State-wide Social and Emotional Learning Embedded within Equity-based MTSS: Impact on Student Academic Outcomes

Multi-Tiered System of Support (MTSS) is a framework within which schools provide evidence-based instruction and support to all students aligned with their identified needs (Choi, McCart, & Sailor, 2020; Choi, Meisenheimer, McCart, & Sailor, 2017; McIntosh & Goodman, 2016; Sailor & McCart, 2014). MTSS provides a comprehensive set of academic and behavioral strategies that rely on data to mobilize and coordinate diverse resources for all students. Further, when social and emotional learning (SEL) is embedded within MTSS, it offers a foundation to support learning in ways that address the full array of student need (Lane, 2007).

When MTSS with embedded SEL is applied in concert with an equity orientation (Waitoller & Kozleski, 2013a, 2013b), it functions as a driver for re-organizing schools in a manner that contributes to solving the weighty problems of inclusion of students who need additional or intensive instruction and services (Giangreco & Suter, 2015; McCart, Sailor, Bezdek, & Satter, 2014; Sailor, 2017; Stelitano, Russell, & Bray, 2019). Sink and Ockerman (2016) devoted a special issue of *Professional Counselor* to applications of MTSS that chronicled the importance of utilizing data-based decision making (Vanlommel & Schildkamp, 2018); social and emotional learning (Harrington, Griffith, Gray, & Greenspan, 2016); and utilization of the framework to support students of color experiencing challenging social behavior (Belser, Shillingford, & Joe, 2016); among other ongoing studies.

Meeting the complex needs of students requires more than effective academic and behavioral instruction. Recognizing this, the California Department of Education adopted SEL as a state-wide initiative to meet the needs of the whole child. California's *Social and Emotional Learning Guiding Principles* (2018) offers the following explanation:

> A robust body of research tells us that when evidence-based SEL programming is implemented well, academic achievement increases as does student well-being (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Those results not only persist over time and lead to better relationships and life

outcomes for students across all socioeconomic and racial groups, but can also save our schools and society as much as $11 for every $1 invested (Belfield, Bowden, Klapp, Levin, Shand, & Zander, 2015; Greenberg, Katz, & Klein, 2015). A recent consensus statement by The Aspen Institute's National Commission on Social, Emotional, and Academic Development's Council of Distinguished Scientists asserted that 'integrating social and emotional development with academic instruction is foundational to the success of our young people, and therefore to the success of our education system and society at large' (Jones & Kahn, 2017, p. 12). (p. 1)

SEL instruction and support offers important strategies for student success during their schooling as well as after. Those skills include self-awareness, self-management, social awareness, relationship skills and responsible decision making (CASEL, 2013; 2015; Norris, 2003). Social-cognitive or cognitive-behavioral theories hold that these skills provide students with crucial relational competencies (Zins, Bloodworth, Weissberg, & Walberg, 2004).

Behavioral and SEL programs both adopt evidence-based core instructional systems and practices with positive proactive teaching and utilize data to prevent academic or social failure (Cook et al., 2015). Recent research provides evidence supporting effective behavior and SEL within MTSS at the universal level or core instructional level (Albrecht & Brunner, 2019; Cook et al., 2015; Cressey, 2019). These studies posit that when SEL instruction and support are well integrated within the components of MTSS (e.g., screening, progress monitoring, fidelity, tiered levels of support, data-informed decisions), the system can effectively build SEL competencies in students.

In 2016, the Orange County Department of Education, the Butte County Office of Education, and SWIFT Education Center with support from the California State Department of Education launched a large scale state-wide effort to implement MTSS with embedded SEL. This effort offered districts and schools across the state the opportunity to build their systems to support the whole child (CA SUMS Annual Report, 2018). In the following section of this brief we present a study of a sample of schools from this state-wide program in relation to student academic outcomes.
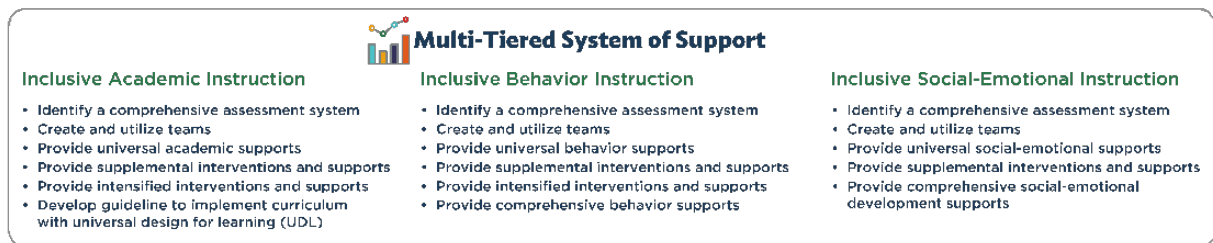
Research Method

Participants

California K-12 schools had the opportunity to participate in the state-wide program. For this study, we selected an implementation group from among the California Scale-up of MTSS Statewide initiative (CAMTSS; www.camtss.org) participants that administered SWIFT-Fidelity Integrity Assessment (SWIFT-FIA) for two consecutive school years. We drew 42 elementary schools from 28 districts from the 79 elementary schools that met these conditions. This implementation group had an average enrollment of 501 students, about 60% of whom were receiving Free and Reduced Meals (FARM). Matched control group schools were selected from 17 school districts. This group's average enrollment was 658 students, about 52% of whom were receiving FARM. Locales of schools in the analyses were varied, with 37% classified as in cities, 24% in suburbs, 12% in towns, and 20% in rural locations.
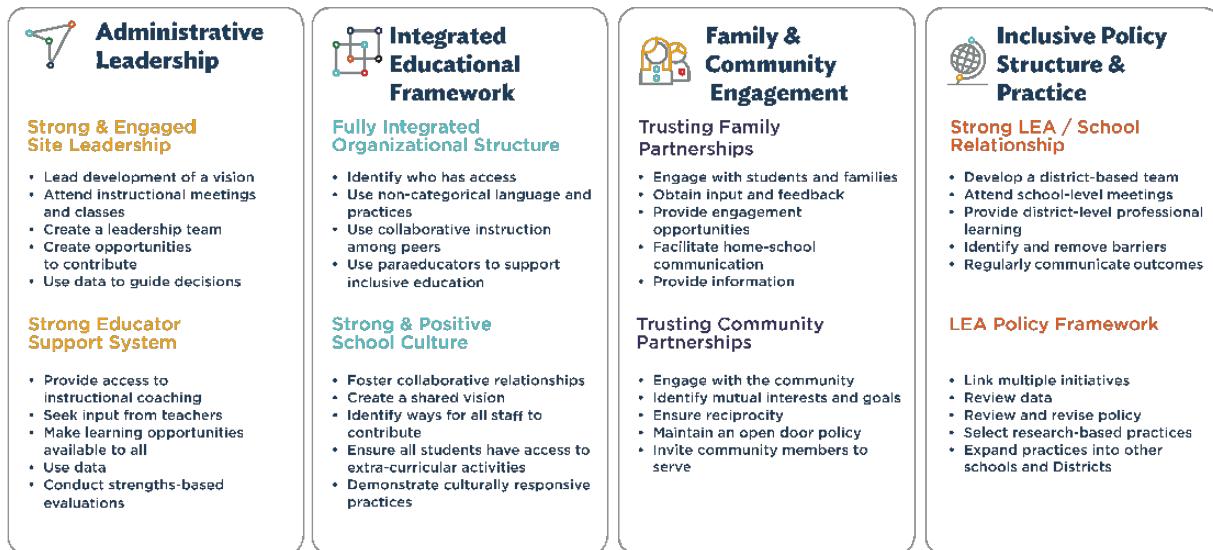
Procedure

SWIFT Education Center provided the evidence-based framework for this state-wide effort (McCart, Sailor, Bezdek, & Satter, 2014). For this work, they highlighted SEL-specific teams, screening, progress monitoring and effective tiers of support within the MTSS domain (see Figure 1). This emphasis allowed California schools to formalize not only their academic and behavioral but also SEL competencies within their MTSS framework. This effort also focused heavily on the inclusion and involvement of all students, including those who have typically not received adequate support to demonstrate academic and social success.

In addition to the framework, and an "all means all" philosophy, SWIFT Education Center provided a cadre of highly skilled technical assistance providers to support the development and alignment of SEL within MTSS. These facilitators offered professional learning to all 11 regions of the state as well as the State Leadership Team and Regional Transformation Teams. This professional learning series was constructed around the SWIFT framework with delineation of SEL-MTSS components as well as four evidence-based "scaffolding" domains, shown from previous research to enhance the initial installation and early implementation of MTSS (Algozzine et al., 2016; McCart et al., 2014;Sailor et al., 2018). The scaffolding domains of evidence-based

practices are: (a) administrative leadership (Choi, McCart, Hicks, & Sailor, 2019); (b) integrated educational framework; (c) family and community engagement; and (d) inclusive policy and practice (Gross, Choi, & Francis, 2018; Kozleski & Choi, 2018; Kurth, Morningstar, Hicks, & Templin, 2018; Schuh et al., 2018) (Figure 2).

Multi-Tiered System of Support

Inclusive Academic Instruction

- Identify a comprehensive assessment system
- Create and utilize teams
- Provide universal academic supports
- Provide supplemental interventions and supports
- Provide intensified interventions and supports
- Develop guideline to implement curriculum with universal design for learning (UDL)

Inclusive Behavior Instruction

- Identify a comprehensive assessment system
- Create and utilize teams
- Provide universal behavior supports
- Provide supplemental interventions and supports
- Provide intensified interventions and supports
- Provide comprehensive behavior supports

Inclusive Social-Emotional Instruction

- Identify a comprehensive assessment system
- Create and utilize teams
- Provide universal social-emotional supports
- Provide supplemental interventions and supports
- Provide comprehensive social-emotional development supports

All Means All

Administrative Leadership

Strong & Engaged Site Leadership

- Lead development of a vision
- Attend instructional meetings and classes
- Create a leadership team
- Create opportunities to contribute
- Use data to guide decisions

Strong Educator Support System

- Provide access to instructional coaching
- Seek input from teachers
- Make learning opportunities available to all
- Use data
- Conduct strengths-based evaluations

Integrated Educational Framework

Fully Integrated Organizational Structure

- Identify who has access
- Use non-categorical language and practices
- Use collaborative instruction among peers
- Use paraeducators to support inclusive education

Strong & Positive School Culture

- Foster collaborative relationships
- Create a shared vision
- Identify ways for all staff to contribute
- Ensure all students have access to extra-curricular activities
- Demonstrate culturally responsive practices

Family & Community Engagement

Trusting Family Partnerships

- Engage with students and families
- Obtain input and feedback
- Provide engagement opportunities
- Facilitate home-school communication
- Provide information

Trusting Community Partnerships

- Engage with the community
- Identify mutual interests and goals
- Ensure reciprocity
- Maintain an open door policy
- Invite community members to serve

Inclusive Policy Structure & Practice

Strong LEA / School Relationship

- Develop a district-based team
- Attend school-level meetings
- Provide district-level professional learning
- Identify and remove barriers
- Regularly communicate outcomes

LEA Policy Framework

- Link multiple initiatives
- Review data
- Review and revise policy
- Select research-based practices
- Expand practices into other schools and Districts

Adapted with permission from: SWIFT Education Center. (2016). *Domains and Features Placemat*. Lawrence, KS. swiftschools.org

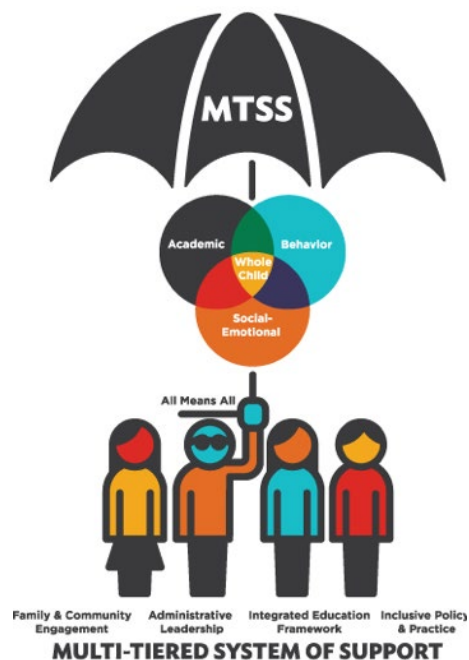*Figure 1.* SWIFT Framework with SEL embedded in MTSS

Figure 2. **California MTSS with scaffolding domains.**

SWIFT provide training in the use of two assessment tools: SWIFT Fidelity Integrity Assessment (SWIFT-FIA), which is a school-based fidelity self-assessment and MTSS installation priority-setting tool (SWIFT Education Center, 2013); and SWIFT Fidelity Implementation Tool (SWIFT-FIT), which is an evidence-based research tool administered by trained external assessors to estimate fidelity of implementation progress on repeated assessments (Pollitt et al., 2018).

Measures

For this study, SWIFT-FIA scores were used to represent fidelity of implementation at the school level. This self assessment is highly correlated with SWIFT-FIT, which has established technical adequacy (i.e., reliability and validity) (Algozzine et al., 2017).

California used Smarter Balanced Assessment Consortium (SBAC) for its statewide annual summative assessment. SBAC is aligned to Common Core State Standards, an acceptable measure for federal accountability purposes that reports psychometric properties that demonstrate technical adequacy (SBAC, 2018). This study relies on this secondary data source for English Language Arts (ELA) and Math student proficiency scores, which were considered key outcome indicators of effective implementation of the state-wide initiative.

Analysis

To understand whether significant relationships existed between SWIFT-FIA and SBAC scores for each year, we used Pearson correlation analysis. Average SBAC scores for 3rd grade ELA and Math were the dependent variables, and total mean score of SWIFT-FIA served as a predictor. Further, descriptive statistics, paired-sample t-tests, and effect size analyses were conducted to examine whether implementation and matched control group made statistically significant improvements on average 3rd grade SBAC ELA and Math scores over the two school years.

Results

The results of the present study demonstrated that student academic achievement increased when SEL-MTSS was implemented with adequate fidelity. The average SWIFT-FIA total mean score was 33.87% in the school year (SY) 2017-18 and increased to 50.83% in the SY 2018-19 (see Figure 3). The Integrated Educational Framework domain showed the largest increase over the two years of implementation, with a 0.66 average score improvement from 0.87 to 1.53 (out of the maximum 3 points on the 0-3 scale).
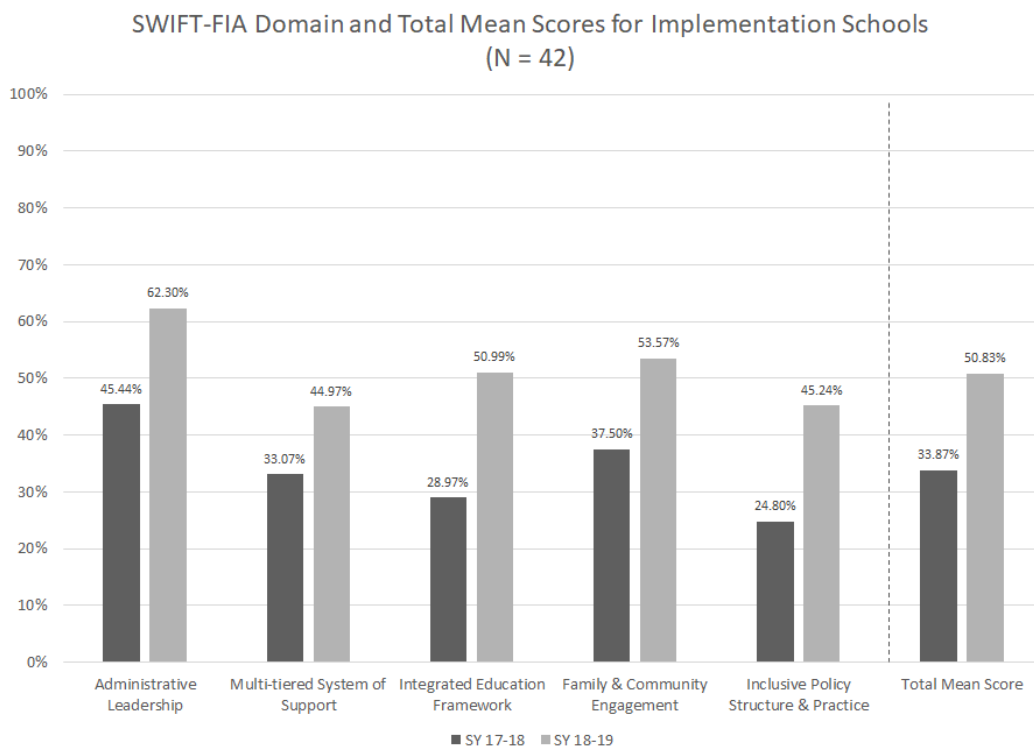
SWIFT-FIA Domain and Total Mean Scores for Implementation Schools (N = 42)

Correlation analysis revealed that SEL-MTSS implementation status was positively and significantly associated with implementation group students' academic achievement. In SY 2017-18, the total mean score of SWIFT-FIA was statistically and significantly correlated with ELA, $r(40) = .44$, $p < .01$, and Math, $r(40) = .45$, $p < .01$. The correlation coefficient slightly reduced for ELA in SY 2018-19; however, the coefficient was maintained the medium level correlation, $r(40) = .36$, $p < .05$. With Math, the correlation coefficient improved in SY 2018-19 to $r(40) = .45$, $p < .01$.

When implementation and matched control group outcomes were compared, students in the implementation group achieved higher SBAC scores than those in the matched control group in ELA and Math (see Figure 4).

3rd Grade SBAC Mean Average Score Changes on ELA
(42 Implementation and 42 Matched Control Group Schools)

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3rd Grade SBAC Mean Average Score Changes on Math
(42 Implementation and 42 Matched Control Group Schools)
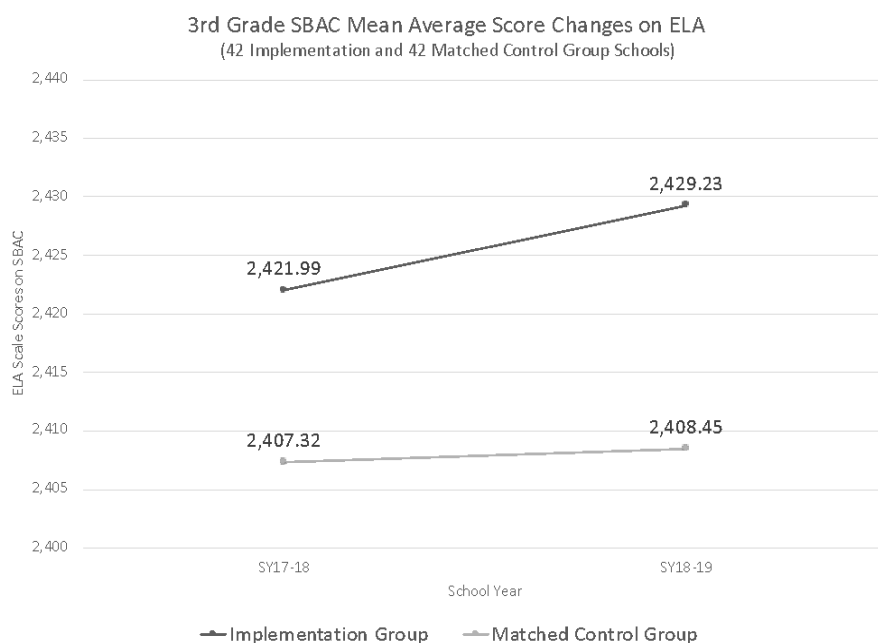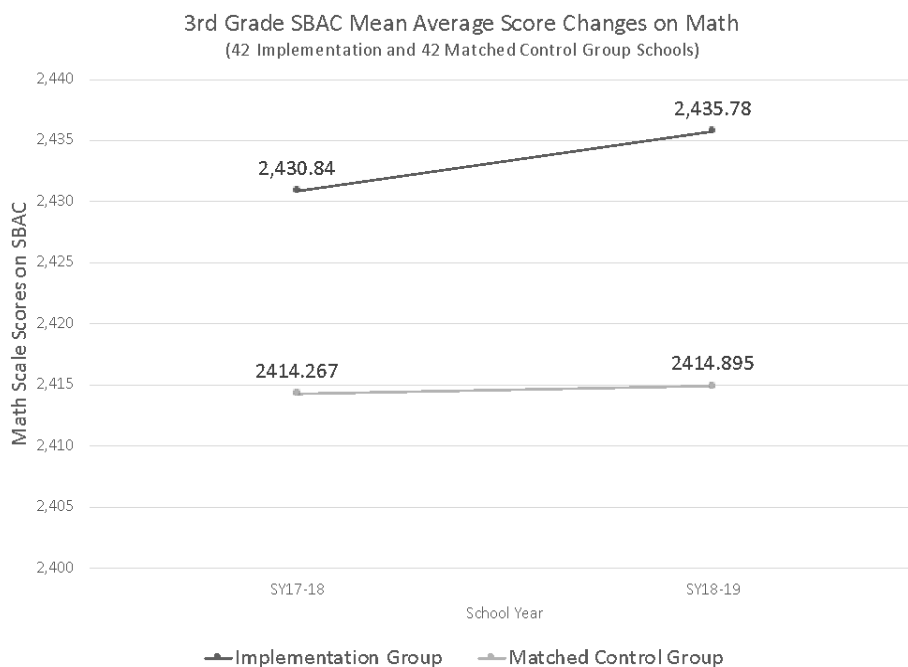
Figure 4. Third grade ELA and Math SBAC score changes for implementation and matched control groups

The paired-sample t-tests revealed that the implementation group ELA score increase was statistically significant, $t(41)$ = -2.42, p < .05, with no significance noted in the matched control group, $t(41)$ = -0.27, p = .79. The effect size increase was small to medium for the implementation group, *ES* = 0.37, and negligible for the matched control group, *ES* = 0.04 (Table 1.)

A similar pattern was observed for Math. The implementation group mean average score increased 4.94 from 2430.84 (*SD* = 39.53) to 2435.78 (*SD* = 36.27) compared to a matched control group increase of 0.63 from 2414.27 (*SD* = 49.64) to 2414.90 (*SD* = 49.28). The Math score increase was not statistically significant for either the implementation group, $t(41)$ = -1.62, p = .11, or the matched control group, $t(41)$ = -0.14, p = .87. The effect size was small for the implementation group, *ES* = 0.25, which indicates that about 60% of the scores of the SY 2017-18 are below the mean of SY 2018-19; however, the effect size was trivial for the matched control group, *ES* = 0.02 (Table 1.)

Table 1

Results of Paired-Sample t-test and Effect Size

		Paired Differences								
		M	SD	SEM	95% Confidence Interval of the Difference		t	df	p	ES
					Lower	Upper				
Implementation	ELA	-7.24	19.39	2.99	-13.28	-1.20	-2.42	41	.02*	0.37*
	Math	-4.94	19.75	3.05	-11.09	1.22	-1.62	41	.11	0.25
Matched Control	ELA	-1.13	27.58	4.26	-9.73	7.46	-0.27	41	.79	0.04
	Math	-0.63	28.30	4.37	-9.45	8.19	-0.14	41	.89	0.02

* $p < .05$

Conclusion

In summary, when SEL-MTSS is implemented with fidelity as measured by validated measurement tool, student academic achievement is improved. The correlational analysis shows positive and significant association between SEL-MTSS and academic achievement. The *t*-tests further support significance in ELA score improvement, which was not observed in matched control group schools. Even with the lack of statistically significant Math score growth in the implementation group, which might be caused by a short period of implementation, the effect size of growth was much higher in the implementation group compared to the matched control group. This preliminary analysis indicates the potential of higher level evidences regarding academic improvement in ELA and Math through implementation of SEL-MTSS.

This study offers important information for the field related to educational innovation. Specifically, this systematic study demonstrated positive outcomes for students in ELA and Math when compared with matched controls, thus offering promising evidence of efficacy for implementation of SEL-MTSS. Students benefit when school leaders have (a) a strong philosophical foundation on which to build, (b) access to high-quality professional learning and technical assistance, (c) an evidence-based

framework, and (d) a clear focus on the mechanics of how to implement SEL-MTSS.

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