gaps favoring White students narrow by more than half. Latinx students report lower levels of growth mindset than all other groups throughout the upper elementary and middle-school grades. In the case of self-efficacy, White, African American, and Latinx students

follow similar trends from Grade 4 to Grade 12, with the scores of White students consistently exceeding those of their African American and Latinx peers. Trends for Asian students are quite different, however. Their sense of self-efficacy increases through Grade 6 and remains very close to that of White students through Grade 8; however, Asian students' sense of self-efficacy drops between Grade 8 and Grade 11, leading them to emerge as the lowest scoring group on this construct by the end of high school.

The results provide a first look at how students' self-reports of specific social-emotional skills over the course of their schooling differ for students from varying racial and ethnic backgrounds. It is crucial to keep in mind that there are many reasons the gaps documented in Figure 4 might not reflect true discrepancies in social-emotional competencies. Given the limited evidence on how specific social-emotional skills develop over time for students from different backgrounds (e.g., Broda et al., 2018; Eccles, Wigfield, & Schiefele, 1998; Good, Aronson, & Inzlicht, 2003; Walton & Cohen, 2011), more work is needed to understand where particular subgroups are excelling and where they may need additional support at various points in their educational trajectories. The narrowing of racial and ethnic gaps with respect to self-management and growth mindset within the CORE districts is encouraging, but more research is needed to shed light on the interpretation of and factors contributing to those trends.

Figure 4. Trends in Mean SEL Construct Score by Race/Ethnicity, 2015–16



Conclusion

The results presented in this brief provide new insight into how widely discussed social-emotional competencies, including growth mindset, self-efficacy, self-management, and social awareness, develop in students over time. We find that the extent to which students report that they possess these skills varies over the course of students’ schooling, and that these patterns differ for girls and boys, for students from economically disadvantaged and advantaged backgrounds, and for students from different racial and ethnic backgrounds. A clearer understanding of how students’ social-emotional skills develop, including how specific competencies shift with age and vary across subgroups, should help educators, policymakers,

and researchers to interpret patterns they observe in their students and discern how best to support them. Our specific findings are necessarily limited to the California school districts in which the data were gathered. As additional school systems gather data on SEL at scale, using either survey-based measures or alternative forms of assessment, further analysis should uncover whether the patterns we document are unique to the CORE districts or they hold more generally.

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About the Authors

Martin West is an associate professor of education at the Harvard Graduate School of Education, a faculty research fellow at the National Bureau of Economic Research, and editor-in-chief of *Education Next*, a journal of opinion and research on education policy. He is also deputy director of Harvard's Program on Education Policy and Governance and a member of the Massachusetts Board of Elementary and Secondary Education. West studies the politics of K–12 education in the United States and how education policies affect student learning and social-emotional development. He previously served as senior advisor to the ranking member of the Senate Committee on Health, Education, Labor, and Pensions, taught at Brown University, and was a research fellow and non-resident scholar at the Brookings Institution.

Libby Pier is a data strategist at Education Analytics, a non-profit based in Madison, Wisconsin. She received her Masters of Arts in Urban Education from Loyola Marymount University in 2010 and her PhD in Learning Sciences from the Department of Educational Psychology from the University of Wisconsin–Madison in 2017. Her research interests include social and emotional learning, student problem-solving, and the intersection of cognitive and sociocultural pedagogical perspectives.

Hans Fricke is a postdoctoral research fellow at the Stanford University Center for Education Policy Analysis and is affiliated with Policy Analysis in California Education. He received his Master's (Diplom Universität) in International Economics from the Friedrich-Alexander University Erlangen-Nürnberg in 2011 and his PhD in Economics and Finance from the University of St. Gallen in 2016. His research interest focuses on education policy, technology in education, and causal analysis. His doctoral thesis analyzed determinants of student performance and major choices in higher education.

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About the CORE-PACE Research Partnership

In October 2015, Policy Analysis for California Education (PACE) and the CORE Districts launched the CORE-PACE Research Partnership. This research partnership is focused on producing research that informs continuous improvement in the CORE districts and policy and practice in California and beyond. The CORE districts (Fresno, Garden Grove, Long Beach, Los Angeles, Oakland, Sacramento City, San Francisco, and Santa Ana Unified School Districts) together serve nearly one million students and utilize a unique multiple-measures data system to work together to improve student outcomes. Our research aims to deepen their learning, while sharing lessons more broadly to accelerate improvement across the state.



Stanford Graduate School of Education
520 Galvez Mall, CERAS 401
Stanford, CA 94305-3001
Phone: (650) 724-2832
Fax: (650) 723-9931

edpolicyinca.org

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